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ABSTRACT

This report is a case study of a technical evaluation assistance project in each of four states: Alabama, California, Colorado, and Maine. (The project activities in each state included the following: becoming acquainted with the vocational education delivery system and methods of evaluation; identifying problems associated with the evaluation effort; presenting the state with alternative solutions for each problem; and observing the implementation of the selected alternatives and results.) For each state the historical and contextual setting is presented as a background to the description of the particular vocational education system and the vocational evaluation system. The final section on each state contains an analysis of the problems in the state's evaluation system. (JH)

IMPROVING VOCATIONAL EDUCATION EVALUATION

CASE STUDIES ON FOUR STATES

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- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs.

Report of a Project Conducted
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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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FOREWORD

Evaluation of vocational education is mandated by the Education Amendments of 1976. State Boards of Vocational Education are charged with evaluation of all programs of vocational education in a five year period of time. All states are establishing or modifying an evaluation system to comply with legislative and regulatory requirements. Additionally, state administration and staff have needs and expectations which vocational evaluation should be striving to fulfill.

Recognizing these needs, a project sponsored by the Bureau of Occupational and Adult Education under terms of the U.S. Office of Education contract with the National Center for Research in Vocational Education was undertaken. The primary objective of this project was to provide technical evaluation assistance to state educational agencies.

This technical assistance took the form of National Center staff members making repeated visits to each of four selected states. Activities in these states included:

* Becoming acquainted with the vocational education delivery system and methods of evaluation.
* Identifying problems associated with the evaluation effort.
* Presenting the state with alternative solutions, including advantages and disadvantages, for each identified problem.
* Observing the implementation of the selected alternatives and the results.

This report is a case study of the technical assistance effort in each of the four states. The historical and contextual setting in each state is presented as a background to a description of the vocational education system and the vocational evaluation system. The final section on each state contains an analysis of the problems in the state's evaluation system.

The National Center is particularly indebted to Bill Stevenson, Project Director, Marion Franken, Research Specialist, and Graduate Research Assistants Brenda Pellegrini Land, and Eliseo Ponce. Significant contributions to the project were also made by N. L. McCaslin, Associate Director, and F. L. McKinney, Program Director of the Evaluation and Policy Division.

where the project was conducted.

Recognition and appreciation are extended to the evaluation coordinators in each state who were the main contacts for the technical assistance team. Ernest Neashan and William Morris in California, Whitney Newcomb and Dana Darling in Maine, Robert Perry and James Harris in Colorado, and Douglas Patterson and Bill Reitz in Alabama were most helpful in assisting the project staff while in the states. Other staff in each of the states freely shared their knowledge and expertise with the project staff.

We wish to acknowledge the valuable contributions of Calvin Taylor, University of Utah, Charles Hopkins, Oklahoma State Department of Vocational Technical Education; James Hale, University of Florida; and Allen Phelps, Pennsylvania State University in conducting a workshop for participants from the four states.

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Robert E. Taylor
Executive Director
The National Center for
Research in Vocational
Education

PREFACE

This report is an attempt to put into perspective the experiences of the National Center project team in providing technical evaluation assistance to state vocational departments. These experiences involved interactions with a large number of individuals at all levels of the educational hierarchy in each state. Project staff spent approximately fifteen days in each state conferring with staffs in education and vocational education at the state level, studying evaluation plans, instruments, and reports, and observing a limited number of evaluations in local schools. What is reported here is based on interviews, observations, and readings.

The report first describes the context within which vocational education and vocational education evaluation have operated and are presently operating in the state. The second aim is to trace the evolution of a problem from identification to solution. The complete cycle of this analysis goes from identification of the problem, to determining alternative solutions, to the choice of a solution, to assessing the results of the solution employed, to recycling of the process if necessary. In many instances the elapsed time of the project from the time when the first problems were identified in May of 1978 to the present writing in December 1978 is not sufficient to complete the entire cycle. The process will continue and will be observed and recorded by the project team.

The decision to provide technical assistance assumes that there is a willing recipient for this assistance. There are certain conditions which must exist if a technical assistance effort is to be of maximum benefit to both parties. The recipient should accept the fact that there is a problem which may not be totally solved internally, be convinced of the capabilities of the provider to be of assistance and be willing to make the changes recommended. The provider of this assistance must be able to help in identification of problems, accept the problems identified by the client, bring information to bear on the problems identified, help the client make a wise decision as to choice of competing alternative solutions, and assist in the implementation of the solution chosen and the assessment of results.

In this provider-client relationship, it is essential that each party recognize and accept the value and the limitations of the other person's input. The provider must realize that the client faces a myriad of problems of constantly shifting complexity and priority and is only interested in

solutions to the recognized problems. The immediacy of the problem may be more important in determining priority than the long-range contribution of the solution.

The provider must begin to think in terms of alternative solutions to problems as attempts are made to assist the client in the decision making process. The client must realize that the provider does not have instant solutions to all problems, and that another agenda of problems and priorities may be present. With the presence of these and other positive elements such as mutual acceptance and confidence, a productive mix of knowledge, experience, and practical insight, many of the problems faced by vocational educators working in evaluation can be overcome.

An interesting pattern evolved as the project staff made successive visits to the four participating states. Several objectives motivated each of the early visits. Project staff wanted to clarify the role they felt was apprppriate and to determine the state's perception of their role. Project staff wanted to become familiar with the state's vocational education system in general and the evaluation system in particular. Project staff wanted to identify the problems and needs which seemed to impede or limit the effectiveness of the evaluation system. This problem identification was mainly characterized in three forms. Evaluation coordinators and other individuals, both inside and outside the vocational department, named a large number of problems when asked. Project staff also discussed with individuals in decision making positions what they expected of evaluation. With some probing these discussions led to many outcomes by which the evaluation system could be measured. Finally, the project team through observation and inquiry was able to identify a number of areas within evaluation in which assistance might be provided. As might be expected this process brought to the surface a large number of evaluation elements which needed improvement. In fact after one visit to each state, problems were so numerous and so diverse that the prospect of providing assistance seemed overwhelming.

Between the time of the first and second visits to each state, an interesting phenomenon began to occur. By the time of the second visit state people had reduced the list of concerns to a few major problems with which they needed assistance. Project staff have not been totally reactive in this problem identification and screening process but have attempted to unobstrusively assist state personnel to recognize parts of the system which need improvement.

The four states, while diverse in structure, size, level

of development in evaluation, and many other characteristics, have many problems and interests which are shared. The National Center project team in working with these states has recognized their uniqueness but has also seen the potential for mutual sharing and assistance in reaching the goal of a fully responsive evaluation system which will point the way to improved vocational education.

For those conducting the technical assistance project and writing this report, the ultimate reward would be to know that as a result of their efforts, vocational evaluation, and consequently vocational education, is more effective in meeting the needs of individuals and society.

William W. Stevenson
Marion E. Franken

These case studies present historical and contextual information in order to assist the reader in understanding the milieu in which vocational education and vocational education evaluation operate within each state. There appear to be discernable threads which pervade the entire past and present life of the state. In order to fully understand the constraints, problems, and needs of vocational evaluation, it seems appropriate to know something about the history of the state and the development of vocational education. If the readers are only concerned about evaluation problems and their solutions, it is suggested that they go directly to the final section of each chapter.

W.W.S.
M.E.F.

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CHAPTER I

ALABAMA CASE STUDY

This chapter presents a synoptic overview of Alabama's historical and contextual background as these topics influence the delivery of vocational education. More importantly it focuses on the vocational education evaluation system including its problems, alternative solutions, solutions chosen, and results.

Contextual Background

Important to the operation of vocational education is the context in which it exists. This section reports on the vitality of Alabama as a state through a discussion of its history, economy, governmental structures, and general public educational delivery system. It includes the way this system contributes to vocational education through guidance and counseling and career education.

Alabama History and Educational Legislation

Alabama is a southeastern state that derives its name from the language of the Choctaw Indians. Alabama means "thicket-clearers" or "vegetation gatherers." Indians lived in this area in prehistoric times dating back nearly 10,000 years. Europeans settling this area found four major Indian groups living in what is now the state of Alabama and its bordering states. These groups were the Chickasaws of the northwest, the Cherokees of the northeast, the Muskogees otherwise known as the Upper Creeks of the southeast and central areas, and the Choctaws of the southwest area. Early exploration was done by the Spaniards beginning in 1519. As time passed, the Spaniards, English, and French all laid claim to the area that was to become the Alabama Territory by including the land in a variety of charters and by establishing forts in a number of locations.

In 1763, the Treaty of Paris established British mastery in the Alabama region, but it was not until 1814, and General Jackson's defeat of the Creeks at the Battle of Horseshoe Bend, that the white man's mastery was established. The other Indian groups had ceded their northern lands about the year 1805. Settlers were free to establish farms and did so. Plantations arose in what was known as the Black Belt and cotton became the principal money crop. Continued expansion

brought about statehood in 1819 as the twenty-second state to enter the Union. By 1820 there were over 125,000 inhabitants including 500 blacks. By 1830 these figures changed to a population of 300,000 with thirty-eight percent being black slaves. With statehood the capital was established first at Huntsville followed by Cahaba and Tuscaloosa. The year 1860 revealed a population of approximately one million with almost fifty percent being black slaves.

Just following the Mexican War of 1848, controversy stirred over the "Alabama platform" that declared the federal government could not legally bar the extension of slavery to the territories. This, along with the problems involving the state bank, Indian removal, education, state-federal relations, and national politics, made the state ripe for secession. Alabama, the other Gulf States -- Texas, Louisiana, Mississippi, Florida -- and Georgia followed South Carolina into secession by February 1, 1861. The Confederate States of America were formed and included, in addition to the initial states, the state of Arkansas, Tennessee, North Carolina, and Virginia. Jefferson Davis, a native of Mississippi, was chosen as president of the newly formed Confederacy and it was he who established Montgomery as the capital of the Confederacy in 1861. The capital of the Confederacy was moved to Richmond, Virginia after the fall of Fort Sumter but Montgomery has remained the capital of Alabama to the present time.

The antebellum period witnessed a number of "firsts" for Alabama: the first railroad, canal, textile mill, factory for the manufacture of gin-milling machinery, and, in 1850, the mining of coal and the making of steel began. However, Alabama's progress toward industrialization was halted because it believed, as did its sister confederate states, that states should have their individual sovereignty and that slavery was a lawful institution. The great Civil War that ensued brought devastation to both the Union and the Confederate States. Besides the destruction of material goods it proved to be the bloodiest of wars. Of the 122,000 Alabamians who served, 35,000 gave their lives for their beliefs in the new Confederate Constitution. After General Robert E. Lee's surrender of the Confederate Army at Appomattox Courthouse of April 9, 1865, a refusal of the Alabama state legislature to ratify the fourteenth Amendment of to the United States Constitution, that provided for the civil rights for the Negroes, placed this state under military rule in 1867 and it was readmitted to the Union only after ratification of the amendment in 1868.

The reconstruction period between 1868 and 1874 witnessed the abolishment of slavery, Alabama becoming the third military

district and the "carpetbag-scalawag" era of political corruption and extravagance. Blacks demanded free schools while whites insisted on separate schools as being appropriate.

The "Bourdon era" that followed became noted for economy, retrenchment, conservatism, and dominance of the Democratic Party. It was an era paradoxically marked by progress in education and industry.

Education has been a concern in Alabama since it became a state in 1819. At that time the legislature provided that revenue from the sixteenth section (640 acres) of each township be used to provide funds for public education. Public education started at the college level with the establishment of the University of Alabama in 1831. Twenty-one years later the Mobile Public School Act was passed that gave rise to a statewide educational system for school-age children. The state constitution passed in 1901 set forth provisions concerning public education. It said that school money should be apportioned among the counties according to population in order to provide school terms of equal or nearly equal length. Equalization of taxable wealth was achieved by 1929. This was important because prior to this time the distribution of children and of taxable wealth were not closely correlated. Further legislation provided for a three-mill tax that authorized counties and school districts to increase local school tax. The School Budget Act and other acts provided for such things as minimum school programs, teacher tenure, and teacher retirement. Appropriations for educational purposes from state funds increased from eight percent in 1938 to thirty-two percent following World War II. Due to this type of legislation almost the entire population of Alabama was literate by the second half of the twentieth century.

By the late 1960's there were 800,000 students attending Alabama public schools that employed 30,000 teachers. Alabama also claimed nineteen senior colleges that were predominantly white and nine private junior colleges. Three state-supported predominantly black colleges existed in addition to five private black colleges.

If the state had not provided for an administrative structure that was first described in the Alabama School Code of 1927, perhaps Alabama's accomplishments in education may not have occurred. This code established the Department of Education under a State Superintendent of Education and an assistant superintendent with the advice and counsel of the State Board of Education. The department's duties were to set policies and procedures for public education. Divisions and services

found necessary to carry on the department's work became the responsibility of the superintendent. To exert the department's largest influence, provisions were made for three publications; namely, a monthly circular containing information about the work of the department and notices and directions of the superintendent; a series of bulletins to contain studies of department divisions and school manuals; and annual reports. Further, this legislation provided for funds to the State Board of Education for their expenses to maintain and operate schools.

The preceding discussion, while conveying the message of the gradual evolving of a public educational system in Alabama, does not present the complete picture. Public education was greatly influenced by a variety of political struggles and events.

A struggle that relates to education begin in what was termed the "Reconstruction Period." This period saw blacks participating in the legislature and in the constitutional convention, but in 1874 the white Democrats, many of whom had supported the Confederacy, regained control of Alabama's political machinery. Thus, the "Reconstruction Period" that was looked upon as having opportunity and hope for the black population turned to a "tragic era." This period and the events that followed rendered blacks almost powerless in government for the next hundred years.

After federal troops were withdrawn in 1876 there were political efforts that began in the state which resulted in the restriction of black participation in government. Non-participation on government and voting regulations stemming from the state's constitution of 1901 had its effects on a variety of social institutions. One of these affected institutions was education. It should be noted that Alabama received national and international notoriety in the 1950s and 1960s as the state where racial inequities existed. But inequalities of a racial nature have existed with varying causes across the nation and still exist in several states. It is speculated that the political events that drew notoriety to Alabama in the 1950s and 1960s were prompted by the remnant issues of "state's rights" versus the issues of "human rights." The impact of these events surfaced in Supreme Court decisions and Amendments to the United States Constitution.

In Alabama, state level government officials were elected, as they are now, by the people under the amended state constitution of 1901. The original constitution restricted suffrage to those persons who could read and write any article of the Constitution of the United States and who had held regular lawful employment for the better part of a year prior to voting

registration, or who had paid taxes on property assessed at $300. All voters registered prior to December 20, 1902 were included under the law if they served in the military of the United States or the Confederate States in the time of war. This law also included their lawful descendents and, in general, persons of good character who understood "the duties and obligations of citizenship under a republican form of government."

The constitution also stated that no person under forty-five years of age could vote if they had not paid their poll tax by February 1 preceding an election. Amendments to the state constitution later exempted veterans of the two world wars from this later provision. As a consequence of this legislation, few blacks could vote.

The federal government initially interceded in two ways: (1) The Twenty-Fourth Amendment to the U.S. Constitution abolished voting in federal elections. (This was extended to include all elections by the United States Supreme Court in 1966). (2) Federal court order forced Alabama to reapportion its voting districts so that each county was given at least one representative in the state legislature.

The United States Supreme Court decision of 1954 declared racial segregation in public education unconstitutional. This declaration was directly resisted by the governor of Alabama to the point where federal troops were placed in the state in 1963 to enforce this decision.

The Civil Rights Act of 1957 ended the voting restrictions put upon black Alabamians. The Civil Rights Acts of 1960 and 1964 further improved human rights and opportunities for minorities in Alabama as well as nationally.

Some of the churches in Alabama and other social institutions remain segregated. With the desegregation of the public schools, vocational education was able to serve both black and white students.

The Educational Amendments of 1976 have mandated the separate states receiving vocational funds to assess and evaluate vocational education programs so that all students are served with equity. These amendments have recognized vocational students who represent minority groups as a category within the large group of special populations. However, without the knowledge of the historically bitter struggle that occured between the predominant ethnic groups in Alabama, it is impossible to recognize Alabama's efforts toward or to appreciate its accomplishments in the human rights issue.

Geographic and Social Characteristics

Alabama is unique in being both a Gulf State and an Appalachian State. It extends 300 miles from its mountainous region in the northeast (maximum height 2,407 feet) to its white sand beaches in its southwestern area on the Gulf of Mexico. Bordering states are Mississippi to the west, Tennessee to the north, and Georgia to the east. About two-thirds of its southern edge meets Florida's northwestern extension.

Alabama's natural resources include iron and coal deposits, extensive forests of pine, pulpwood and hardwood, and oil. In addition to its large system of rivers it makes claim to having the world's tenth largest seaport at the city of Mobile.

Generally, Alabama is considered to have a mild climate. Snow is practically unknown and frost is the usual extent to which coldness must be endured. Temperature is more nearly uniform in this region than in other states across the nation. Such a climate favors outdoor life and healthful living.

As to age and ethnic populations, Alabama is typical of the rest of the nation. There has generally been a decrease in the younger population (under eighteen) and an increase in the population of persons over sixty-five years of age. Essentially two ethnic groups predominate in the state. According to 1970 census data, there are the whites, representing about seventy-three percent of the state population and the blacks representing about twenty-six percent. The majority of the blacks are concentrated outside Appalachian Alabama and are chiefly found in south-central Alabama and in Jefferson County[5] (see Figures 1.1 and 1.2). Black outmigration has been experienced in about ninety-one percent of the counties since the 1960s. This is a dramatic population change compared to the antebellum period when nearly half of the population was black.[6]

Economic Indicators in Alabama

The industry contributing to Alabama's economy can be termed diverse. Agriculture, once the primary source of its income, still has an effect on the socioeconomic structure of the state. However, in the last decade rural industrialization has been encouraged by public policy.[8] Manufacturing jobs now account for about one-forth of Alabama's total employment. Rivaling employment in manufacturing is employment in the service area occupations.

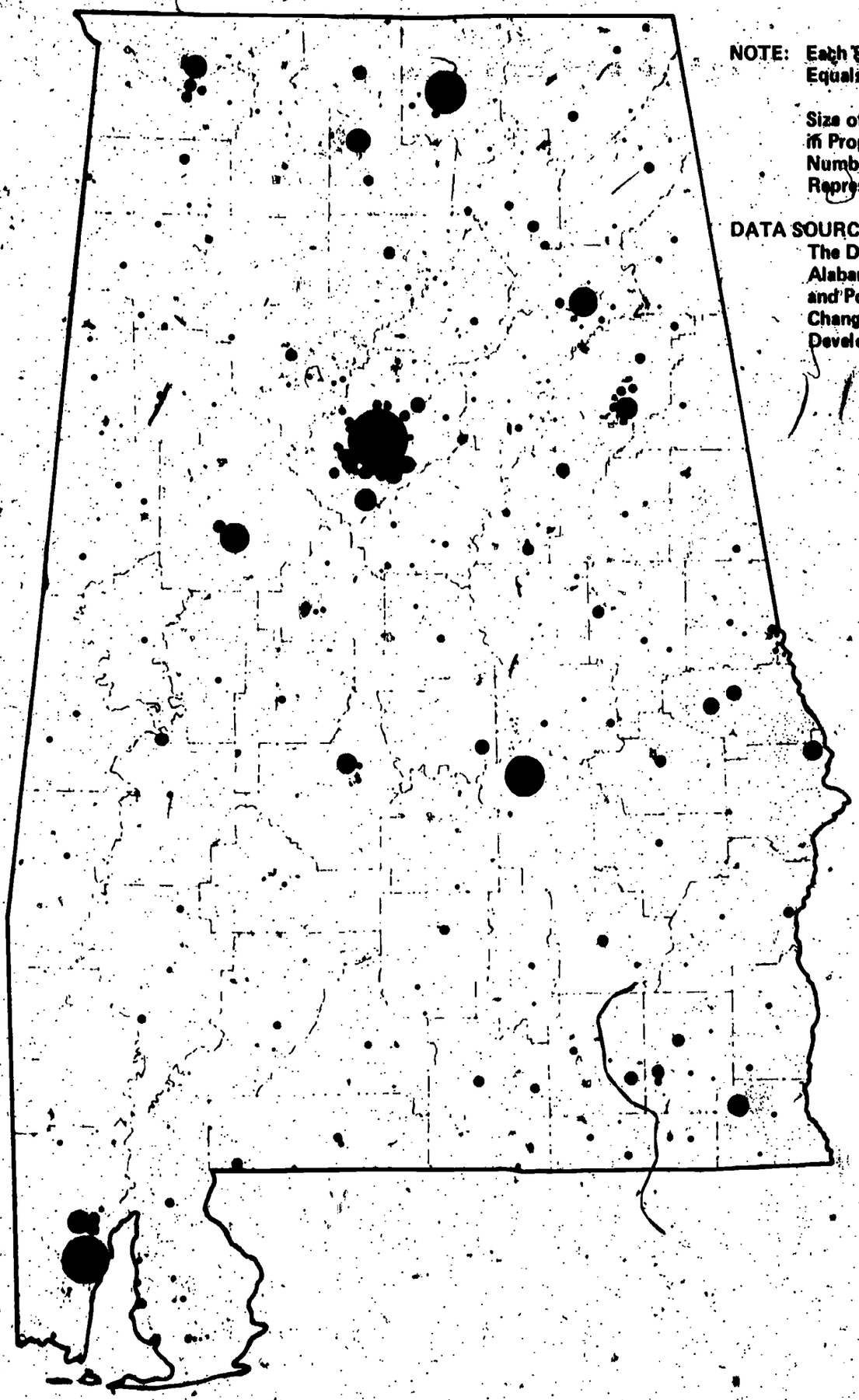


Figure 1.1. Distribution of the total population in Alabama: 1970.

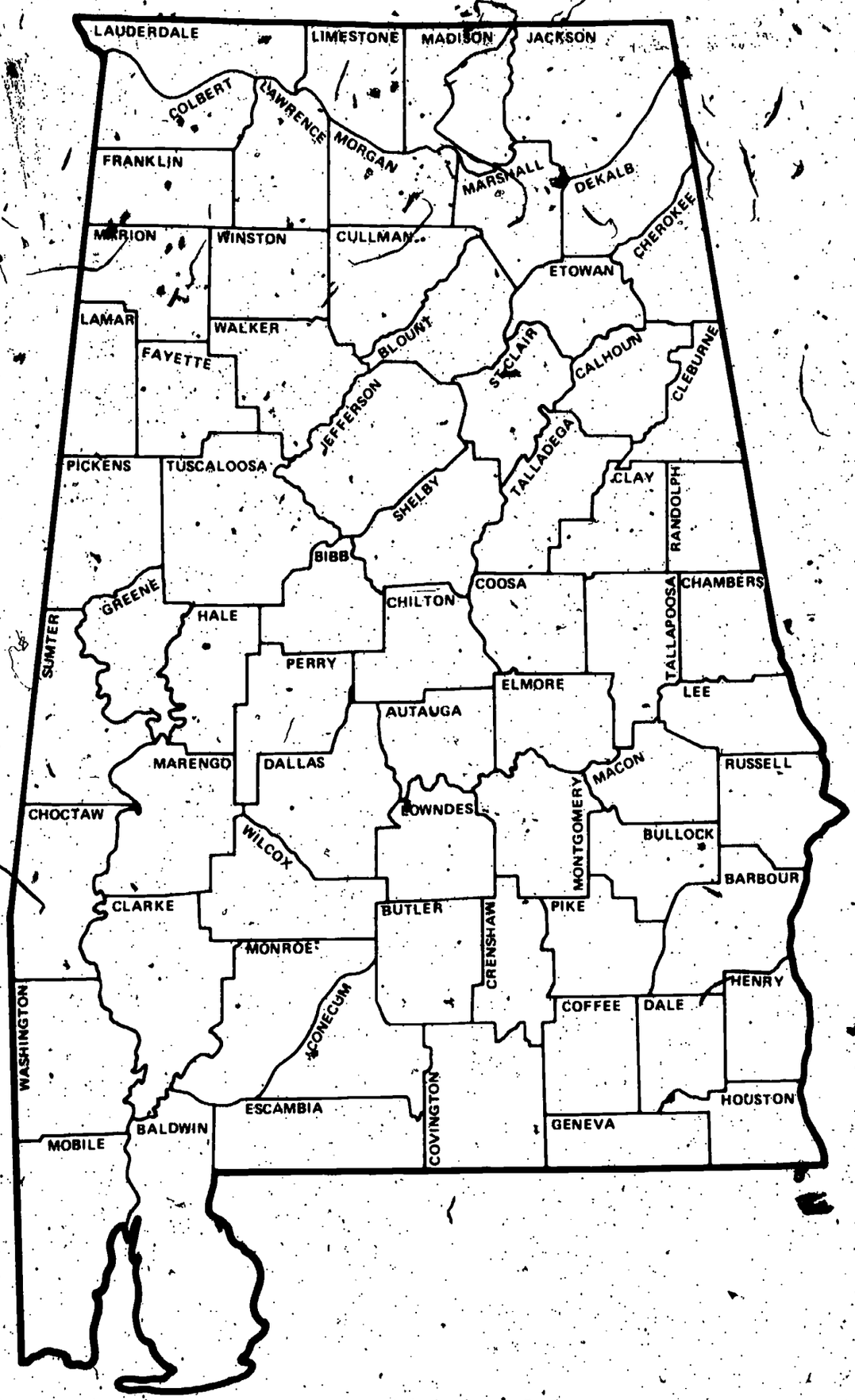


Figure 1.2. Map of counties in Alabama.

The iron and steel manufacturing industries have continued to predominate in the northern region of the state especially near the cities of Birmingham, Anniston, and Gadsden.

With the exception of Madison County, all counties in Alabama gained in population from 1970 to the present. This exception in population increase was due to losses in the aerospace sector of its economy. Increases in population ranged from 3.0 percent to 16.1 percent. Larger percentage increases can in some cases be attributed to suburban spill-over as is the case in the Montgomery area. Expectation for further population growth through the 1990s is indicated in projection studies. Outmigration of the state's young and productive work force had been a problem for decades. However, since the 1970s there has been a reversal of these trends and approximately seventy-one percent of the counties have shown an inmigration. The greatest inmigrations have occurred in the extreme northeast, northwest, and suburban Birmingham areas. Outmigration has been observed in four of the most urbanized counties. As has been experienced across the nation, Alabama has had a decline in urban and central city areas, and has experienced growth in rural and semirural counties.

Throughout rural Alabama, and especially in the eastern counties, textile and apparel plants prosper. The state's extensive river system has encouraged paper and pulp mills as well as chemical plants along its banks. More recently coal mining has shown growth as an industry.

Despite Alabama's resources and increased industry, as much as ten percent of its labor force in twelve of its thirty-five counties, was unemployed in 1972. Unemployment rates in some of the northern counties have been as high as twelve percent. A positive correlation existed between counties experiencing inmigration and high unemployment. Most rural counties where increased manufacturing has occured reflect greater employment percentages.

Personal incomes compared to those found in the several states were generally lower. The Appalachian areas contributes strongly to this phenomenon. These were the same areas in which transfer payments from social security and public welfare were found to be the highest. Economic development activities of the past five years have lessened their reliance on transfer payments.

Despite the negative economic trends noted in individual counties, over all, Alabama has shown increased economic vitality over the past five years. Increased rural industrialization has contributed toward this positive trend.

Government As It Affects Education[10]

Important to the operation of public education is the government under which it operates. The following paragraphs contain a discussion of Alabama's present state, county, and municipal administrative structure.

State government. As was stated earlier, Alabama's state officers are held by persons elected by the people of the state. Special provisions of interest exist that pertain to state officers and functions.

The legislature amended the state constitution in 1968. Governor George Wallace and all governors following him in office were now allowed to succeed themselves once after their initial four-year term.

Both the governor and the legislators are chosen in the same election. The senate is comprised of thirty-five members that represent sixty-seven counties while representatives are elected from districts of one to three counties. Business of the legislature is transacted through standing committees. There are fifteen standing committees in the house and thirty in the senate. State judges are chosen by popular election. The state circuit court system handles the greater burden of litigation.

State revenues are obtained by nontax money (thirteen percent), federal funds (twenty-one percent) and state taxes (sixty-six percent). Annually, tax monies total $600 million. The chief taxes include individual and corporate income tax and property tax. Of these monies collected at the state level approximately thirty-two percent is spent on education; twenty-five percent on highways; thirteen percent on public welfare; and six percent on health and hospitals. Alabama usually ranks about forty-seventh in its per capita income among the states.

County government. As an arm of state government the counties assist in the administration of state functions and in the governance of local areas. The distinction between state and county government is not always clear in administrative procedures or in the law. Traditional responsibilities are in areas of road construction and maintenance, property tax, election, court and records administration, and education.

The official governing body at the county level is the elected county commission headed by either a judge of probate or a commission chairperson. Administrative duties are most generally departmentalized by function and responsibilities for

operations are divided among the commissioners.

Other county governmental activities not under the direction of the county commissions are the positions of: judges, clerk of the court, sheriff, district attorneys, and tax assessors. In some cases, such as elections, equalizing of tax assessments, and welfare, state enabling legislation has placed administration in the hands of independent boards and commissions.[11]

Municipal government. Presently there are 409 municipal governments in Alabama. The majority operate under the mayor-council form although several cities operate under the commission form. Very few cities have versions of the council-manager form. Most of the cities in the population range of 2,500 and below have part-time, elected officials and limited part-time or full-time staff to assist them. Outside sources provide professional assistance and development funds to these small governments and capital improvements now require state or federal aid. Programs normally the responsibility of municipal governments have exceeded budgetary possibilities during the recent recession and inflationary periods.[12]

Description of the Educational Delivery System in Alabama

At the present time there are 127 local education agencies (LEAs) in Alabama that are located within its sixty-seven counties. Besides each county having a school system, several cities within counties have separate school systems. With the exception of a single school system that operates elementary schools and junior high school programs all LEAs operate vocational education programs. In this one exceptional case, students are offered vocational education under the county system.

Each LEA is responsible to the State Board of Education. Appointed superintendents adminster most of the LEAs, however, in some LEAs superintendents are elected. In all cases LEAs operate under an elected board of education. In most cases the LEAs provide programs from the kindergarten through the twelfth grade. In 1977, the state legislature provided for the phasing in of a state kindergarten program. Before this time LEAs provided education from grades one through twelve. School attendance is mandatory in Alabama for youth ages six to sixteen. Text books are furnished to students free of charge. No tuition or fees are charged to students for courses required in earning a high school diploma.

In addition, the Alabama State Board of Education has many other functions. It operates an accreditation unit within

the Department of Education. Public schools may elect to be accredited. If they do so, they may be accredited by the state and they may be accredited by Southern Association of Colleges and Schools. The state board establishes the required number of school attendance days, specifies required courses, and issues courses of study to be followed by the LEAs. The state board also operates special schools for a variety of populations. These include the School for the Deaf and Blind, schools for youthful offenders, an industrial development Training Institute that provides start-up training on a need basis throughout the state for new or expanding industry, and a state instructors program which provides specialized training and upgrading for public service employees in local government. It operates twenty-seven technical colleges or institutes that offer courses of one to two years duration on a day and evening schedule primarily for adults and out-of-school youth. The board also operates nineteen junior colleges that are comprehensive in that they offer transferable credit, vocational and community service courses. (Both the technical colleges or institutes and the junior colleges are administered by presidents who are appointed by the state board and who report to the State Superintendent of Education.) And lastly, the state board operates a single higher education institution that provides two years at additional training beyond the initial two-year preparation provided at the junior college level.

Alabama also provides higher education in its state colleges and universities. These senior institutions are administered under governor appointed boards of trustees. A legislatively created Commission on Higher Education serves in an advisory capacity for the coordination of programs. Most state universities offer a vocational and technical teacher training program, but do not offer vocational or technical course work.

Guidance and Counseling

Federal legislation in the form of the National Defense Education Act of 1958 responded to the Space Age by providing funds especially for the identification of gifted youth. Like most of the nation, Alabama had been providing basic academic courses in high school for the entrance of youth into colleges and universities. Alabama's vocational program in the fifties had been limited to the service areas of agriculture, home economics, trade and industry, and business education. Further federal legislation brought about vocational program expansion at both the secondary and postsecondary and adult levels. With the demand for curriculum changes it was apparent that counselors in the educational system would also

have to be trained so that youth could be made aware of choices in careers of an academic or vocational nature.

Federal dollars were provided for the training of counselors in the vocational areas as early as 1963 with the passage of the Vocational Education Act. Many states, including Alabama, have counselors who were trained to guide students in either an academic career or a vocational career in schools that provided both educational programs. Presently, there is the realization that there is a need for comprehensive training of counselors so that they can advise students intelligently and knowledgeably in either career direction. For counselors trained in only one of these directions, inservice is now being provided so a comprehensive approach to guidance can soon be realized. P.L. 94-482 specified the handicapped as one of the special population groups that was to be served by vocational education. This called for further comprehensiveness in the delivery of counseling. In response to this goal, Alabama has written a number of standards and policy statements. A synoptic overview of these statements is presented in the following paragraphs.

The Department of Education states that the student counselor ratio is not to be greater than a ratio of 500:1, based on a six period day for a full-time counselor. Also, a written needs assessment is required for vocational guidance and counseling services in each LEA. A written comprehensive plan of work is developed by the school counselor(s) based upon the needs assessment. Such a plan must include the following elements: guidance and counseling program objectives, specific activities related to program objectives, and evaluation components to determine the degree to which program objectives are met. One copy of the plan is kept on file in the counselor's assigned school and a copy is provided to the Pupil Personnel Services Section of the State Department of Education.

The foregoing procedures must address guidance and counseling functions as they pertain to both individuals and student groups. Counselors are responsible for the collection, analysis, and dissemination of data with regard to sources of occupational information, educational requirements, and related social and environmental factors. Counselors are also required to know the processes and methods used to make this kind of information available to the school and to the community. In addition they must know how to make appraisals using test and documented nontest information about individual students, appropriate referral sources, and any concerns of a legal of ethical nature that might restrict occupational goals.

Further, they must make placement materials available to

interested students, parents, school staff, business and industry along with current requirements of referral resources related to: job placement, apprenticeship and union membership, educational/training placement, and handicapped, institutional, and psychological placement. Counselors are required to be able to assist students in making decisions with regard to placement from interpretations of the individual's vocational appraisal and to conduct follow-up studies to determine the effectiveness of the guidance, counseling, and placement program as well as the vocational program itself. In providing these services, sex equity procedures must be assured.

An individual employed as a counselor in Alabama in secondary schools must, in addition to certification requirements, initially attend a minimum of twenty-four clock hours of professional training designed to prepare and upgrade counseling activities. It should be noted that Alabama's requirements for certification of guidance counselors are now in the process of revision.[13]

In addition to the inservice efforts to train Alabama vocational counseling staff there is a Counselor Renewal Center being developed and pilot tested. Counselors from LEAs are allowed to attend exercises and seminars at the center for a period of eighteen months so they can develop more comprehensive planning in providing guidance services to students.

Yet another project, locally termed "Project 49" was developed with funds provided under Title III, Section 342 b(1) of P.L. 94-482. A spin-off of this project will be the production of a document to be entitled A Handbook for Comprehensive Guidance Programs that will more fully identify the counselor's roles.

To assist counselors in the decision-making process with the students they advise, Alabama has developed the computer based Alabama Occupational Information System (AOIS). By using an interactive terminal located in a school setting, students can now examine career clusters to identify occupations and requirements of these occupations efficiently and effectively.

While AOIS provides more complete information, awareness of career information is nevertheless limited because of the numbers of students to whom such information is made available. The state has provided $300,000 per year for the development of AOIS. It costs the LEA $5,175 per year to furnish an interactive terminal and use of the computer based program. This breaks out to a cost of $400 per month or $.58 per hour for use of one terminal. Presently, only a few LEAs can afford

terminals and there are long lists of students waiting to use terminals. AOIS is in the process of developing needle-sort packets of materials students may use if terminals are not available in the LEA.

At the present time, some LEAs are making information available in printed form about programs and the job related occupations students might enter. LEAs recognize that the lack of such printed information results in incomplete awareness to both students and their parents in making appropriate career choices.

Career Education[1]

In Alabama, career education is defined as a comprehensive educational approach to the preparation of the citizenry for living as fulfilled human beings in a predominantly technical, specialized society. It is the philosophy of the state educational system that career education makes subject matter taught in schools more meaningful and relevant to individuals served through restructuring and focusing concepts around a career development theme.

Career education had its beginnings in Alabama in 1972 as exemplary programs funded through vocational education. Basic elements of career education are awareness, exploration, and preparation. Each of these elements are infused into school curriculum as a student participates from kindergarten through high school.

Figure 1.3 illustrates the three phases of career education and the grade levels at which each phase occurs. At the awareness phase students from kindergarten through the sixth grade are encouraged to role play or act out roles that occur in job situations. Thus, the student becomes aware that careers are a way of life and is encouraged to become a more well-rounded individual in order to fully participate in the world of work. During the intermediate school years from seventh through ninth grade, career exploration becomes the emphasis. In this phase, the student is encouraged to discover career roles for which he or she is best suited. Skills are developed by providing the student opportunities to use tools and through media to develop interests and talents. Relevancy in education is achieved by the student relating what is learned in school with roles that will be assumed in adulthood.

The third phase of career education is the career preparation and placement phase. Initially this is the period where the student decides if job entry will be attempted after the

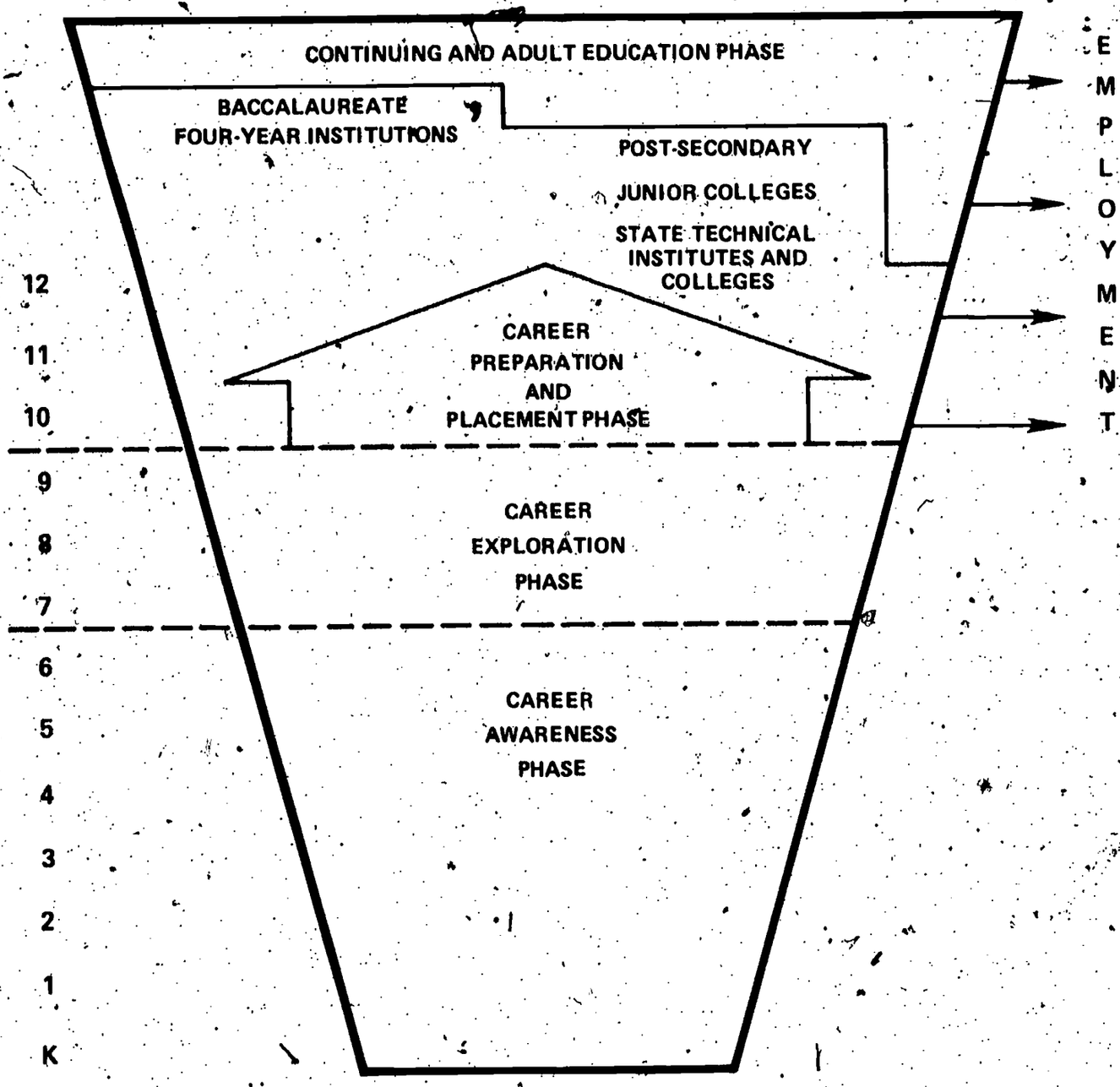


Figure 1.3. Career guidance - An intergral part of each phase of career education in Alabama.

ninth grade or high school or whether more training will be required to enter his or her occupation of choice. This is a time for decision making and preparation for work or for further education. In reality this phase is unending due to changes in career roles that are forced upon or chosen by an individual. Thus, the Career Education Curriculum Model Alabama has provided is for the education of all its people whether six or sixty years of age. This model assists referents in achieving realistic goals as a functional individual in a real world.

Vocational/Technical Education Delivery System

The delivery of vocational education varies as to the state in which it occurs. The following paragraphs describe Alabama's vocational education history and its present vocational education delivery system as it relates to organization, staffing, and program.

History of Vocational Education

In response to the federal legislation known as the Smith-Hughes Act, Alabama's governor proclaimed acceptance of the Act for Alabama since the state legislature was not meeting in a regular session that year. The first state plan was approved on December 14, 1917 and the act was fully accepted by the state legislature on February 15, 1919. State legislation recorded as Chapter 37, Section 16-37 of the Alabama Code, reflects the efforts of the legislators of that time to promote vocational education.

The state vocational education legislation accomplished the following: (a) designated the treasurer as custodian and disburser of funds to carry out the provisions of the chapter under the State Board of Education; (b) placed the State Superintendent of Education in charge of vocational education and required this person to prepare reports concerning the condition of vocational education; (c) gave authority to the State Board of Education to cooperate with the Federal Department of Health Education and Welfare in the administration of the Smith Hughes Act; to administer the funds for the planning and promotion of vocational education in the subjects of agriculture, trade and industry and home economics; and to prepare teachers for these subjects; to provide compensation for the administrators of vocational education at the state level; to make studies and investigations relating to vocational education that included the establishment of schools, departments or classes in vocational subject by local communi-

ties; and to prescribe qualifications of vocational education completers; (d) established the authority for local boards of education to cooperate with the State Board of Education in the establishment and maintenance of vocational schools; (e) required a detailed annual report to the governor regarding expenditures for vocational education in each school; and (f) authorized county commissions to make appropriations to county boards of education to provide centers for vocational education. It should be noted that the State Board of Education was later designated as the State Board for Vocational Education.[15]

In 1945, city and county boards of education under the State Board of Education were given authority to jointly or severally contract for the erection, maintenance, and operation of vocational schools. This act designated that resident students could attend tuition free schools and included the necessary provisions for operation pertaining to the subjects to be offered, staffing, and administration of such schools.[16]

The early 1960s were active years for the passage of legislation at the federal and state levels that affected vocational education delivery. In 1963, Alabama responded to the further availability of vocational education by passing the Alabama Trade School and Junior College Authority Act. This act stated that instruction would now be provided for a period of two years beyond the high school level.[17]

The preceding legislation was important. It set the stage upon which vocational education in Alabama now performs.

Organizational Structure

In Alabama, the person appointed by the State Board of Education as the State Superintendent of Education is responsible to the electorate and State Board of Education. Assisting the State Superintendent are two Assistant State Superintendents who hold staff positions and one Deputy State Superintendent who holds a line position. Reporting to the Deputy State Superintendent, in line positions, are division directors who direct the following divisions: Administration and Finance; Departmental Services; Rehabilitation and Crippled Children; Disability Determination; Instruction; Research, Planning and Dissemination; Postsecondary, and Vocational Education. The seventh, Division of Legal Services, was added in July 1978. Auxilary to the State Superintendent are the positions of State Legislative Liaison, Budget Preparation, and Federal Legislative Liaison (see Figure 1.4).

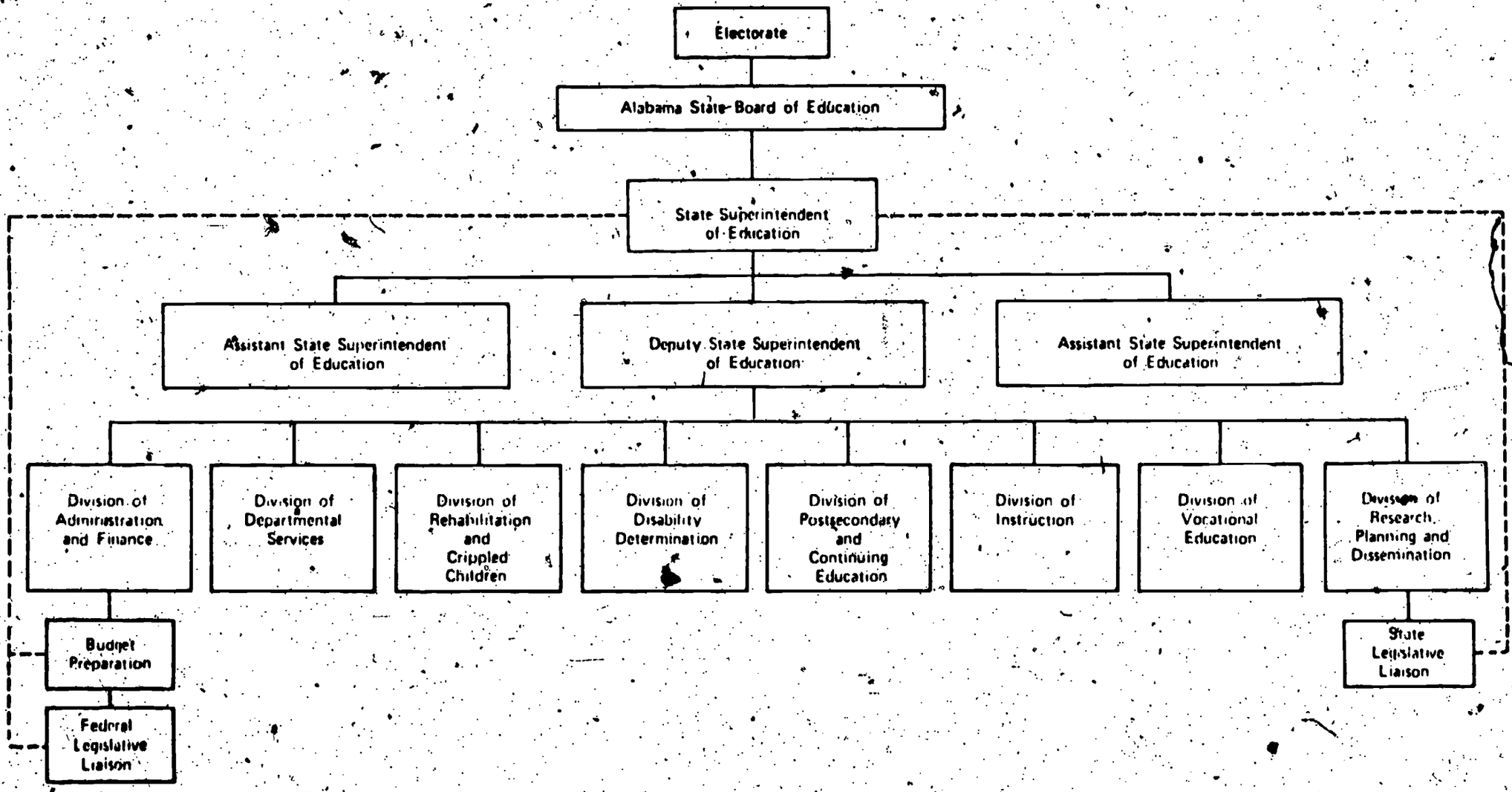


Figure 1.4. Organizational Structure of the Alabama State Department of Education as of July, 1978.
Note. The organization was restructured November, 1978.

It should be noted that the State Board of Education is one and the same as the State Board for Vocational Education. Vocational education is administered through the Department of Education, Division of Vocational Education at the secondary level and by the Division of Postsecondary and Continuing Education above the secondary level.

The Director of the Division of Vocational Education is appointed by the State Superintendent of Education. Line positions assisting the division director are held by assistant directors. Figure 1.5 shows the organizational structure of the division and the unit breakdown of each of the branches. A large number of professional staff now shown on the organizational chart are the district supervisors who report to the state supervisors for each of the service areas cited under the Program Supervision Branch. These district supervisors and specialists number twelve in agribusiness education, six in business and office education, four in distributive education, eight in home economics education, and fourteen in trade and industrial education.

Figure 1.6 shows that vocational education is provided under the Division of Vocational Education through the secondary level of instruction. The division director reports to the Deputy State Superintendent as does the Director of the Division of Postsecondary Education.

Secondary vocational education occurs in Area Vocational-Technical Centers and comprehensive high schools. Most clusters of these institutions are located in higher population areas of the state. Others are located in less densely populated areas in the state. There are ninety-six centers in operation with nineteen additional centers in the planning stage or under construction. These centers operate in cooperation with high schools in their immediate areas (see Figure 1.7).

Postsecondary and adult education occurs in nineteen Junior College and twenty-nine State Technical Colleges. Like the secondary Vocational Technical Centers, they are located in areas where the majority of Alabamians can be served (see Figure 1.8).

Staffing and Certification

Additional considerations important to the delivery of vocational education are the provisions made for staffing and the degree to which persons are qualified to hold staff positions. The paragraphs that follow provide general information pertaining to staff and their qualifications as these

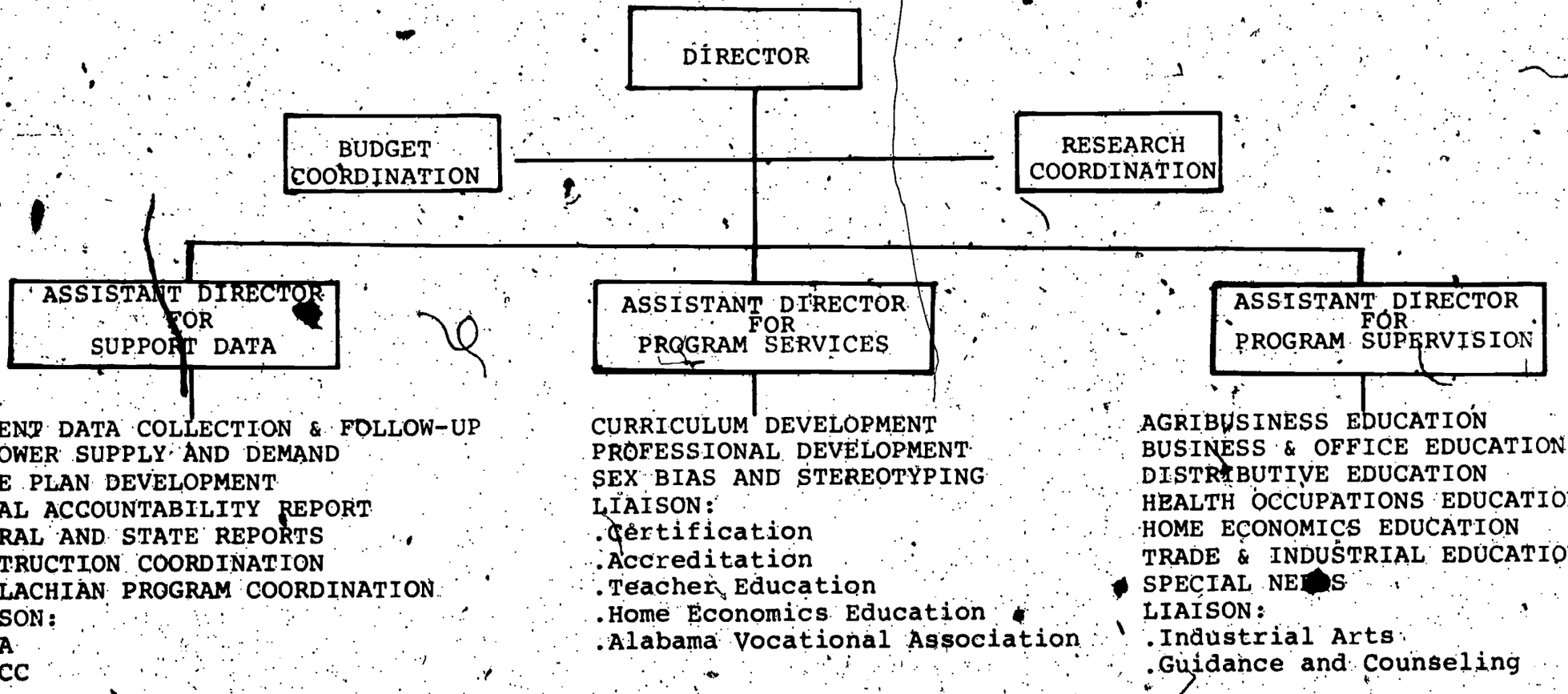


Figure 1.5. Organizational Chart of the Division of Vocational Education as of July, 1978.

Note. The organization was restructured November, 1978.

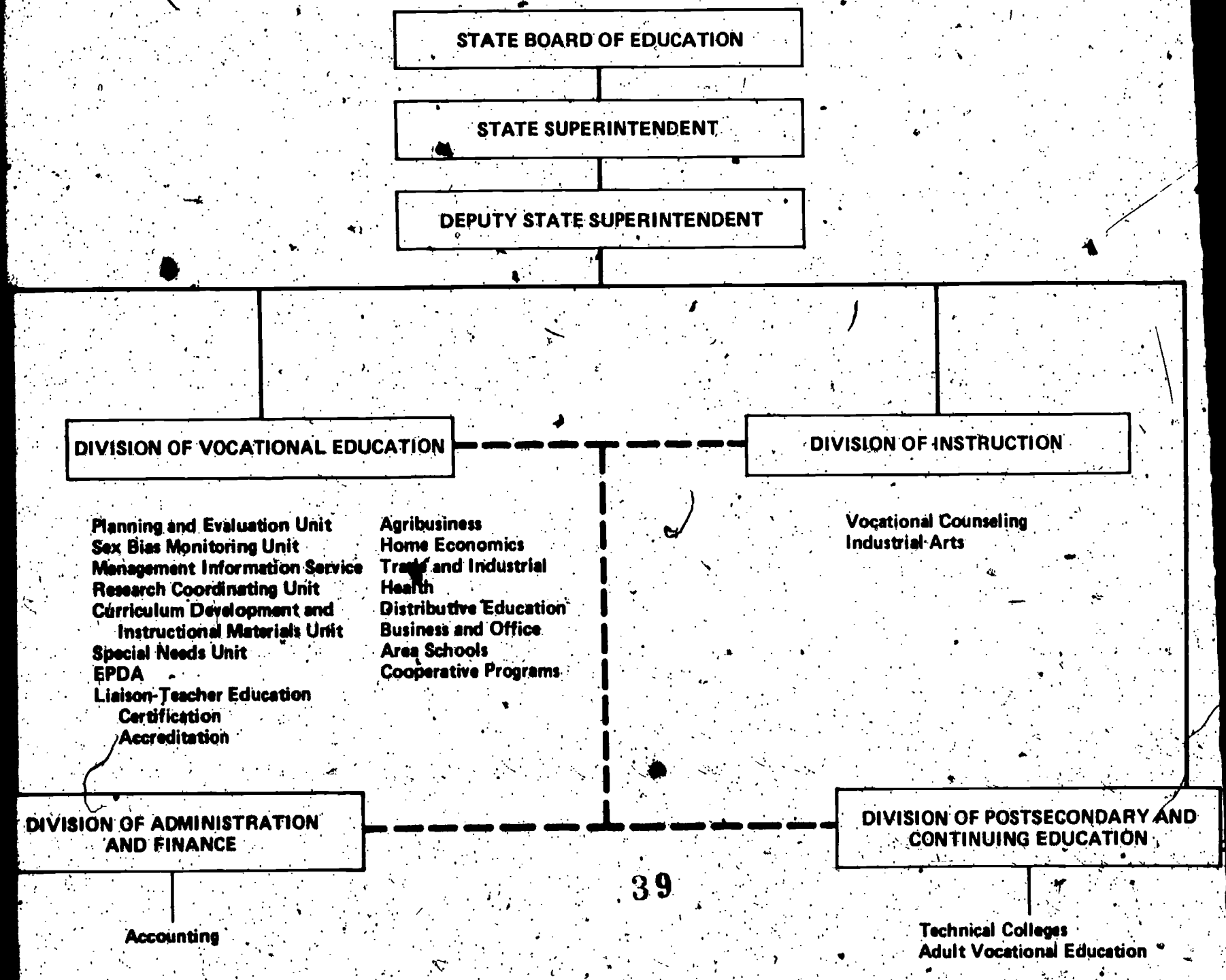


Figure 1.6. Organizational Chart for Vocational Education Delivery in Alabama as of July 1978

Note. Restructured November 1978

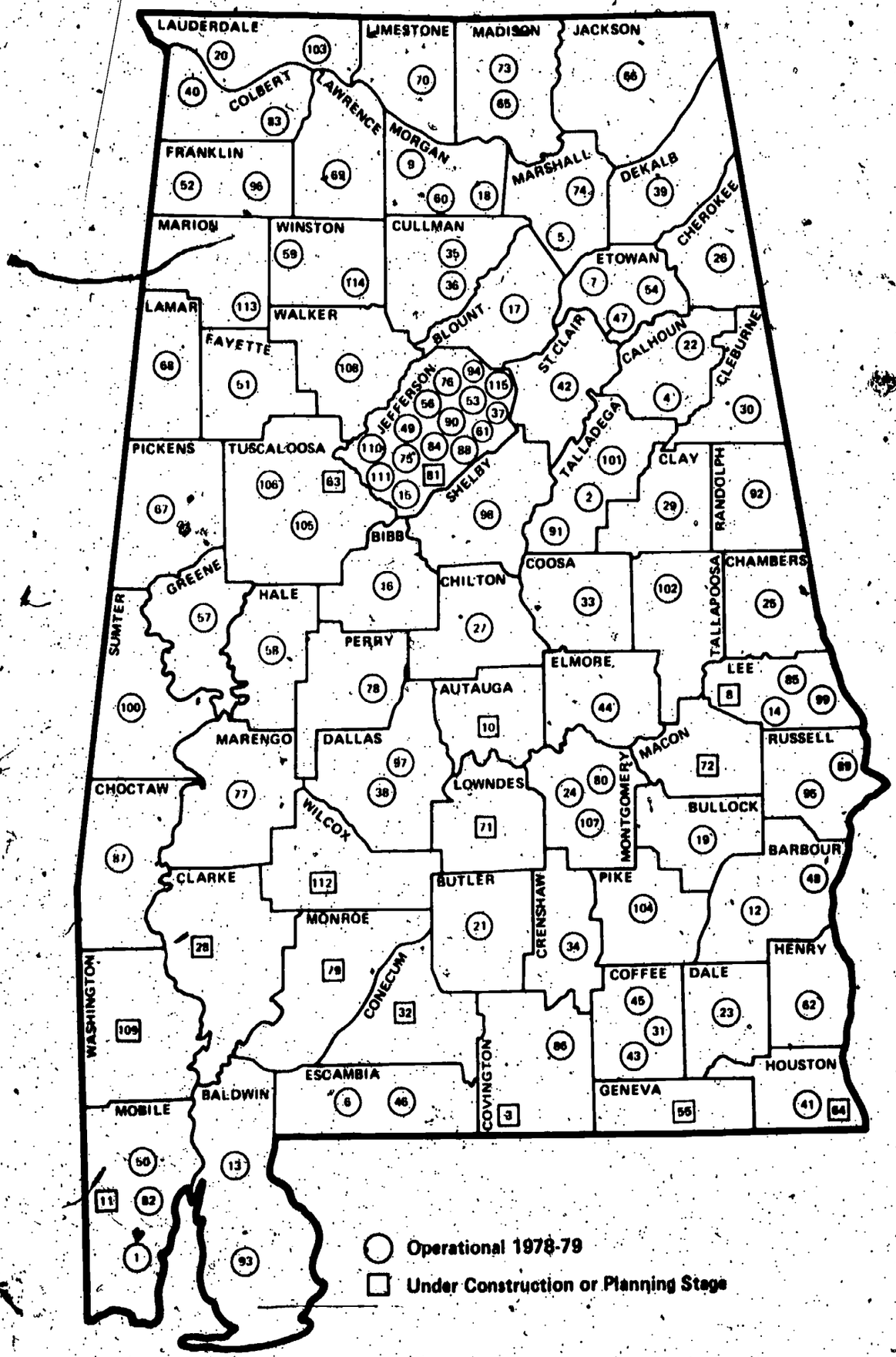


Figure 1.7. Alabama Area Vocational Centers.

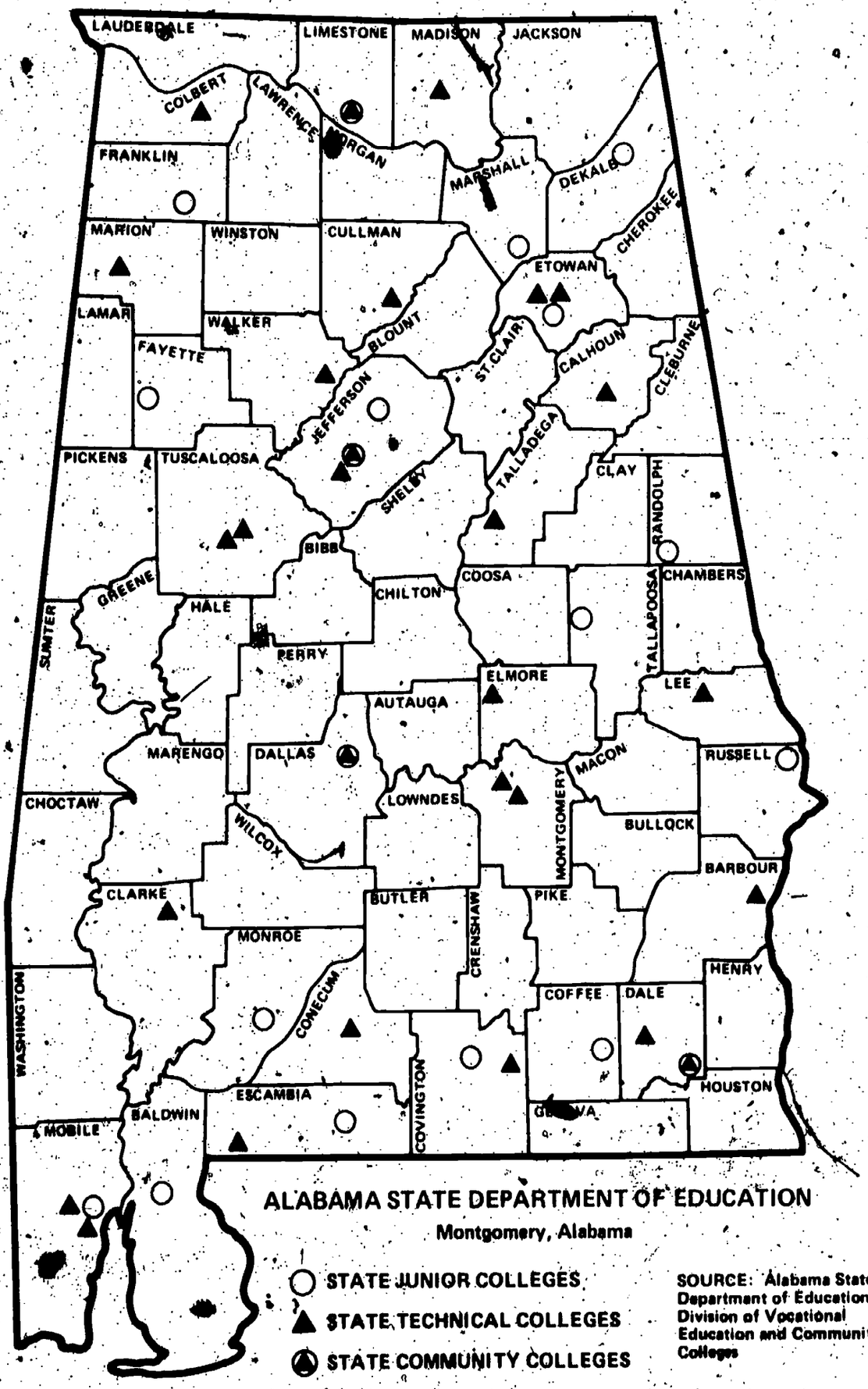


Figure 1.8. Two-year public postsecondary institutions.

occur at the state and local levels.

State Educational Agency (SEA). In general, there are no certification requirements for persons employed at the SEA. The majority of persons employed in administrative and supervisory positions, however, have at least a master's degree with several years of experience in vocational education or in a field related to the one in which they are employed. Within Vocational Education, nine SEA personnel hold earned doctor's degrees; five are held by women. Women are represented in administrative decision making positions as well as at the supervision level.

Local Education Agency. Alabama is not unique in the type of positions held or in certification requirements for positions in LEAs. Local school systems operate under a local board of education administered by a superintendent of education. A vocational director or designee assists the superintendent in delivering vocational education. Vocational education directors are responsible for planning and evaluation of vocational programs. Programs are subject to review by local advisory councils. Some secondary vocational education occurs in what are termed comprehensive high schools. These schools offer the regular high school curriculum in addition to vocational subjects, such as agribusiness, home economics, business and office and some cooperative educational programs. High schools are under the direction of persons designated as principals.

High schools work in conjunction with Area Vocational Centers where the major portion of vocational education is delivered. Each of these centers has a director assisted by support, counseling, and recruitment staff and teachers who are responsible for instruction in each of six vocational education service areas. A number of the service areas have local craft committees who serve as local advisory committees. Other service areas may have individual craft committees and an individual local advisory council for the delivery of vocational education.

In 1966, the Alabama Department of Education published Bulletin No. 14 which dealt with formal certification requirements for school administrators, subject area supervisors, and teachers. Certification is based on credits, degrees, and experience in designated areas of expertise. However, in 1978, Alabama left the certification function to the college and universities who prepare the above designated educator rather than performing this function in the Division of Vocational Education.

Professional Development. A variety of professional development activities for program updating and improvement took place in Alabama during fiscal years 1976 and 1977. A change in priority areas for such activities may be noted and it is speculated that the new federal legislation influenced these priority changes. Discussed in the sections that follow are the subjects of teacher preservice, inservice, and certification.

Preservice Education. During FY 1976 six teacher education institutions were funded to provide training for vocational education teachers. These programs graduated 192 teachers.[18]

Financial support from vocational funds was given for twenty-seven teacher education programs in FY 1977. However, policy relating to support of teacher education programs changed during the year. As a result of this change in policy, most programs of this type would no longer be funded.[19]

Inservice Education: Emphasis, in FY 1976, was placed on inservice for 157 state staff and teacher educators. Activities included training in management by objectives (MBO), curriculum development and instructional supervision.[20]

Professional development was provided to 1,364 teachers at the local level through funds derived from the Education Professions Development Act (EPDA). Orientation toward performance-based instruction was the focus of workshop activities for field service staff in all occupational areas. Inservice activities for local vocational education administrators and supervisors were also conducted.[21]

During FY 1977, over 600 persons in 50 inservice sessions were trained to operate terminals in an interactive mode with the computer-based Alabama Occupational Information System (AOIS). In addition, curriculum development specialists prepared materials for each of the service areas to make students aware of career opportunities in each instructional area. Inservice workshops emphasizing career decision making were provided for state staff to develop competencies in implementing occupational exploratory experiences, but this was not accomplished since inservice time was spent on the new vocational legislation. However, the state curriculum unit did work with Teacher Corps personnel in adapting Vocational Technical Education Consortium of States (V-TECS) materials for exploratory activities.[22]

Also, a major effort was made to disseminate and implement performance based curriculum. In thirty-three workshops and/or

inservice programs a total of 1,439 vocational personnel received training in development and implementation of performance based curriculum. The emphasis in several of these workshops was related to adapting V-TECS materials for instruction with disadvantaged or handicapped vocational students.[23]

A number of inservice programs, some related to agribusiness, were given through cooperative planning and/or cooperation with some of Alabama's institutions of higher education, e.g., Auburn University, Tuskegee Institute, and Alabama A&M University.[24]

External funding was obtained to provide for inservice training for counselors during FY 1978. This training would take place at what was termed "counselor renewal centers."[25]

Individual service areas also carried out inservice activities with their teachers. Such activities included organized specified content workshops, district meetings on a variety of topics, and individual contact with teachers. Emphasis for these workshops varied from agribusiness topics, to teaching laboratory skills and medical terminology, to working with handicapped individuals, to using audio-visual aids in the classroom. Concerns on the implementation of the metric system in vocational education were also addressed.[26]

Program

The sections that follow discuss in general terms concepts of vocational programs. Discussion includes program types, related enrollment figures, and special needs components and provisions. In addition reference is made to placement and follow up for program trained students.

Program Types and Enrollments. The vocational education program in Alabama is administered under the Department of Education in three divisions; namely, the Division of Vocational Education, the Division of Instruction, and the Division of Postsecondary Education. The first of these three divisions deals with vocational education exclusively at the secondary and adult education levels. At both levels of instruction, the state oversees instruction efforts and enforces state and federal educational requirements. However, the LEAs remain autonomous in their vocational programming to a large extent. New programs must meet with State Board for Vocational Education approval and the board must approve the elimination of programs determined to be unsatisfactory upon recommendation of designated state staff.

Allocation of funds for vocational education is done on the basic formula for secondary, postsecondary, and adult programs. In essence, funding is based on student enrollment and local ability to provide financial support.

Vocational instruction at the secondary level is provided by approximately 2,600 teachers who offer 2,200 individual programs in six traditional service areas.

At the postsecondary level, credits earned by students in the Junior Colleges are transferable to other colleges and universities in the state. State Technical Colleges give associate degrees in the applied sciences. Credits earned in these colleges are not transferable to other state colleges and universities. These institutions are supported by state and federal funding. However, federal funding is not used to support programs for the handicapped as an isolated group. This does not mean that the handicapped are not admitted to these institutions, but rather that the colleges are not accountable to the federal government for expenditures of funds for this group of people.

During fiscal year 1977, Alabama reported an overall enrollment of 252,774 students in its vocational education programs. Distribution was as follows:[27] 62 percent secondary, 10 percent postsecondary, and 28 percent adult. Programs with high enrollment were: trades and industry (68,573), consumer and homemaking (68,362), and agriculture (55,439). These accounted for 76 percent of the total enrollment. Technical education programs (1,744) and distributive education programs (7,266) had the lowest enrollment.

At the secondary level, the most popular vocational programs were: consumer and homemaking (55,931), agriculture (37,268), and trades and industry (25,717). These represented 76 percent of the total enrollment for secondary vocational students. The least number of enrollments were in health occupations (2,046) and occupational preparation-home economics (3,962). The secondary vocational programs served a total of 15,701 disadvantaged and 4,646 handicapped students.

At the postsecondary level, trades and industry programs accounted for 68 percent of the total postsecondary enrollment. Showing the least enrollees were technical programs (11) and health occupation programs (48).

In adult vocational programs, 79 percent of the total enrollment was contributed by programs offered in trades and industry (24,888), agriculture (17,389), and consumer and homemaking (12,431).

As to enrollment by ethnic or racial composition, the distribution was as follows: 63 percent white or non-Hispanic origin, 36 percent blacks, and 1 percent all other ethnic groups.

A total of 20,972 secondary completers were reported during the year. Data showed that the placement of 7 percent was unknown, 22 percent continued to higher education, 68 percent found employment, and 1 percent was reported as unemployed. Of those who were employed, 70 percent found employment in fields for which they were trained or related areas. In the same year, completers at the postsecondary level totaled 6,571 of which 12 percent continued in education at a higher level, 15 percent were unemployed, while 58 percent found employment. Of those who were employed, 12 percent were employed in nonrelated fields.

Special Needs Components and Provisions. This section discusses Alabama's concerns for the vocational education and additional services of special populations as defined in P.L. 94-482. These groups are: women, members of minority groups, handicapped persons, disadvantaged persons, and persons of limited English-speaking ability.

Women. At the secondary level, women are identified through school counselors. It is the responsibility of these counselors to interface with the administration and vocational counselors of the local area center if these women desire vocational training. At the post-secondary level, women are served on a walk-in basis. This means that if there is an opening, women are admitted to programs if they qualify for the particular kind of instruction. If space is not available, women and men are put on a waiting list so they may participate in the next program as it becomes available. All programs are open to both sexes at the post-secondary level and stereotyping in these programs is less noticeable than at the secondary level according to state data.

A student may enter vocational training by choice, but this is regulated by counselors who administer aptitude tests in some of the LEAs and who actually make the final decision with the student about program type and where the actual training will occur.

Placement of women into jobs is a difficult task for placement counselors. This circumstance is not so much related to the person's sex as it is to the lack of information about job availability in the communities.

It is thought by state staff that vocational education is an effective way to train women, but a number of obstacles remain in Alabama. State cite such things as peer and parent pressure not to enter vocational training, instructor bias in nontraditional fields, and out of date instructional materials as topping the list of obstacles in the way of women entering vocational education programs.

To alleviate institutional bias a number of inservice programs were conducted during FY 1978 in which entire LEA staffs were present. At these sessions school personnel were given guidelines and checksheets to do self-assessments regarding women and their status in vocational education. They were also to project the direction and define goals to be accomplished for women in vocational education in the near future.

Thus far, no special criteria have been established for placement of women into vocational programs. However, if women are not placed in programs at the rate of at least 20 percent as is defined by the Office of Civil Rights (OCR), then state placement criteria will be written and the 20 percent placement of women into vocational education programs will be mandatory.

At the present, vocational programs serve (79,592) women, which is 51 percent of the total number of enrollees. Women are continuing to be enrolled in predominantly traditional stereotyped women's programs. Placement of both men and women into nontraditional programs is being encouraged.

Handicapped. As a student enters an LEA, special needs individuals are noted and a statement is recorded pertaining to planned activities for this person. In the case of a handicapped student an Individual Educational Plan (IEP) is developed. Ideally, the IEP is determined by a team that may be composed of a variety of educators along with parents. Presently, educators are searching for better ways to assess handicapped students and to improve the IEP process. Rehabilitation programs are not found in all school systems although the state appropriated $15 million for handicap programs during FY 1978. Federal allocation for such programs were $10 million, with $1,422,846 going to vocational programs to serve the handicapped. Most of the vocational monies have been used to provide in-service education to vocational educators.

While state level educational personnel experience good dialogue between the Division of Rehabilitation and Crippled Children and the Division of Vocational Education, this is not usually true among their counterparts at the LEA. There exist certain difficulties in getting handicapped students admitted to vocational education programs. Agreement is needed between both the special educators and the vocational educators in the individual LEAs. It is the opinion of some state staff that it might be beneficial if a workshop were held at the state level to acquaint state and local administrative personnel with the many problems of the handicapped and what might be done to better serve them in the LEAs.

Several universities in Alabama are planning with state staff to develop programs related to special needs populations in general. Most universities require a minimum of three credit hours in special needs courses for certification as a vocational teacher, but it is anticipated by state personnel that this may increase to fifteen credit hours.

Handicapped students receiving vocational training may not always be able to complete entire programs. In such cases, a competency based certificate is given to them which identifies what they are able to do.

The state recognizes the need for better prepared vocational educators who can work effectively with handicapped students. It will simply take time to train vocational education teachers and to develop and implement effective programs. The state staff are aware that businesses are seeking the handicapped who are trained. Those handicapped that are employed have had good employment records.

Other Special Needs Groups. In addition to the handicapped students, other special needs groups are identified whenever possible. Then, activities appropriate to student needs are planned.

In cases where the student is identified as being disadvantaged an evaluation team composed of educators from the special needs staff review the Vocational Education (VE) Form 7 of the identified student. Individual records are kept in the classroom. These records keep track of services provided and those that are actually used. Recommendation and needed actions are also recorded on these forms. These are followed up by the special needs staff. Alabama has been unable to identify persons in vocational education who have limited English-speaking ability.

Most of the economic and academic disadvantagement where it occurs is among the nonwhite population and is generally confined to the rural areas in the state. Blacks represent the majority of this nonwhite group.

Placement and Follow-Up. In 1973, Alabama submitted a project to the federal government to develop a follow-up system that would record placement data on students who participated in vocational education. Funds were granted and placement data on students have been reported by teachers annually for the past five years. Alabama will continue to collect placement data in this manner since they meet with compliance requirements of VEDS.

Presently, no data are available relating to follow-up of students with their employers. These data will begin to be collected during the fall of 1978. At this time, the state will collect employer follow-up data from 25 percent of their vocational programs annually for the next four years. Those to be followed up will be the completers and leavers from the same schools that will simultaneously be receiving on-site program reviews (evaluations) across the state.

Alabama has just entered into activities related to the Alabama Occupational Information Coordinating Committee (AOICC). Information gathered through this effort will contribute to the common needs for planning and operation of prodrams of Vocational Education, State Employment Security Agency, State Manpower Services Council, and Vocational Rehabilitation Services. Placement will become more feasible as data on students become available by county.

Comprehensive Employment Training Act (CETA) training and most private schools will be added to the AOICC data-base. As proposed, placement information will be available to planners on a continuous updating, expanding, and deleting basis that will take into account fluctuation of data collection and manipulation by member agencies.

Vocational/Technical Education Evaluation

This section presents the history and description of Alabama's vocational evaluation system. It includes an overview of the state accomplishments and needs in evaluation per requirements of P.L. 94-482

History of Vocational/Technical Education Evaluation

As specifically pointed out in the existing state legislation, the Alabama State Board of Vocational Education must give an annual report to the state governor relative to individual school expenditures. This same legislation requires the state superintendent to report the condition of vocational education and to make studies and investigations in this area.[28]

Federal legislation prior to the Educational Amendments of 1976 required evaluation of programs and the reporting of data that would indicate the general status of vocational education within the individual states. However, with the passage of P.L. 94-482, all states are now required to report specified data, such as required by the Vocational Education Data System, (VEDS), and to conduct statewide evaluation studies on all vocational programs including follow-up of leavers and completers and their employers within a five year period of time. Alabama, prior to 1978, had not developed such an organized formal approach to evaluation.

State Vocational Education Agency Evaluation System

The Alabama State Plan places a special emphasis on vocational education evaluation. It provides that:

> The State Board shall, during the five-year period of this Plan, evaluate at least once and in quantitative terms the effectiveness of each formally organized program or project supported by Federal, State or local funds. These evaluations shall include an assessment of (1) compliance with such program standards as student/teacher ratio, capacity and condition of facilities and equipment, teacher qualifications, and other measures of program quality; (2) quality and availability of instructional offerings; (3) adequacy of guidance, counseling, follow-up and placement services; (4) results of student employment success; (5) other results as measured by services to special

populations groups; and the State Board shall use the results of these evaluations to revise the programs conducted under the approved state plan to make the results of these evaluations readily available to the State Advisory Council on Vocational Education. These evaluations will be the responsibility of the appropriate Divisions of the State Department of Education.[29]

In response to the foregoing provisions of the Alabama State Plan and the mandate of P.L. 94-482, the Alabama State Board of Education adopted a "standards and policies for quality vocational programs in secondary schools" during its July 11, 1978 meeting. Among other things it ruled that:[30]

1. "The State Department of Education in behalf of the State Board of Education, shall conduct on-site review of the vocational programs operated by local school boards of education at least once each five years to determine compliance with standards and policies and program quality."

2. "The standards and policies /set by the Board of Education/ are to be used in self-evaluation of vocational programs and in periodic state-directed review and evaluation of local programs. State staff will use the standards and policies when providing assistance to local systems."

3. "Any discrepancies in meeting standards and policies ascertained during the scheduled state-directed review shall be communicated in writing by the State Director of Vocational Education to the local superintendents of education and to the State Superintendent of Education. This report shall include suggested alternatives and a timeline for eliminating deficiencies."

4. "Any course or program not achieving standards or policies within the timeline established in the report shall not be eligible for support from state or federal vocational funds."

Organizational Roles and Responsibilities

Under the State Department of Education, responsibility of evaluating vocational programs in the state is shared by several units. Three units involved in the process: Manage-

ment Information System (MIS), Program Supervision Unit (PSU), and Research Coordination Unit (RCU) are assigned specific roles, as noted in Figure 1.9.

The department employs two basic procedures in evaluating vocational programs in the state. Through MIS, selected data for the purpose of evaluation is obtained by mail from teachers, students, former students and employers. Through on-site visits, the department targets to evaluate 20-25 percent of the school systems in the state per year.

On-site visits consist of two parts. In the first part, district vocational specialists (under the Program Supervision Unit) visit and review all instructional programs and teachers of each selected school systems using review instruments developed by the RCU in cooperation with other state staff. Review of programs by district specialists are usually conducted within six months proceding part two of on-site visits--a team review.

In order to increase the utility of on-site vocational specialists visits, it was decided during the evaluation committee meeting to adopt the following procedures:

1. The program review instrument completed by the district specialist should be made available to the appropriate review team member prior to the review team interviews. The review team member should study the instrument completed by the district specialist and plan the interview. The district specialist review instrument may not be used by the review team member during the actual interview.

2. The summary sheets completed by the district specialist should be reviewed by the team leader and common priorities and common concerns should be included in the summary report and appropriate recommendations should be made.

3. The summary sheets completed by the district specialists should be attached to and made a part of the summary report. The summary sheets should be gropued by individual schools.

4. One copy of the program review instruments completed by the district specialists be compiled and submitted to the local superintendent as a separate reference bolume for the summary report.

The review team consists of state department members with

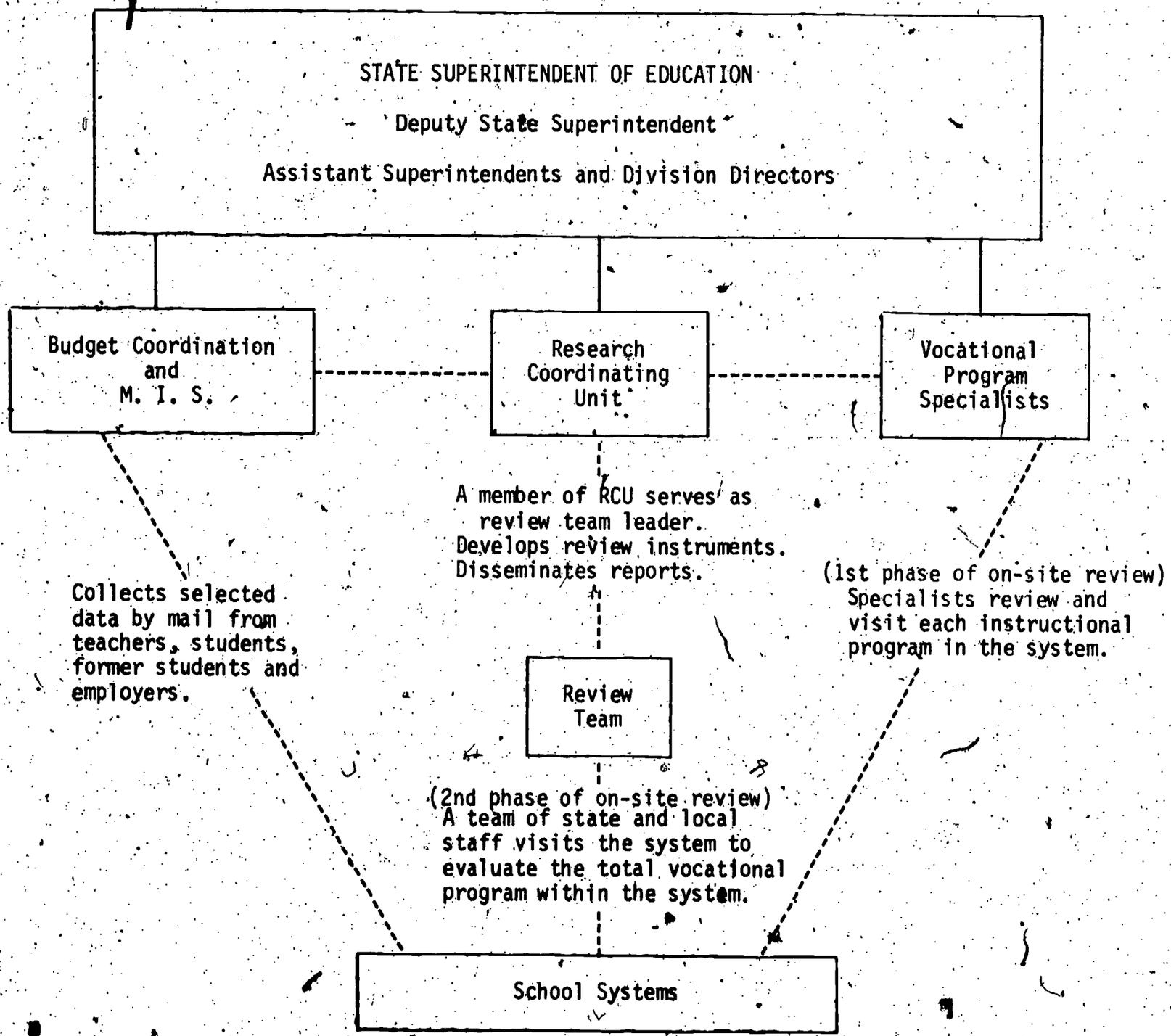


Figure 1.9. Organizational chart of the Alabama State Department of Education indicating vocational education evaluation functions.

"across-the-board vocational responsibilities", local staff who are persons from other systems with "across-the-board responsibilities" too, and sometimes, teacher educators and employers. An average of ten members compose the team and a member of the RCU serves as review team leader. The main purpose of the team review is to evaluate the total vocational program within the system.

Basically, the following procedures are followed in conducting on-site team review visits:

1. The team leader consults with district vocational specialists regarding results of program reviews. He or she collects and reviews pertinent information relative to the supervisory visit and of importance to the work of the team reviews.

2. Prior to the actual on-site review, a member of the state staff makes a planning visit to orient staff members of a school system, scheduled to be reviewed, concerning the objectives and procedures of the on-site review. He or she also collects selected information necessary for planning the interview schedule and work of the review team.

3. Immediately preceeding the on-site review, the team leader conducts a team orientation which includes a review of the pre-visit information, a summary of the district specialist's reviews and interview scheduling.

4. The on-site review consists primarily of interviews conducted over a two-day period.

5. Using a prepared interview schedule, review team members interview local administrators, counselors, vocational teachers, students, former students, and employers. In larger systems only a sample of teachers may be interviewed. The whole process takes approximately two days depending upon the number of persons to be interviewed.

6. A report regarding the findings of the visit is prepared by team members. The report contains findings, recommendations and suggested activities. At the end of the review, the team leader gives an oral preview of the report to the local superintendent and selected staff.

7. The report is written, printed, and distributed. The

local superintendent receives multiple copies. Selected state staff receive copies.

8. Local staff reviews report and develops plan for implementing recommendations.

9. The team leader meets with appropriate state staff to discuss visit results, recommendations, and map out effective strategies for implementing recommendations.

10. State vocational specialists meet with local staff to schedule assistance of state staff to local staff in implementing recommendations.

11. District supervisors and proper state staff provide technical assistance to local staff implementing recommendations and monitor progress.

Counties are randomly scheduled for review. All school systems within a given county are scheduled for review during the same year.

Capabilities and Limitations

The foregoing discussion shows an apparent neglect of vocational education evaluation at the postsecondary level in the total state plan for vocational education evaluation. At present, evaluation of postsecondary vocational programs are performed by the Southern Association of Colleges and Schools only for those colleges who are members or applying to be members of the association. Currently, all public technical colleges in the state are accredited by the Southern Association.

The Board of Trustees of the Southern Association of Colleges and Schools created the Commission on Occupational Education Institutions on December 1, 1971. Among other responsibilities, the Committee was charged with the development of tentative standards and criteria for the evaluation of occupational education and it was subsequently authorized to apply the tentative standards and criteria to be used in the evaluation of institutions affiliated with the Committee.

While Alabama has a system for state directed evaluation of vocational programs at the secondary level, the following points need to be clarified/defined in its implementing procedures:

1. Specific input(s) of the MIS to the supervisory visits and team reviews. Lines of communication and

areas of responsibility have not been clearly established.

2. Selection of state and local staff to compose the review teams. Procedures that would ensure selection of effective staff need to be established.

3. Follow-up of the recommendations of the review team. State supervisory staff have been assigned this responsibility but methods of providing them with needed information have not been completely worked out and tested.

Problems, Alternative Solutions, Solutions, Results

Alabama used the school year of 1977-78 to develop and field test an evaluation system for vocational education. The staff of the Research Coordinating Unit was mainly responsible for this work. Early in May of this year, technical assistance project staff had an opportunity to observe one of the field test program evaluations in an area vocational school and to be involved in analyzing what had been learned in the test and attempting to find solutions for apparent weakness. Following are major problems identified and the solutions adopted.

Problem 1: How to increase the involvement of a variety of people in evaluation of programs.

Explanation: At the time this problem was identified, it was state policy that only state staff and local administrators could be included on evaluation teams. Teams were observing programs and interviewing teachers, students, administrators, and employers. While on the surface this would appear to be fairly extensive representation, the final decision as to what is written into the evaluation report depends entirely on individuals strongly influenced by feelings toward perpetuation of the present system. This is not to question the dedication of these individuals to improvement but it does indicate the potential for a singleness of viewpoint. A panel with more diverse backgrounds could be expected to view needed changes from different perspectives and at least expand the list of possible alternative solutions. Another consideration in identifying added individuals to serve on teams would be the selection of individuals representative of the special need populations participating in programs or needing training. This would provide a view of programs and needs which might be quite different from the commonly expressed opinions.

Alternative 1: Change the makeup of teams to include at lease one outside teacher and one employer in each subject matter area. Additionally, a counselor, a nonvocational teacher, an administrator and a parent might be included where feasible.

Advantages:

- The addition of other individuals will increase the potential for seeing problems and finding workable solutions.
- Teachers most knowledgeable in content area.
- Teacher educators most knowledgeable in methods of teaching.
- Inclusion of an employer could be expected to provide input into how to increase employability of students.
- Teachers who have served on evaluation teams seem to profit as much as the program they review.
- Increased participation will increase the community's knowledge and support of good vocational programs.

Disadvantages:

- Change in policy by the state superintendent of education would be required.
- Cost of evaluation would be increased to a limited degree.
- There would be greater difficulty in organizing and scheduling visiting teams.

Alternative 2: Expand the number and type of individuals interviewed by the team to include at least one former student, a parent, counselor, or other nonvocational school representative.

Advantages:

- Feedback would be provided to teachers on experiences of students interviewed.
- Persons not in vocational education would feel more a part of the program as a result of being asked to comment.
- Alternative views and steps toward improvement would be provided by interviewing diverse types of individuals.

Disadvantages:

- o Evaluation team would be expected to interview more people.
- o The writing of the evaluation report and recommended solutions would still be done by a limited number of individuals.
- o Community members would have only limited exposure to vocational education as a result of being interviewed.

Alternative 3: Include broad representation in a locally developed self-evaluation

Advantages:

- o Input into the evaluation process by community representatives would be assured.
- o Additional contact between vocational educators and employers would be provided.

Disadvantages:

- o Vocational personnel who are being evaluated would also be making decisions on what views were valid.
- o Contact between the evaluation team and community would be limited to school personnel.

Choice and Results:

A combination of the alternatives was implemented. Evaluation teams will now include employers, teachers from other schools, and teacher educators. Additionally, local district staffs are being trained and encouraged to initiate comprehensive self-evaluation systems which will involve broad based local participation.

Since the system is being implemented this year the results will be assessed during the present school year. To the extent possible, results will be recorded in the form of (1) number of employers, teacher educators, and teachers serving on teams (2) number of recommendations made by these individuals which were included in the report and (3) perceptions of team leaders and teachers of programs being evaluated as to contribution of these individuals.

Problem 2: Follow-through on recommendations.

Explanation: This problem seems to stem from the fact that state evaluation guidelines are not clear on at least two points: (1) who at the state level is responsible for working with local administrators and teachers to see that recommendations of the evaluation team are carried out and (2) what mechanisms are to be used to let state planners and evaluators know that recommendations have been implemented and results of that implementation. Communicating the recommendations of the evaluation team to those responsible for their implementation at both the state and local level is also a part of this problem.

The solution to this problem appears to be a matter of fixing responsibility for certain phases of evaluation function at the state level. The need to do this is to be expected since Alabama is presently in the testing phase of its evaluation system and there are many decisions to be made and assignments to be given. In this context everyone seems eager to cooperate. It is simply a matter of determining who can do what most effectively. In assigning responsibility, it is important to be sure that in addition to indicating who will act on an assignment, how and to whom these actions and the ensuing results shall be reported is also specified. Lines of responsibility for action and communication must be established. These assignments need to be made by someone above the program level such as the state director or his assistant in order to ensure compliance.

Alternative 1: Give supervisory staff who serve as the subject matter specialists to programs principal responsibility for assisting with recommendations.

Advantages:

- As subject matter specialists, these individuals are most familiar with programs.
- They are most familiar with latest trends in subject matter areas.
- Teachers view these individuals as their contacts and source of advice from the state vocational department.
- These individuals will have contacts with others who might provide assistance.

Disadvantages:

- o Subject matter specialists may be reluctant to call upon others for assistance in other areas if they view this as a deficiency on their part.
- o These individuals may be less inclined to promote change than to maintain status quo.
- o These staff members may be reluctant to be critical of teachers they work with.

Alternative 2: Make state administrative specialists available to assist with special needs of schools.

Advantages:

- o These individuals can provide assistance in improving administration for vocational education.
- o Opportunity to become involved with local schools would be provided.
- o These individuals would usually have closest ties with local administration.

Disadvantages:

- o These people are very busy and it would be difficult to schedule a sufficient amount of their time for this activity.

Alternative 3: Make staff working in support services for curriculum, finance, etc. available to assist with problems related to their area of expertise.

Advantages:

- o Specialists would be available to local schools.
- o Assistance provided by these specialists would be formalized.
- o Help going where it is most needed as indicated by evaluation recommendations.
- o Areas of greatest need could be identified for support services work.

Disadvantages:

- There would be problems in scheduling time needed.
- Schools or teachers might resent having outsiders visit programs or fear being embarrassed by such visits.

Alternative 4: Make teacher educators aware of and ask them to assist with problems.

Advantages:

- Teacher educators would have involvement with local programs.
- Inservice and preservice needs could be identified by teacher educators.
- Topics for research could be identified.
- Teacher educators could bring the findings of the higher education community to the solution of problems.

Disadvantages:

- Teacher educators would need to be able to deal with real problems.
- Special provisions for teacher educators' time would have to be made.

Choice and Results:

Because of the wide variety of recommendations which usually are made to schools and programs, it was decided that a combination of all the services of support for schools was most appropriate. The supervisory staff who are most closely in touch with local programs and who have the subject matter expertise were assigned the major responsibility for assisting schools and programs in carrying out the recommendations of the evaluation team. However, since many of the recommendations fall into areas not directly related to technical subject matter, others must be be available to assist when called upon by the supervisor. Curriculum specialists and specialists in finance and administration are available to schools needing that type of assistance. In instances where problems common to many schools or teachers are identified, one of the teacher education institutions will be asked to assist with

inservice training. Such a decision for inservice with teacher education staff support has already been made in the case of training teachers to work with special needs populations. Of course, top administration must set the guidelines and make the policies to implement such an arrangement.

The state evaluation coordinator and his or her staff have responsibility for seeing that the recommendations made by the program review teams are communicated to the most appropriate departmental unit or individual. Those in charge of the evaluation system should follow through to be sure that action is taken to provide the needed assistance.

Problem 3: Communication and cooperation between the evaluation unit and the planning unit and between evaluation and the Management Information System (MIS).

Explanation: It must be kept in mind that organizational units do not communicate or cooperate--people do. When project staff talked with individuals in the MIS and in planning, it was found that they had little knowledge of what the evaluation section was planning or what would be required of them. This was entirely understandable in that the evaluation staff were still not sure what the needs would be or what evaluation could contribute to planning. The need to keep significant others informed was pointed out to the evaluation staff by the project staff in person and by written report. State staff agreed with the project staff but questions of how this was to be accomplished came from the state director and those working in the units involved (planning, evaluation, and MIS).

There are some very legitimate reasons for the emphasis on maintaining a full flow of information. This will avoid duplication and assure that assistance and support are available and in the form needed. Planning, evaluation, and data systems appear to be working very effectively in Alabama. There appear to be at lease three choices in attempting to assure communication and cooperation.

Alternative 1: Allow the informal process to work under encouragement and support of state administration

Advantages:

- This is the least stressful way of having things happen.

- People enter into the process more enthusiastically under these conditions.
- People feel less threatened by this method.

Disadvantages:

- Administration cannot be totally sure that communication is flowing.
- There is the possibility of inadvertently failing to communicate needed information.
- There is danger of information flowing only in one direction.

Alternative 2: Have state administration set very formal timelines and responsibility for communication and response. This alternative is illustrated in Figure 1.10.

Advantages:

- Some communication between parties is assured.
- Administration knows that information exchange is occurring.
- There is a record of requests made and responses given.

Disadvantages:

- Stress and resentment may result.
- Individuals may communicate minimally to meet requirements.

Alternative 3: Conduct organizational rearrangement in which units are placed under one administrative head.

Advantages:

- This fixes responsibility for seeing that communication is effective.
- Communication is not hindered by organizational lines.

Disadvantages:

- Staff do not usually welcome being moved within the organization.

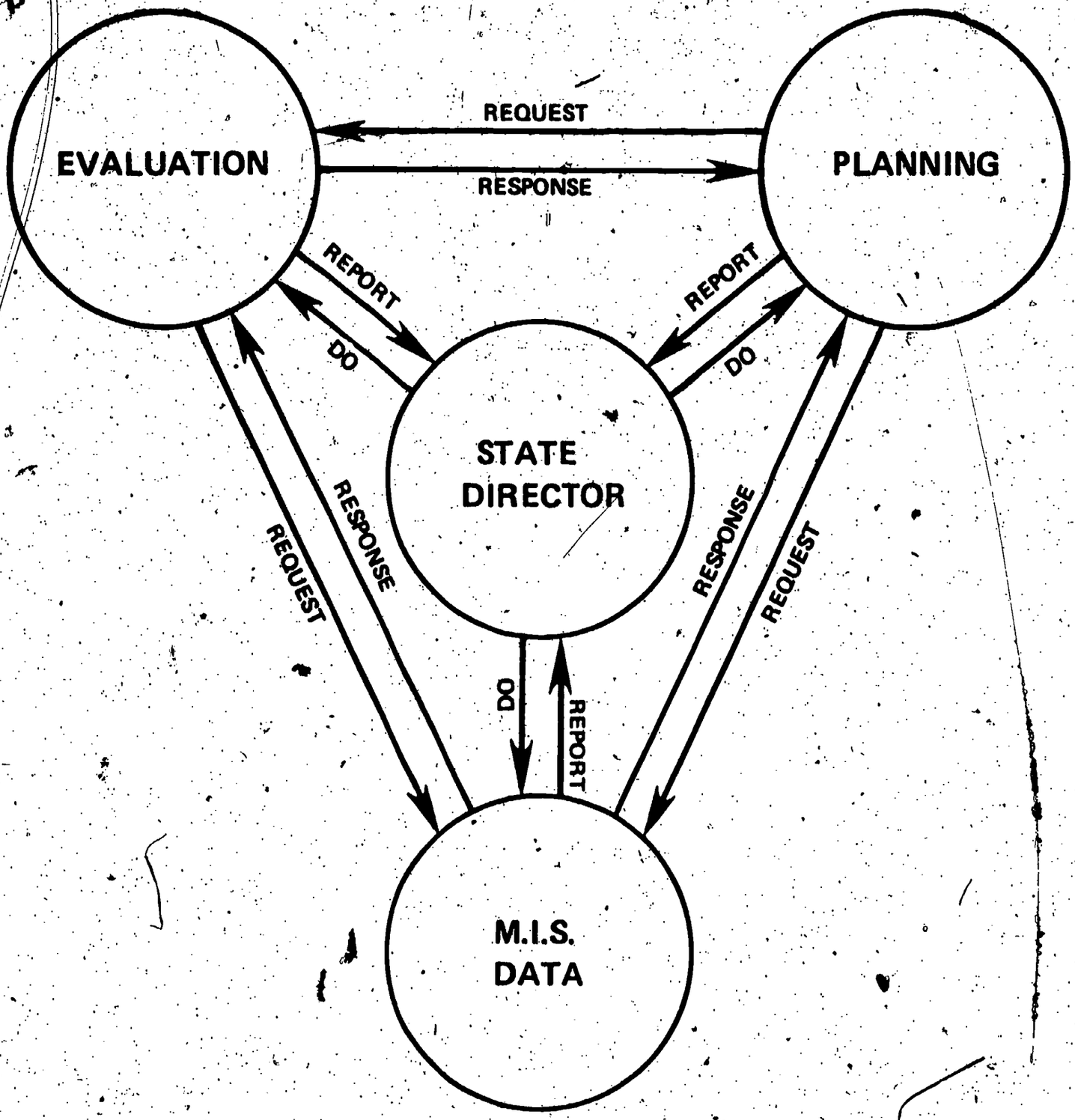


Figure 1.10. Exchange data and information communication

o This alone will not assure communication.

Choice and Results:

The third alternative was not acceptable to staff within the vocational division. It was decided to see if the informal process (Alternative 1) would work. If this does not happen, the more formal means of communicating will be initiated.

Results of the informal phase will be determined by investigating the extent to which the information system is aware of the needs and timelines of evaluation and the extent to which those needs are met. The relations between evaluation and planning will be judged in the same way. If it is determined that needs are not known or being met Alternative 2 will be considered.

NOTE: The conclusion should not be reached that this is more of a problem here than with other units or in other states or organizations. This is reported to be a problem in many organizations.

Problem 4: A related problem is how to assure communication on changes made and results observed.

Explanation: Those directing the evaluation effort need feedback on what recommendations have been implemented and the results of the actions taken. This information is needed for several reasons. If service to schools is to improve through the evaluation effort, the results of the recommendations made by its teams must be known. If no improvement has resulted from implementation of recommendations then changes must be made in teams and recommendations.

The evaluation system needs proof that it is in fact bringing about changes which result in improved vocational training for students. Like all other parts of the organization, evaluation needs evidence that it is reaching its objectives and feedback on improvements recommended and implemented is an important part of that evidence.

Another reason it is important to know about results of recommendations and assistance is that such feedback information can be used in making state level decisions. By compiling statewide information the evaluation unit is in a position to recommend where expenditure of support funds could be expected to produce the greatest results. Adminis-

trators face many demands for funds. Information which identifies the most common needs and most effective treatment will be of great assistance in making those decisions.

Alternative 1: Give supervisory responsibility for reporting to those who need to know (evaluation unit, planning unit, and state administration) what each program and school has done to implement each recommendation.

Advantages:

- The supervisor staff have major responsibility for working with schools on recommendations.
- This reporting responsibility should stimulate follow-up and analysis of results.
- Learning experience will be provided for supervisory staff.

Disadvantages:

- Time to do this effectively will be difficult to schedule.
- Staff may not be in the habit of reporting across organizational unit lines.

Alternative 2: Require schools to report, in each year's local plan and program application, which evaluation recommendations have been implemented.

Advantages:

- Joint work between teachers and administrators will be encouraged.
- Action on recommendations should be assured by this alternative.
- Schools need encouragement to do this type of self-analysis.

Disadvantages:

- Schools may be reluctant or may refuse to report failures.
- Schools may not agree that some recommendations should be implemented.

- Limited resources may be a major cause of not carrying out recommendations.

Choice and Results:

Both of the alternatives were chosen as means of assuring that those who need to know will be fully informed of the results of evaluation. This also serves as an added stimulus to schools to make the improvements recommended by visiting teams.

Figure 1.11 illustrates how the flow of assistance and information is planned. Observation of the results of these changes in the evaluation system will be recorded during this school year (1978-79).

The basis of the record will be the numbers and types of recommendations made, the number and types of changes made, and summarization of results.

Problem 5: Improvement of evaluation instruments.

Explanation: As in any new system, there is always a need for revision and improvement. In fact the purpose for testing the newly developed procedures and instruments is to find changes that need to be made. Several problems with the original instruments were identified. These problems included the following:

1. The self-evaluation instrument was too long and detailed.
2. The supervisory instrument required a "yes" or a "no" answer to all questions when some other response might have been more appropriate.
3. Some questions were multiple questions and, therefore, very difficult to answer.
4. Instruments did not provide sufficient information on special services for special needs populations.
5. The relationship between program standards and evaluation instruments was not always clear.

Alternative 1: Keep present instruments with extensive revision.

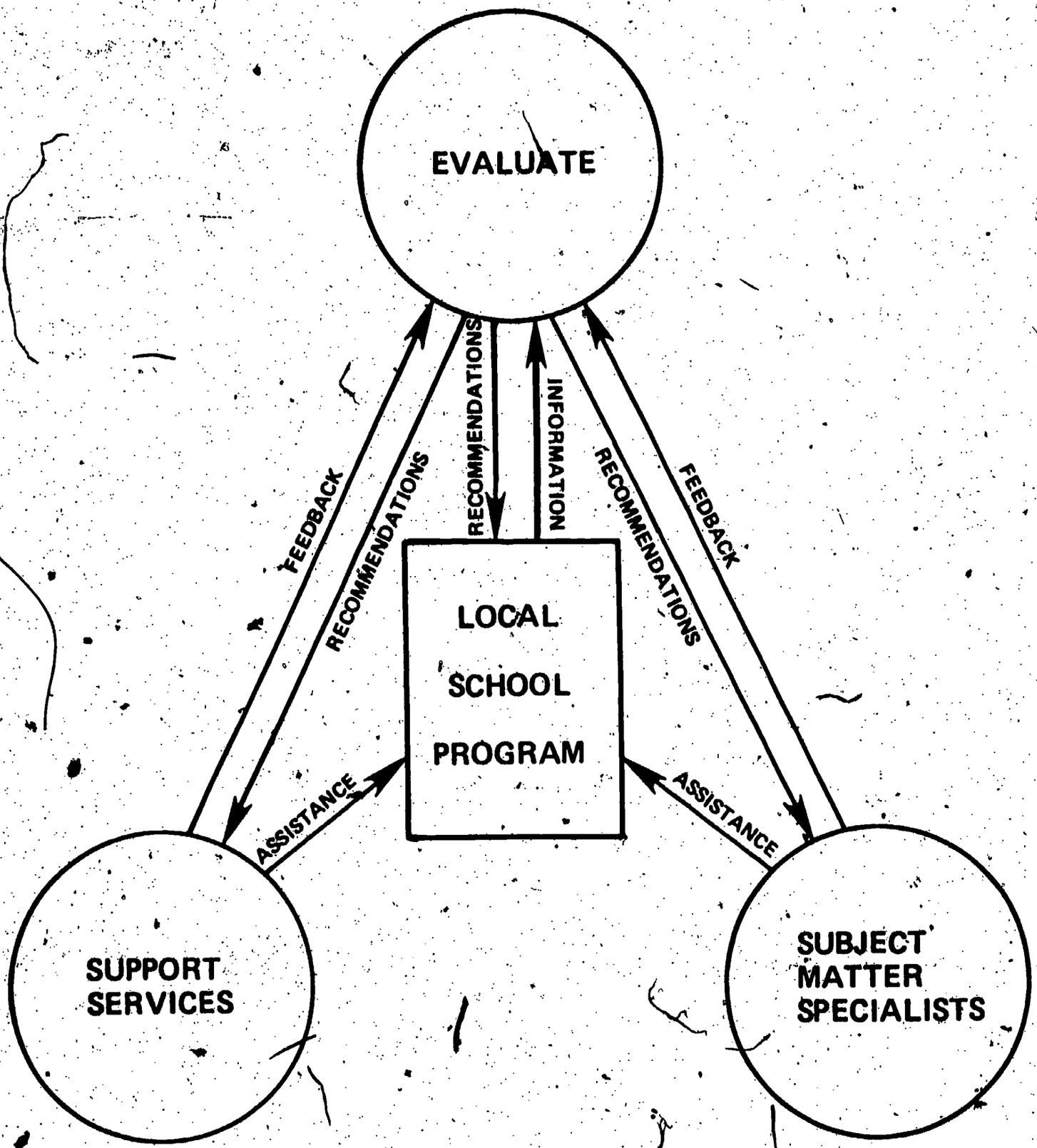


Figure 1.11. Follow-through on recommendations

Advantages:

- The system could keep what was good in the instruments.
- Individuals who had used the instruments were familiar with them.
- This would maintain the input of many people into the development of the instruments.

Disadvantages:

- Extensive revision would be necessary.
- New ideas might be missed that would surface if new instruments were developed.

Alternative 2: Discard present instruments and develop new ones.

Advantages:

- Many problems with old instruments could be avoided.
- New ideas and methods would be used.
- Those developing instruments could learn from previous errors.

Disadvantages:

- This would take more time than was available.
- Instrument developers have experience and comments on tests of present instruments.
- To discard present instruments would mean throwing away many good things.

Choice and Results:

All instruments used in the evaluation have been revised. Project staff, along with individuals who used the forms or responded to the forms, made suggestions as to how they might be improved.

Some criteria used in revision of the instruments were:

1. Every question must gather information critical to making decisions or reporting.

2. Any question not getting uniform or clear response must be redone.

3. Avoid questions with "yes," "no" answers.

4. Questions requiring judgments should have a scale of several levels of answers.

5. Each item must ask only a single question.

6. Questions on services for special populations should cover access, process, and outcomes of programs.

7. A system of numbering should be developed to match the system used in the program standards designations.

In the case of the instrument used by supervisors to review programs the "yes," "no" response was changed to allow for a three-level response. All questions were reduced to a single item response. A series of questions dealing with accessibility, practices, and outcomes for special needs populations has been provided by project staff and these are being reviewed to select those that will be included. An interview guide has been developed to be used by team members in interviewing individuals. Response to these changes has been positive but evaluation staff will need to continue to apply the above criteria and develop new ones for improving instruments.

Problem 6: Changes needed in the postsecondary evaluation system.

Explanation: The postsecondary staff had one major question: Does the accreditation done by the Southern Association of Colleges and Universities meet the evaluation requirements of the federal legislation and state vocational education department? They are aware of the need to follow-up students. This is being done in the technical colleges but not in the community colleges. Postsecondary staff are in the process of beginning to prepare to follow-up all vocational students in postsecondary vocational education.

At the suggestion of the postsecondary people project staff prepared and presented a listing of what is required in the form of evaluation by the federal legislation. After review of these requirements, it was concluded by the post-

secondary division that at least minimum requirements are being met.

It is the view of the project staff that those in charge of postsecondary vocational education should give careful consideration to the following alternatives to the evaluation program.

Alternative 1: Develop a more comprehensive follow-up system for postsecondary vocational education.

Advantages:

- Follow-up can serve as a guide to identifying which programs are failing to reach outcome objectives and need assistance most.
- Programs that should be considered for expansion or termination can be identified.
- What happens to students is valuable data for teachers.
- Requirements of federal legislation will be met.

Disadvantages:

- The postsecondary system will have to make a major effort to meet this alternative.
- Since postsecondary students are more mobile, it would be difficult to obtain data.

Alternative 2: Conduct a review of Southern Association of Colleges and Schools accreditation requirements and reports to determine adequacy for program improvements and reporting purposes.

Advantages:

- Better understanding of effectiveness of this accreditation system for program improvement could be gained.
- This alternative would help to determine whether association outcomes are compatible with those of the state.

Disadvantages:

- Some compromise between the Association and the state might be required.
- Another system would require additional input by state staff.

Alternative 3: Develop a method for determining effectiveness of programs and services for special needs populations.

Advantages:

- This would meet federal requirements.
- This would provide guidelines for improvement of programs for special populations.
- This could be used to get additional support for postsecondary vocational education.

Disadvantages:

- This would require additional resources.
- If postsecondary is not using federal funds for special populations, this may not be a reporting requirement.

Alternative 4: Continue exploration of the two evaluation systems' (secondary and postsecondary) areas of mutual concern and ways of obtaining comparable data.

Advantages:

- This could provide a total picture of the vocational education effort in Alabama.
- This would make possible exchange of data between secondary and postsecondary vocational education.
- The two levels of vocational education could be mutually supportive.
- This could promote more articulation between secondary and postsecondary education.

Disadvantages:

- o This would require special effort on part of both staffs.
- o Two systems may feel their objectives are too different to allow extensive coordination.

Problem 7: Evaluation of services for special needs sub-populations.

Explanation: How can the state evaluation system provide information to state and federal leaders as to how effectively the special needs of disadvantaged, handicapped, those with limited English speaking ability, minorities, women, and other groups are being met? Special services should be considered as any activity for special groups designed to assist them in succeeding in a regular vocational program.

Three major elements of this problem which evaluation, with the assistance of other units, must study are access, process, and outcomes. Knowledge must be gained as to the extent to which policy, social and physical barriers have been eliminated. Evaluation must be aware of the special services being provided in order to assist the individuals in being successful. How successful the special activities have been in reaching the outcome objectives set for all students must also be determined.

The question of separate or combined evaluation systems for regular students and those with special needs is discussed in the California section of this chapter. The alternatives in Alabama were more questions of allocating responsibility to be sure that certain necessary elements fit into the overall scheme.

Alternative 1: The individual student accounting system should be able to identify individuals in these categories upon enrollment, follow them through the educational process, and determine the outcomes of that process.

Advantages:

- o The information system has all the procedures in place to accomplish this.
- o Duplication would be avoided.

Disadvantages:

- A close working relationship between evaluation and the information system would be required.

Alternative 2: Local applications for related funds must specify special services which will be provided to assist these individuals to successfully participate in programs.

Advantages:

- Services being provided will be identified.
- This information can be checked during team and supervisory visits.
- Local teachers and administrators will be encouraged to think in terms of special assistance to these individuals.

Disadvantages:

- Training of local teachers and administrators in meeting needs will be required.
- Close working relationships between special needs unit, evaluation unit, and those who approve use of special funds will be needed.

Alternative 3: Program review, by supervisor and team, should provide information as to the special services actually being provided by the program and school and where appropriate some estimate of the effectiveness of these services.

Advantages:

- Information from program application will be verified and supplemented.
- Schools will be encouraged to expand and improve special services.
- This will increase team members' knowledge of services and results.

Disadvantages:

- Work of evaluation teams will be expanded.

- Need for representatives of special needs groups on evaluation team will be increased.

Alternative 4: Analysis of data and information should tell the state of the following:

a. Extent to which special populations are being served,

b. What supplemental or additional services are being provided,

c. Comparative success of programs in producing desirable outcomes,

d. Relationship between services provided and outcomes.

Advantages:

- This should assist state in making decisions.
- Guides as to what services are most effective for certain needs will be provided by this alternative.

Disadvantages:

- This procedure requires effort in addition to regular program evaluation.

Choice and Results:

At the present time, Alabama has the capability with its data system to meet the requirements of Alternative 1 and to some extent, Alternative 3. The evaluation system is now considering its role in providing information in Alternative 2. Further research is needed before a decision can be made as to who will perform the function in Alternative 4. All of the alternatives mentioned would be beneficial in solving this problem but because of staff and resource limitations they will be implemented in stages.

Year Two of the technical assistance project will concentrate on further improvement of evaluation for special populations.

Problem 8: To clarify the relationship between self-evaluation, supervisory visit, and team visit in the evaluation scheme.

Explanation: These three separate activities have the potential for causing confusion or conflict within a program unless some guidelines are established. These guidelines should specify the role of each participating entity and outline arrangements for close coordination between activities. Early observation by project staff and others indicated that findings during the self-evaluation, the supervisory visit, and the team visit could be quite different or even in conflict with each other. The idea of varied input into evaluation is to present different views of how programs should perform and how they can be improved. The advantages of these different views may be lost if local educators become confused or perceive different evaluators as giving opposing recommendations.

The alternatives to avoid this confusion and conflict are:

Alternative 1: Reduce the number and types of participants who serve on program review teams.

Advantages:

- The possibility of conflicting recommendations would be reduced.
- The process of forming teams would be simplified.

Disadvantages:

- Benefits derived from having a team review by individuals with varied backgrounds would be eliminated.
- Contacts between vocational programs and community would be reduced.

Alternative 2: Have evaluation staff review recommendations to remove opposing views before informing local program.

Advantages:

- Recommendations which were not realistic would be eliminated.
- Recommendations could be stated in clearer terms.
- Duplication could be eliminated.

Disadvantages:

- Hard to control since oral recommendations will be made during team visit.
- Team members might resent having recommendations eliminated or changed.
- Evaluation staff might be placed in an awkward position.

Alternative 3: Provide local administrators and teachers with some guidelines and assistance in sorting out and choosing between opposing views.

Advantages:

- A learning experience for local educators would be provided.
- Local educators would be allowed to know all views and select one most appropriate to them.

Disadvantages:

- This alternative still leaves possibility of confusion or criticism over differing recommendations.
- Guidelines could not be found--development would take more time than available.
- Assistance would require additional staff time.

Alternative 4: Make sure that individuals participating in parts of the evaluation effort are fully aware of what has been recommended in preceding reviews.

Advantages:

- Continuity and order would be brought to the process.
- Each step could build on preceding findings.

Disadvantages:

- Some problems in timing of activities would be created.
- This alternative would require the movement of

reports and recommendations on a very tight time schedule.

- o May create more information than team could absorb in short time available.

Alternative 5: Make sure that there is uniformity of instruments and evaluation guides and that each individual or group thoroughly understands its role.

Advantages:

- o Procedures and outcomes would be stabilized to some extent.
- o All groups and individuals would be better informed.

Disadvantages:

- o Additional staff time would be required.
- o Some individuals see their role differently and will not change.

Alternative 6: Provide staff members to serve on review teams to assist with questions.

Advantages:

- o These people are most knowledgeable of overall evaluation effort.
- o This would keep evaluation staff more aware of evaluation strengths and weaknesses.
- o Improved understanding between state staff and locals should result.

Disadvantages:

- o A major input of time on the part of staff would be required.

Choice and Results:

It was determined by state staff in Alabama that it is essential to have broad involvement and input into evaluation. The danger of confusion and conflict was also recognized. The alternatives adopted were: (1) the establishment of a mechanism whereby each succeeding evaluation effort (self-

evaluation--supervisory review--team review) would have available the results of preceding evaluations, (2) providing arrangements for follow-up meetings between supervisors and local teachers, (3) having a staff member serve on each team and conducting orientation sessions by evaluation staff to clarify roles and expectations.

It was felt that this would maintain the diversity of viewpoints without creating confusion. Early observations indicate this is an effective solution to the problem, however, additional experience will be needed to reach a definite conclusion.

Problem 9: To provide evaluation services with limited resources.

Explanation: A question uppermost in the minds of evaluation staff in Alabama, and in the other participating states as well, is the method to be used in providing evaluation services to the large school systems or to the large number of programs in the states. Some of the large city school systems in Alabama may have as many as 160 vocational teachers. This number is even greater in some other states. The prospect of putting together enough teams to review 160 programs with the resources available seems impossible. The law specifies that all programs must be evaluated over a five-year period of time.

Alternative 1: Divert resources from other uses and assign enough personnel to get the job done.

Advantages:

- Evaluation effort would be strengthened.
- This would demonstrate to locals the state's interest in evaluation and improvement.
- State could meet all federal evaluation requirements.

Disadvantages:

- This alternative would weaken some other activity of the department.
- Some resentment against evaluation would be generated.
- This still might not get evaluation to those programs that need it most.

Alternative 2: Take a random sample of programs and teachers and attempt to project to the total.

Advantages:

- All programs would have an equal opportunity to be evaluated.
- The closest to average view of evaluation needs would result.
- Money and time would be saved.

Disadvantages:

- Programs in greatest need would not get first evaluation.
- This would result in evaluation of some of the best programs that need evaluation least.

Alternative 3: Evaluate on the basis of outcome data and provide team visits for programs needing help the most.

Advantages:

- This alternative would provide evaluation to those programs needing it most.
- This method will meet requirements of the federal legislation.
- Effort needed to evaluate and assist in improvement of programs could be reduced.

Disadvantages:

- This system would necessitate rethinking, reorganizing, and rescheduling the evaluation effort.
- Some programs would not have a team visit in five-year cycle.

Choice and Results:

None of these alternatives has been adopted at this point in time. Alternative 1 does not seem possible with budgets established and staff assigned. Alternative 2 might

be a viable course for statewide information but would do very little in providing guides for program improvement except in those programs visited.

Program staff are suggesting that another view be taken of evaluation and the law as outlined in Alternative 3. If evaluation means determining the extent to which programs have reached certain student outcome objectives, then the process becomes a matter of collecting the kinds of data that will allow this determination to be made. If the state staff working with local vocational educators and others can specify acceptable levels of outcomes for programs the data can be accumulated to determine which programs are effective and which are not. Alabama's current data system could probably provide enough data to determine whether most of the expectations that might be held for programs are being met.

This also calls for acceptance of the fact that so-called "evaluation teams" do not really evaluate but rather perform the very important function of recommending what programs should do to improve (i.e. more completely meet the outcome objectives which have been established).

With these two concepts accepted the state can now identify through its data analysis those programs which need to be evaluated. The poorest performing programs (those not reaching outcome objectives) may only make up twenty percent of the total but these are the ones that need assistance with making changes. Those programs performing successfully (meeting outcome objectives) do not need team reviewers or at least not as badly as other programs. In this way the number of programs to be reviewed by a team visit have been reduced, with those programs needing assistance the most, being helped first. This system also appears to meet requirements of the law that programs must be evaluated every five years. As a matter of fact, with our data system providing information to the evaluation unit, we can evaluate every program every year.

The effort can be further reduced if review teams are asked to review only those processes which might affect the outcomes which have been found to be low. Thus, if the percentage of completers available for placement has been identified as an important outcome, it may be more important to look at the student selection and counseling process than to look at the quality of instruction. On the other hand if the data show a low rate of success of placement on jobs, the quality of instruction would be a very important part of the process to review. Fully developed, this system could

greatly reduce the number of programs to be reviewed and decrease the area of process to be studied.

This system has just recently been proposed to the participating states. They are now reviewing the suggestion and if it is implemented in any of the states, a later analysis and report will be made.

Notes

1 Encyclopaedia Britannica, vol. 1, Chicago: William Benton, 1975; p. 404.

2 Alabama Code, Title 16, Section 16-2-1.

3 Alabama Code, Sections 16-37-1 through 16-37-8.

4 Encyclopaedia Britannica, 1975, pp. 405-406.

5 Appalachian Alabama Development Plan, 1977, A Guide to Appalachian Regional Development in Alabama, (Alabama Development Office, State Capital, Montgomery, Alabama, 1976), p. 16.

6 Ibid.

7 Ibid.

8 Ibid., pp. 17-20.

9 Ibid., pp. 20-21.

10 Encyclopaedia Britannica, 1975, p. 407.

11 Appalachian Alabama Development Plan, 1977, A Guide to Appalachian Regional Development in Alabama, pp. 21-22.

12 Ibid.

13 Division of Vocational Education, Alabama State Plan for Vocational Education, Five Year State Plan, 1978-1982, (Montgomery, Alabama, 1978), p. 13.

14 Alabama Appalachian Career Education Project, Career Education in Alabama, Division of Vocation Education and Community Colleges, (Montgomery, Alabama: Alabama State Department of Education).

15 Alabama Code, Title 16, Section 16-2-1.

16 Ibid., Sections 16-37-1 through 16-37-8.

17 Ibid., Section 16-60-82.

18 Division of Vocational Education, State of Alabama Descriptive Report of Program Activities for Vocational Education, (Montgomery, Alabama, June 30, 1976), p. 54.

19 Ibid., June 30, 1977, p. 42.

20 Ibid., June 30, 1976, p. 54.

21 Ibid., p. 55.

22 Ibid., June 30, 1977, p. 41.

23 Ibid., p. 42.

24 Ibid., p. 43.

25 Ibid.

26 Ibid., p. 44.

27 Federal Report, 346-3, Alabama, June 30, 1977.

28 Alabama Code, Sections 16-37-1 through 16-37-8.

29 Division of Vocational Education, Alabama State Plan for Vocational Education, Five Year State Plan, 1978-1982, (Montgomery, Alabama, 1978), pp. 61-62.

30 Division of Vocational Education, Alabama Vocational Education Standards and Policies for Quality Programs in Secondary Schools, (Montgomery, Alabama, 1978), p.6.

CHAPTER II

CALIFORNIA CASE STUDY

In order to more fully understand evaluation, it becomes important to describe the current evaluation system and the problems and alternative solutions related to these problems. Since each state in the nation is unique, it also seems important to discuss each state's contextual background information and method of delivering vocational education. These four general areas are presented in the following Chapter.

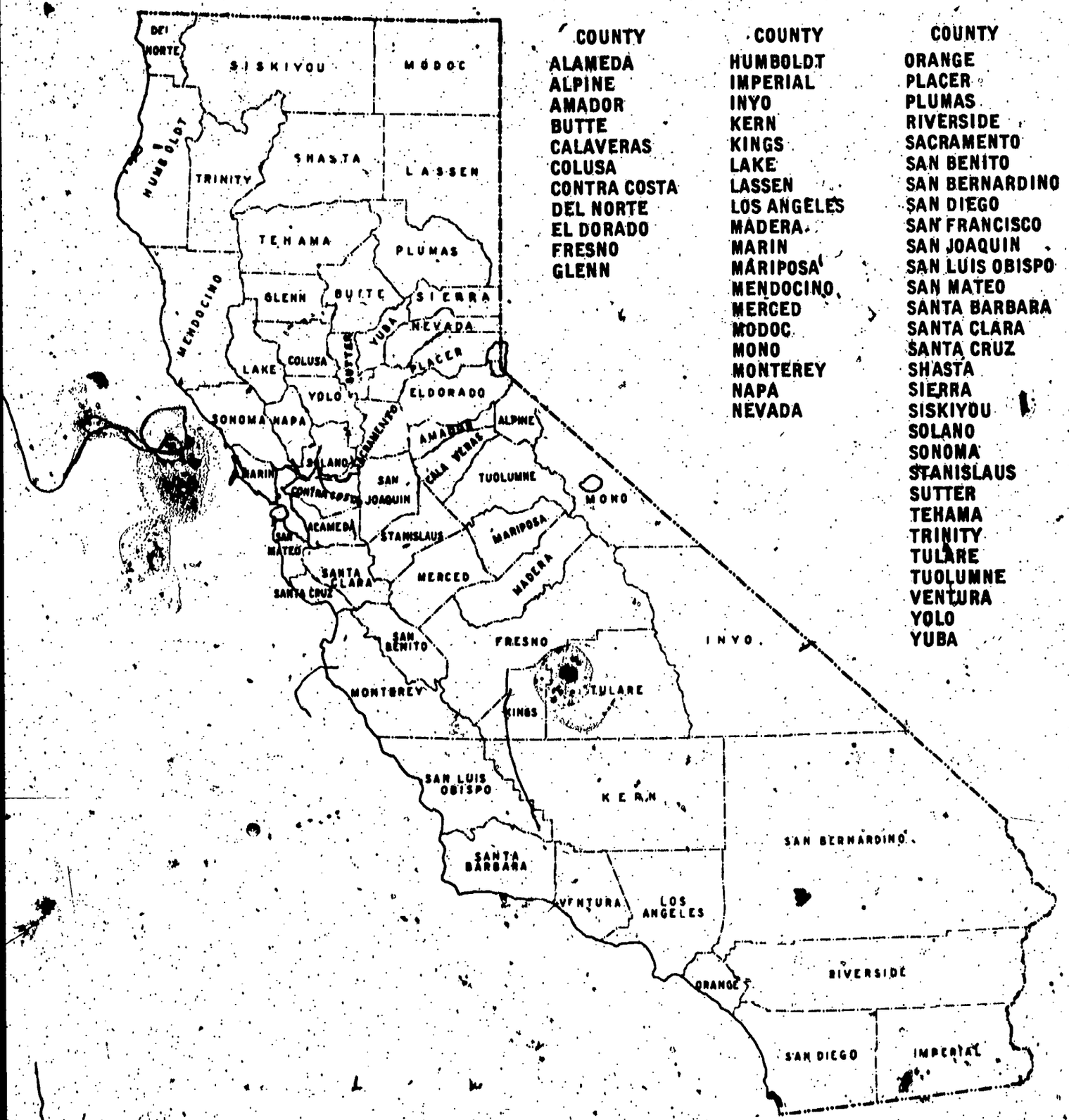
Contextual Background

Important to the operation of vocational education is the context in which it operates. The following topics present a discussion on the vitality of California as a state relative to history and educational legislation; geographic and social characteristics; economic indicators; governance; and educational delivery system including guidance, counseling, and career education.

History and Educational Development

The region we now know as the state of California was first occupied by a variety of Indian tribes who lived in the fertile parts of the state. Giving rise to the many tribes was the largeness of the state, and separation of the tribes by high mountains and deserts. Essentially, the Hupa Indians lived in the far northwestern part of California while the Maidu lived in the central section and the Yuma lived in the southern portion of the state. The Pomo Indians occupied the territory that now includes Mendocino, Lake, and Sonoma counties north of San Francisco. Other Indian groups include the Miwok, Modoc, and Mohave tribes (see Figure 2.1).[1] Their evidence as part of the history of California becomes apparent in that certain counties and cities bear tribal Indian names.

Shortly before the middle of the 16th century, a Portuguese explorer employed by Spain became the first European to see the coast of California. He had sailed north from Mexico along the Pacific coast in hopes of finding rich cities and a water connection between the Pacific and Atlantic Oceans. In 1579, the English explorer, Francis Drake, followed a route that took him



COUNTY	COUNTY	COUNTY
ALAMEDA	HUMBOLDT	ORANGE
ALPINE	IMPERIAL	PLACER
AMADOR	INYO	PLUMAS
BUTTE	KERN	RIVERSIDE
CALAVERAS	KINGS	SACRAMENTO
COLUSA	LAKE	SAN BENITO
CONTRA COSTA	LASSEN	SAN BERNARDINO
DEL NORTE	LOS ANGELES	SAN DIEGO
EL DORADO	MADERA	SAN FRANCISCO
FRESNO	MARIN	SAN JOAQUIN
GLENN	MARIPOSA	SAN LUIS OBISPO
	MENDOCINO	SAN MATEO
	MERCED	SANTA BARBARA
	MODOC	SANTA CLARA
	MONO	SANTA CRUZ
	MONTEREY	SHASTA
	NAPA	SIERRA
	NEVADA	SISKIYOU
		SOLANO
		SONOMA
		STANISLAUS
		SUTTER
		TEHAMA
		TRINITY
		TULARE
		TUOLUMNE
		VENTURA
		YOLO
		YUBA

Figure 2.1. Counties of California

along the coast of California during his famous voyage around the world. He in fact claimed California for England and named it New Albion. There was some fear that California might be settled by the English so in 1602 the Spanish government sent Sebastian Vizcaino on an expedition along California's coast. He named a number of landmarks on the coast and sent an enthusiastic report about California to the King of Spain,[2] in which he urged him to colonize this new territory.

The Spanish came in 1697 to what is now the Peninsula of Mexico and the Baja Peninsula (lower) of California to establish missions and other settlements. The first presidio (military fort) was established at San Diego in 1769 by Captain Gaspar de Portola. He established another presidio at Monterey in 1770. Then in 1776, a group of Spanish settlers founded a presidio and mission at what is now San Francisco, then known as Yerba Buena.[3]

Even though the settlers sent by Spain established pueblos (villages) near the coast, Spain did not have a strong hold on the California region. Russian fur trappers came to the northern portion of California in 1812 and threatened hunting further south. This became one of the reasons for the Monroe Doctrine that declared both North and South America closed to European colonization in 1823. The Russians were agreeable and limited their settlements to Alaska with the exception of those who had already settled the region in northern California. These people left in the early 1840's.[4]

Franciscan friars, under the leadership of the Roman Catholic Father Junipero Serra, established the first California mission as part of the Portola expedition at San Diego de Alcala near the site of present day San Diego. In a fifty-four year period, these Franciscan Frathers had built a chain of twenty-one missions from San Diego in the south to the mission of San Francisco Solano near Sonoma in northern California. The chain of missions was established in such a way that each mission was about a day's walk from the next. The friars converted many of the Indians to Christianity and taught them skills including farming and weaving. Serra and his companions are given credit for being the strongest force in developing the state of California. The Indians they taught remained peaceful for the most part and through their labors they irrigated vast ranches, and produced hides, tallow, wine, brandy, olive oil, grain, and leather work. These were traded for manufactured goods brought by Yankee vessels around Cape Horn.[5] However, many persons in California and Mexico wanted the missions to be broken up. In the 1830's the government began selling mission land to private citizens, and by the year 1846 almost all the mission property had been sold. This resulted in the development of wealthy ranches controlled by private land owners.[6]

Mexico became independent of Spain in 1821 and established California as a province in 1822. This province had its own legislature and military force, but Californians resented the Mexican government for sending governors who mixed in their affairs and dealt with them in a strong handed manner. Therefore, in 1831 the Californians rebelled in a limited battle which forced the return of the governor to Mexico and resulted in weak control by Mexico over this vast region.[7]

The Indians during this interlude became racked by the white people's diseases. Having been driven out of mission lands they were cruelly exploited and diminished.

In 1796 the first American sailing vessel reached the California coast from the east. This was followed by many such trading trips to harbors along the coast of California.[8]

In 1841 the first wagon train of settlers arrived in California from Missouri.[9] In just a few years these first settlers were joined by still more settlers; thus, settlements grew. Settlers then wanted California to become part of the United States and offered to buy this entire region from Mexico; however Mexico refused to sell. This disagreement eventually led to the Mexican War.[10]

In June of 1846, not knowing that war had been declared, a band of American settlers took over the headquarters of the Mexican government in Sonoma. This action became known as the Bear Flag Revolt because they unfurled a homemade flag bearing a single star, a grizzly bear, and the words "California Republic."[11]

War was declared in 1846 between the United States and Mexico and was carried out by soldiers, sailors, and marines. They were led by a former explorer, John C. Fremont, along with Commodore Robert F. Stockton, and General Stephen Watts Kearny. The year 1848 saw an end to this war and California became part of the United States. In the same year, before the peace treaty was signed, gold was discovered in California in the Sacramento Valley by John A. Sutter. As word spread of this discovery, thousands of people, who became known as the "forty-niners", rushed to establish gold claims. Within the next twelve years, California's population increased from about 26,000 to 380,000. Successful miners spent money freely and established such cities as San Francisco and Sacramento. Those miners that were not so successful became farmers and ranchers in the central valley.[12]

California became the thirty-first state on September 9 of 1850. When the Civil War ended in 1865 literally thousands of settlers came to California in search of high wages and the

opportunity to purchase land at low prices. Many Chinese laborers were brought into the state to assist in the construction of the transcontinental railroad system which linked Sacramento with the eastern United States.[13]

Agriculture soon predominated California's income. The gold mined amounted to two billion dollars. The 1970 agricultural income alone amounted to double this figure.[14]

During the early 1900's California expanded greatly in population and in the development of its natural resources. Farming increased due to irrigation that turned desert areas into fertile valleys. Oil and natural gas resources were developed which gave rise to yet other new industries. Minerals other than gold were found and mining became important to the state. Hollywood became the motion-picture capital of the world by 1910.[15]

The Panama Canal was completed in 1914 and shortened the route between California and the east. This canal became a very important factor for the continuing development of California.

The state nearly doubled in population every twenty years from 1860 to 1960. San Francisco remained the financial and corporate center until the middle of the century when the southern third of the state exceeded all the rest of the state in population. Thus the amount of agricultural production in inland valleys and industries in the cities increased. World War II expanded the number of aircraft and ship building industry. The 1950's saw research and educational facilities develop with the continual movement of people to the west coast.

Education in the state of California did not receive much attention during the late 1700's and early 1800's. During this time the Franciscan friars taught farming methods to the Indians in addition to the Spanish language, hymns, and religion. A few children of these early settlers received instruction from private teachers.[17]

With the gold rush of 1849, increased numbers of people entered the state, thus creating a need to establish schools for the education of their children. The first tax-supported school in California opened in San Francisco in 1850 and was financed by that city. The California Constitution of 1849 provided for a public school system. However, it wasn't until 1852 that the state legislature passed a tax law to support public schools. Free public schools did not become a reality for all children until 1867. At that time the school system did not include high schools. The first public high school was established in San

Francisco in 1856. Slow to follow in 1910, was the nation's first tax-supported junior college established in Fresno.[18]

Geographic and Social Characteristics

California is the third largest state in terms of area (158,693 square miles) as compared to the larger states of Alaska and Texas.[19] California is bordered by Oregon to the north, Nevada to the east, Arizona to the southeast, the country of Mexico to the south, and by the Pacific Ocean along its extensive western boundary.

California is a state that offers startling contrasts of landscape. Its coastline is warmed by the Japanese Current which provides a mild climate. The humidity is generally low and temperatures seldom exceed 90 degrees F. Exceptions to temperature are contrasted between the cooler temperatures in the mountain ranges and the extreme heat in the low-lying deserts. Lower mountain ranges occur along its coastal boundary. A central valley follows the natural curvature of the state with its central regions extending 500 miles from the north to its mid-southern region. Extending along this valley to the north in an easterly direction are the Klamath Mountains, Cascade Mountains, and the Sierra Nevada Range on the eastern boundary extending southward. A basin and range region lies in its northeastern segment and another larger basin and range region extends westerly from its mideastern boundary to its southern border. This later basin and range region is a fertile desert area, which through irrigation is capable of producing fruits and vegetables typically requiring a warmer climate.

The largest and the most important agricultural area in California, however, is its central valley which accounts for three-fifths of the state's farmland. This valley produces almost every kind of crop. Other important farming areas in California are located in the valleys of the coastal ranges, extending from the northern part of the state to its southern boundary. The Sacramento and San Joaquin Rivers, which flow through the central valley, are essential to the agricultural industry. An important source of water for the existence of agriculture, and the maintenance of larger cities in Southern California, is the Colorado River. This river originates in Colorado and flows through the states of Utah and Arizona. Hoover Dam straddles the southern portion of the state of Nevada and the northwestern part of Arizona to form Lake Mead. Waters from this lake are controlled by the dam and are allowed to flow along the extension of the Colorado River which follows and forms the border of southeastern California. These waters are responsible for irrigation to California's southeastern basin and also supply water

to the megalopolis of Los Angeles. Without this source of water, it would have been impossible to maintain the population that now exists in this area.

California Department of Finance figures now estimate the population of California to be close to 21.5 million people. This figure represents an increase of approximately six percent over the figure of approximately twenty million in 1970.[20] In the last fifteen years, California has realized a twenty-six percent increase in population. These figures reflect marked immigration. Having surpassed New York as the most populated state in 1963, it exceeds all other states in total population. As of 1970, it was estimated that about one in ten Americans (nine and eight tenths percent) live in California.[21] Counties having a million to 1.5 million people are Alameda, Santa Clara, San Diego, and Orange. The most populated county is that of Los Angeles with a population of slightly over 7 million (see Figure 2.1).[22]

California has one of the most diverse populations in the nation in terms of race composition. The proportion of the white population has continued to decrease over the years despite the increase in total population. In 1960, the white population was ninety-two percent of the total. This figure decreased to eighty-nine percent by 1970. Of the minority group, sixteen percent bear Spanish surnames and have experienced a population increase of nine percent since 1960. Blacks in California represent six percent of the population, while other groups including Indians and Orientals make up the remaining five percent.[23]

Since 1848, California has enjoyed a rapid population growth. The average increase of forty percent in each decade since 1860 has occurred with three exceptions: 1890-1900, 1930-40, and 1960-70. In these three exceptional periods, the increase was approximately twenty percent. In 1975, the birthrate, per thousand population, was fifteen and nine tenths indicating a slightly higher birthrate than the country as a whole. On the other hand, the death rate has dropped consistently since 1937 and the recorded death rate in 1970 experienced a record low of eight and three tenths per thousand.[24]

The literacy rate in California is one of the highest in the country. In 1900 the illiteracy rate was five and three tenths percent as compared to eleven and three tenths percent for the rest of the nation. In 1950, illiteracy in California dropped further to two and two tenths percent. In 1970, illiteracy reached a record low of one and one tenth percent in the state compared to the illiteracy rate in the United States of one and two tenths percent.[25]

Economic Indicators

California produces more goods than any other state. Several factors contribute to the vitality of California's economy. Some of these are: highly educated/trained manpower, rich soil and mineral deposits, vast forests, and favorable climate.[26]

Major industries contributing to California's economy are manufacturing, agriculture, service industries, the financial industry, tourism, foreign trade, and housing.

California leads the nation in manufacturing, which accounts for about eighty percent of the value of goods produced in the state.[27] Manufacturing employs more people and produces a larger value of output than any other industrial state in the nation. About one-fourth of the state's manufacturing workers are employed in the aerospace-electronics industry.[28] The state is in the forefront of the nation's computer industry, which includes a booming micro-processer and semi-conductor industry.[29] Electrical equipment produced in California has a value added of about four billion dollars yearly. The state produces household appliances, electric motors and generators, and wiring devices.[30]

Its chief manufactured products in order of importance are: transportation equipment, processed foods, and electrical equipment. The value added contribution of these three industries reached forty and a half billion dollars in 1975.

Besides being a leading center for automobile production, California has the greatest aircraft-assembly center in the United States. These industries contribute eight and a half billion dollars annually to the value added in the state.[31]

The nation's largest producer of agricultural products is California. Agriculture in the state accounts for approximately nine percent of U.S. gross farm receipts. This industry alone employs an estimated 750,000 people, only forty percent of whom are involved in farming. All totaled, California produces more than 200 farm commodities on a commercial basis. Cattle, milk, cotton, and oranges are its principal commodities in order of cash receipts. In 1976, it also ranked first in the country in terms of value of crops. Tomatoes, grapes, cotton lint and hay were its leading crops. Other important agricultural products include rice, nuts, flowers, vegetable seeds, vegetables, and corn. It is the nation's principal source of avocados, cantaloupes, honeydew melons, lemons, peaches, almonds, apricots, walnuts, dates, figs, plums, and nectarines. From 1973 to 1976, California's gross farm income increased by about twenty-one percent.

Processed foods have an annual added value of about $4.5 billion dollars. California ranks first among the states in wine production. Processed are more than three million cattle a year. Industry within the state packages or cans dairy products in addition to processing poultry, fruits, vegetables, and sugar.[32]

The fishing industry also contributes to the production of goods. Its output of fish products is greater than any other state with the exception of Alaska. The annual sea food catch totals about 670 million pounds with a value of about $105 million. Most important catches are tuna followed by anchovies.

About 4% of the value of goods produced in California is contributed to by mining. Petroleum is considered the most important of these products. California ranks third after Texas and Louisiana in crude oil production and actually supplies about 15% of the United States' oil. (These figures may change because of the recent oil developments and construction of the Alaskan Pipeline.)

Included in the term "service industries" are a number of sub-industry groups: finance, and a wide range of activities associated with tourism, recreation, and retirement. It is anticipated that by 1990 the service industries will account for nearly 80% of the total non-agricultural employment in the state, as compared to 1976 when it accounted for 75% of the total non-agricultural employment.[33]

The financial industry as a whole is a growing source of jobs for Californians. In 1976 the commercial banks had deposits amounting to 11% of the national total ($90 billion). The total employment in this area in 1976 averaged 221,000 up by 73,000 in 1967. This growth rate of 4.6% was well above that for a total non-farm employment (2.7%).[34]

Tourism is a leading business in the state with an average of 17 million tourists per year. This business alone brings an annual income to the state amounting to approximately $4 billion.[35]

The wholesale and retail sales from manufacturing accounts for 43% of employed individuals. Government, community, social and personal services account for 38% of employment, while transportation, public utilities, agriculture, mining, finance, insurance, and real estate account for 19%.[36] Employment opportunities seem most promising in the future within the aerospace and computer industries. It is speculated that due to Proposition 13 the prospect of gaining employment in government, whether in teaching, social service or public administration is poor.[37]

Unemployment remains one of the major problems of California. In 1973 it had an unemployment rate of seven percent. This figure increased drastically to nine and nine tenths percent in 1975, then gradually decreased to nine and two tenths percent in 1976 and to eight and two tenths percent in 1977.[38] It is projected that the 1978 unemployment rate will be approximately seven and six tenths to seven and seven tenths percent as compared to the national average of six and one tenth to six and two tenths percent.[39]

California has ranked sixth in the nation in terms of per capita income since 1972. In 1959, it had ranked third and in 1969 it ranked fourth. However, in terms of median family income for 1969, California ranked ninth in the nation with an income of $10,729.

Government as It Affects Education

Important to education is the structural government under which it occurs. This section addresses state, county, and local government structure.

State Government. The California Constitution setting forth the body of laws for state government was first adopted by a territorial government in 1849. However, the present constitution was adopted in 1879. Since that time, it has been amended approximately 350 times.

The top executive in California is the governor who is elected for a four-year term and may be re-elected any number of times. Other top executive officials include the lieutenant governor, the secretary of state, attorney general, treasurer, controller, and the superintendent of public instruction. These officials are elected for four-year terms and can be re-elected any number of times. Voters also elect the five-member state Board of Equalization that administers several important tax laws.[40]

The legislature consists of forty members in the senate and eighty members in the assembly. Senators are elected for four-year terms while assembly persons are elected for two-year terms.

California citizens can pass laws directly by their power of initiative. In such cases, a proposed law must be favored by at least five percent of the persons who voted in the last election for governor. This specified number of persons must sign a petition in favor of a measure. The measure is then placed on a ballot in the next state election. Californians have the unique right to challenge most kinds of laws passed by the

legislature by a process of referendum. If as many as five percent of the voters challenge a new law, the law does not go into effect until the people have approved it in an election.[41]

The Supreme Court in California is the highest in the state. It has a chief justice and six associate justices. In addition to this court, there are five District Courts of Appeal with a total of thirty justices. In addition to this court, there are five District Courts of Appeal with a total of thirty justices. All justices in the state are appointed by the governor to twelve-year terms. At the county level, each has one Superior Court. The legislature fixes the number of judges for each of these courts. Voters elect superior court judges to six year terms. Judicial districts with populations of 40,000 or more head the municipal courts and districts with less then 40,000 persons have Justice Courts. The Superior and Justice Courts constitute the lower court system in California.

Taxes are collected by the State for personal income, income of banks, and corporations. State taxes include sales tax, taxes on gasoline, inheritance and gifts, insurance, liquor and motor vehicles. State taxes account for three-fourths of the government's income. Other monies come from federal grants and other assistance programs.[42]

County Government. There are fifty-eight counties in California. Almost all of the counties have a form of government specified by the laws of the state. There is usually a five-member board of supervisors and a number of elected executive officials. Elected officials include assessor, auditor, clerk, coroner, district attorney, sheriff, superintendent of schools, and treasurer. Like cities, counties may have home rules under the state constitution. This means that they may draw up and adopt their own charters. Thus far, eleven counties have adopted chapters under the home-rule law. Most of these home-rule counties have chosen a form of government similar to that of the general-law counties.

City Government. There are approximately 400 incorporated cities in California. State Constitution provides that cities of 35,000 or more persons have the right to draw up and adopt their own charters. About seventy California cities operate under local charters, but most cities have council-manager governments. Other California cities have mayor-council governments.[43]

Description of the Educational Delivery System in California

At the present time, there are 1,043 school districts in

the state of California including 262 unified, 666 elementary, and 115 high school districts. These districts include 5,028 elementary schools, 442 intermediate schools 458 junior high schools, 836 high schools, 303 county schools, 280 continuation schools, thirty-three non-traditional schools, and ninety-one other schools. The sum total of public schools serve 2,815,552 kindergarten and grades one through eight students, 1,341,448 grades nine through twelve students, 146,665 students in special classes and 685,216 students in adult classes. Public school students constitute approximately one-fifth of the total population of the state.[44] Local public schools are administered by boards elected by the people in conjunction with superintendents also elected by the people.

California law requires children between the ages of eight and sixteen to attend school. At age 16 students are allowed to leave school or to seek admission to the California Junibr College System, upon passage of a special examination. Those who do not pass this test must attend school, at least part-time, until the page of eighteen.

An integral part of the vocational education delivery system in California is the Regional Occupational Centers and Programs (ROC-S/ROP-S). The ROC's are separate, identifiable facilities at which ROP's take place. The ROP is a vocational or technical training program which meets the criteria and standards of instructional programs and regional occupation centers. It is conducted in a variety of physical facilities not necessarily situated in one single plant or site.

The education described above is administered by the State Department of Education. Policy setting for this educational system is complex and typically involves the legislature, the State Board of Education, and the LEA's.[45]

The State Board has the responsibility of studying educational conditions, determining educational needs of the state and adopting plans to improve the public school system in general. This board is composed of ten, non-paid members who are appointed by the governor for four-year terms. Appointments are made with the consent of a two-third's vote of the state senate. A non-voting student representative from the California Association of Students Councils also sits on the Board. The State Superintendent of Public Instruction is secretary to the Board.[46]

Constitutional and statutory provisions created the California State Department of Education in 1921. The department

has the responsibility for educational delivery in public elementary and secondary schools, and the post-secondary programs for adults. Responsibilities extend to special schools, the state-wide public library service and the approval of some private schools. Department responsibilities do not include community or state colleges or the University of California system.[47]

Currently, the Department of Education has a staff of approximately 2,7000 employees and a budget of $79 million. The annual disbursement of funds, materials, and supplies to LEA's amounts to $4 billion. Various sources, each with its own constraints, supply the funding for both general and special education programs.

The State Department of Education serves in a consultant and monitoring capacity. The LEA's enjoy local autonomy since school districts are supported primarily by local taxes. The monitoring and supervisory function of the State Department of Education is restricted to LEA programs that are supported by state and federal monies. Proposition 13 (Article 13 A of the California Constitution) shifted the major portion of the funding from the local level to the state level now funds are given to LEAs in block grants for more equitable funding. According to some state department staff this law may have an effect on local autonomy because education may eventually become more state controlled.

The macro-structure of the State Department of Education has four major areas. These areas are the Office of the Superintendent, the Education Programs Branch, the Administrative Branch, and the Library Services (see Figure 2.2).[48]

Diagrammed in Figure 2.2 is the organizational structure of the Educational Program Branch and its five divisions. The director of this branch is responsible for all program operations in the department. This person's duties include giving leadership and direction to planning, research, and development of new educational programs. In addition, this person serves on the executive cabinet and represents the department and the superintendent in meetings with representatives of the federal government, LEA's, other state agencies, professional groups, and the public.

Four Associate Superintendents direct the operations of the Division of Program Management, but relate to elementary, secondary, adult and special and support programs. The fifth division of vocational education is headed by an Assistant Superintendent.

Major areas of responsibility within each of these divisions are outlined in Figure 2.3. Vocational education will be discussed in some detail later in this writing.

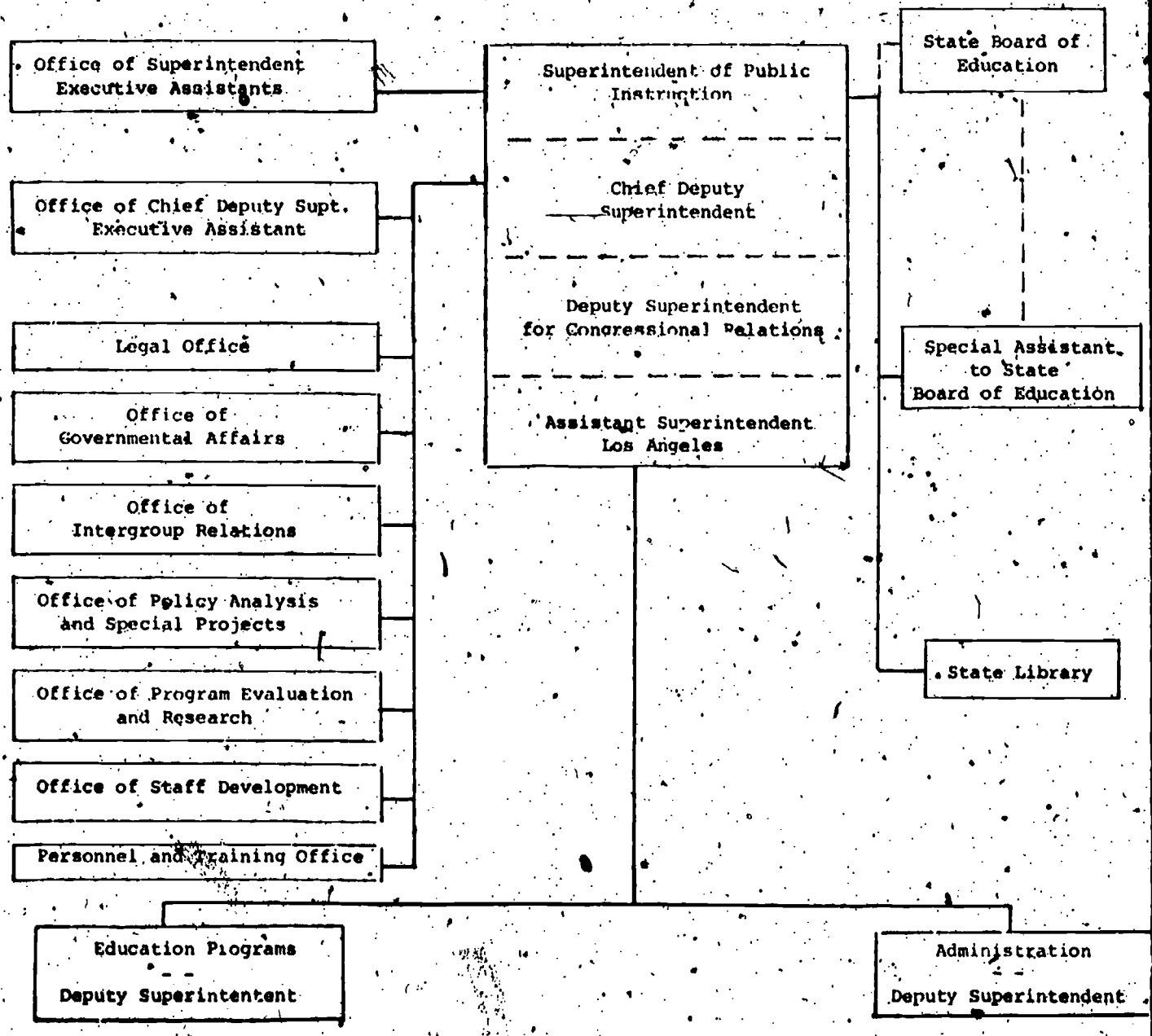


Figure 2.2 Organizational chart of the California state department of education

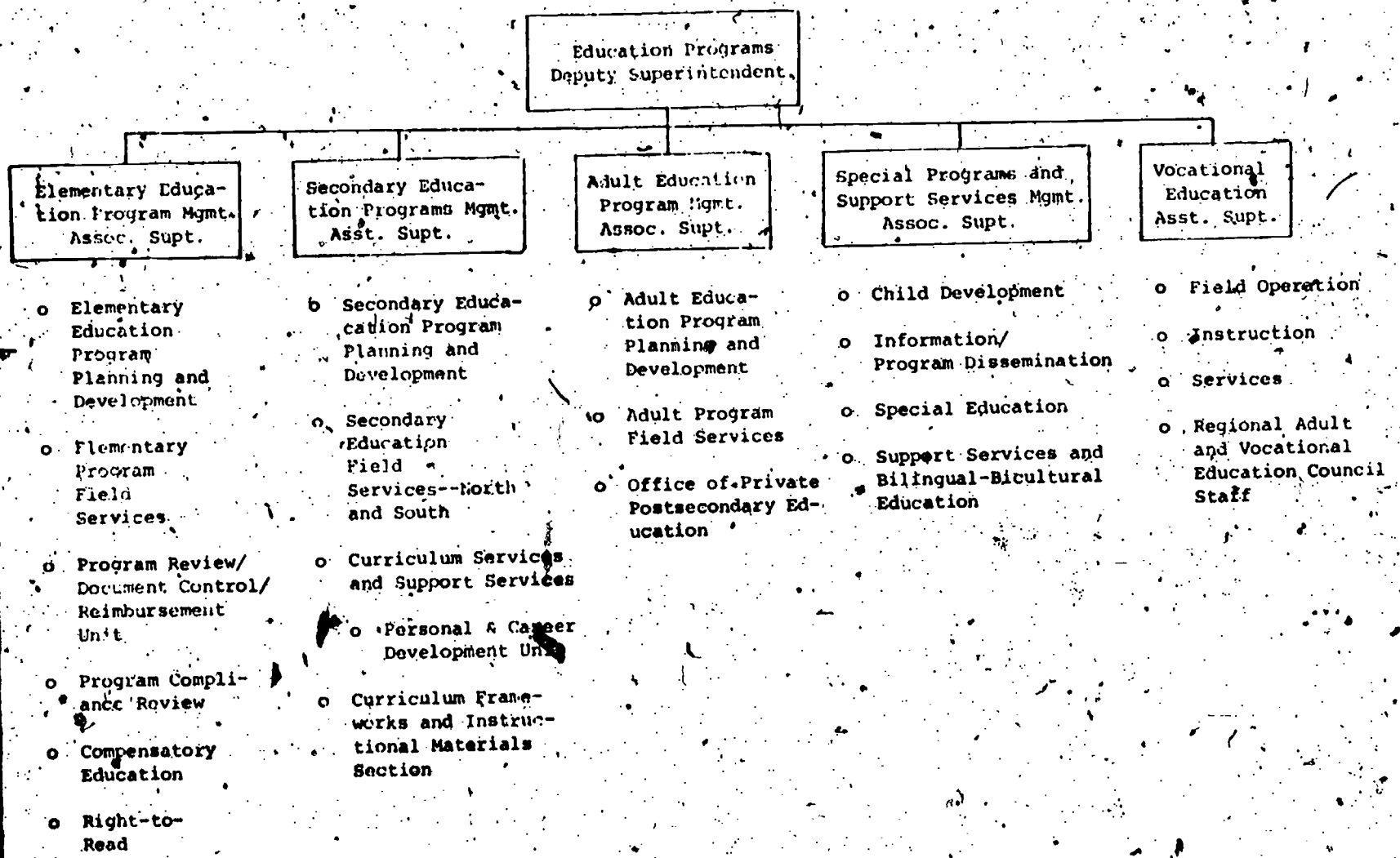


Figure 2.3 Education programs branch organization chart.

California has the largest system of state colleges and universities in the nation.[49] The University of California with its nine campuses provides higher education to more than 128,000 students. The California State Colleges System has nineteen campuses and provides instruction to over 303,000 students. In 1960, the California legislature approved a master plan that provided for the orderly expansion of this system. In addition to these institutions of higher education, there is the Public Community College System which has seventy districts and 106 community colleges that serves over 1,255,000 student's either full-time or part-time.[50] This system is the chief deliverer of postsecondary vocational education in the state. This aspect of community or college responsibility is addressed in the section on the vocational education delivery system.

Guidance and Counseling/Career Education

In California both guidance and career education activities in the K-12 system are administered under the Personal and Career Development Unit. Responsibilities of this unit include school psychology, school social work, career, as well as guidance counseling.

The state defines career as the pattern of activities and experiences that make up a lifetime of work, learning, and leisure. Career development is defined as follows: The word "career" identifies and relates the many settings in which people find themselves (home, school, occupation, community) the roles which they play (student, worker, consumer, citizen, parent), and the events which may occur in their lifetimes (job entry, marriage, retirement). The word "development" is used to show that people are continually changing over their lifetimes. Career guidance is defined as the various types of assistance provided to help individuals in their career development. It includes instruction, counseling, placement, follow-through, evaluation, and support procedures based on youth career planning and development. Vocational guidance funds and career education funds are channeled through this unit to serve in the more total concept of career development.

Twelve professional staff are assigned to this unit to serve in consulting and monitoring activities for public school districts of the state. Enrollments in a K-12 system exceed 4.5 million students. Consultants are also assigned in each of the areas covered by the unit at each of the regional offices to serve in a similar capacity. Career development became a number one priority because of the statewide needs assessment done with

students in the sixth, eighth, tenth, twelfth and college/adult levels of instruction. Planning for the future was indicated as the major concern of eighty-three percent of the 5[illegible],000 surveyed. Therefore, the unit's efforts are channeled toward a plan that addresses personal and career development involving every school and all school professional staff.

School staff are trained in workshops to develop an individual school plan for career development. In these sessions, participants indicate the outcomes they desire, and the school then decides who will be assigned to implement a program directed toward these identified outcomes. In 1977, the unit conducted a study to determine the effect of their efforts in the training program. They found that of the 150 schools that had made changes in their programs, sixty-seven had actually developed their own career development curriculum materials at least at the planning stage if not actually at the operational level.

State staff encouraged districts to develop their own career information centers. Almost every high school in the state now has one of these centers. State personnel believe local districts need to be provided with a plan so these centers are utilized. This is why state staff are helping them with planning to develop a comprehensive guidance/career approach.

The number of guidance counselors per student varies in a range from 1/150 to 1/600 with an average ratio of 1/327. State staff speculate that Proposition 13 may drastically increase this ratio. In a study done two years ago, it was determined that guidance counselors spend about fifty-five percent of their time consulting with students. Counselors are trying to work effectively with the teachers in a consulting capacity since teachers are providing educational and occupational information to their students. Generally, paraprofessionals operate the career information centers.

As a result of Proposition 13, schools can no longer afford the paraprofessional staffing for these centers. As a consequence many centers have been forced to close.

There are no vocational counselors as such. It is recognized that pre-service programs are deficient in the area of career counseling. A course or two in pre-service education are directed toward career guidance for credential purposes. There now exists a recently implemented competency based credential. A strong component of this is in the area of career guidance. The Teacher Preparation and Licensing Commission set up what the competency should be. They work with the State Department of Education in determining the competencies. Guidance Counselors in California are certified by the colleges or universities

at which training is received. However, in addition to credit hours, competencies are required for credentials.

Computerized information systems are used by certain school districts in the state. However, California has not developed a career information system that has been accepted for statewide use. The information systems used are usually of the interactive terminal or needle sort variety. They can be used by individuals ranging from the seventh graders through adults.

The State Occupational Information Coordinating Committee is planned. It will assist the guidance element at both the secondary and postsecondary levels. This unit will be working in cooperation with the Employment Development Department to provide short and long range occupational projections. It also will work with the Standard Metropolitan Statistical Area to provide information concerning location and types of occupations that will exist.

The Educational Testing Service Corporation's System of Interactive Guidance and Information (SIGI) deserves special attention as one of the research projects initiated in fiscal year 1975 to improve guidance and counseling services in occupational education in California's community colleges. The Chancellor's Office in cooperation with the Pasadena Area Community College District sponsored feasibility testing to determine if the system could be implemented on a practical and cost-effective basis. This test indicated it had exceptional promise.

Three consortia from Foothill, Los Angeles, and Yosemite community college districts (approximately forty community colleges) conducted the exemplary project for the development of "Career Centers." The project included: 1) testing an integrated career center model to provide comprehensive services for all users in a given region, and 2) it created and strengthened bridges between career research personnel and services in educational institutions, business, industry, manpower, and employment development organizations. The central long-range goal of this career education and work project was to insure that various individuals acquired jobs that were appropriate to their skills, interests, and abilities. The effort required extensive high-quality vocational education supported services that were readily accessible and attractive to all individuals who would seek assistance. These included counseling, testing, cooperative work experiences, and placement.

Vocational/Technical Education Delivery System in California

This section describes the delivery of the California Vocational Education System. It presents a synoptic overview of the history and present organization, staffing, and programming related to vocational education in the state.

History of Vocational Education [51]

Although California was a latecomer to statehood, its first efforts in vocational education came early. Eastern states had found that industrialization reduced apprenticeship training. The efforts of trade associations and workers in California led to the formation of institute lyceums and manual labor schools that offered mechanical art subjects. The Mechanics Institute, offering lectures and classes in technical and cultural subjects, was established in San Francisco in 1854. The institute stages the first of many annual exhibits of industrial and craft products three years later. It also receives credit for being the first vocational education endeavor in California (see Figure 2.4).

With the passage of the Morrill Act of 1862, and with accompanying land grants, the University of California was founded at Berkeley in 1868. Although the major focus of the university was not vocational education, of the first twenty-two students enrolled, four students were enrolled in Agriculture and one was enrolled in Mechanic Arts. There was a public outcry against the academy focus of this university which forced the resignation of the school's president. Solidified public opinion viewed vocational education as being essential to society and preparation for employment as being a vital part of the educational process.

In his annual report, the State Superintendent of Public Instruction reiterated the need for competent skilled labor and industrial education in 1870-71. In his report of 1874-75, he expanded his concerns by stating that "any system of technical and industrial education must begin with the public school." This remark was not met with enthusiasm. Thus, an expansion of the public school system to include vocational education did not evolve. California's local autonomy for districts became well established as early as the middle of the 19th century. The first high school opened in San Francisco in 1858. Following this, secondary schools were opened in Sacramento and Marysville. In 1860 secondary schools were built in Grass Valley and Nevada City. Schools were established in Oakland, Los

COUNTY	COUNTY	COUNTY
ALAMEDA	HUMBOLDT	ORANGE
ALPINE	IMPERIAL	PLACER
AMADOR	INYO	PLUMAS
BUTTE	KERN	RIVERSIDE
CALAVERAS	KINGS	SACRAMENTO
COLUSA	LAKE	SAN BENITO
CONTRA COSTA	LASSEN	SAN BERNARDINO
DEL NORTE	LOS ANGELES	SAN DIEGO
EL DORADO	MADERA	SAN FRANCISCO
FRESNO	MARIN	SAN JOAQUIN
GLENN	MARIPOSA	SAN LUIS OBISPO
	MENDOCINO	SAN MATEO
	MERCED	SANTA BARBARA
	MODOC	SANTA CLARA
	MONO	SANTA CRUZ
	MONTEREY	SHASTA
	NAPA	SIERRA
	NEVADA	SISKIYOU
		SOLANO
		SONOMA
		STANISLAUS
		SUTTER
		TEHAMA
		TRINITY
		TULARE
		TUOLUMNE
		VENTURA
		YOLO
		YUBA

Figure 2.4 Outline map of the State of California showing educational regions, counties, and community college locations.

Angeles, San Jose, and Vallejo within the decade from 1870-80. All of these schools were solely supported by local taxes.

James Lick of San Francisco is given credit for setting up an endowment in 1875 to start the California School of Mechanical Arts. Although litigation delayed the school's opening for twenty years, some 140 students formed the first class. Curriculum included fourteen subjects in mechanical and industrial arts plus English, science, and mathematics.

Shortly after this, another combination trade school and technical institute was endowed at Cogswell Polytechnical College in San Francisco. In 1894, the University of California was requested to establish the Jillis Clute Wilmerding School of Mechanical Arts. This was a tuition free school where students were taught carpentry, cabinetry, blacksmithing, stonecutting, brick-laying, plastering, and drawing.

The Sloyd Manual Training School became popular in the east. This school established a movement that came west about 1895. Western interest in this kind of school led to the establishment of private manual training schools in Santa Barbara, San Francisco and Pasadena. The Pasadena school later became the Thorne Polytechnic Institute and is known today as the California Institute of Technology.

Thus it was that "practical education" was provided for primarily males in these early schools. The Miranda Lux School of Industrial Training, the first institution to offer vocational education exclusively for women, was founded in 1912. Courses offered included cooking, dressmaking, millinery, housekeeping, bed making, laundry, and home decoration. At the time, these were considered "suitable occupations" for women.

Private endowments reflected the interest of state people in vocational education and, as a consequence, there was a growing awareness of the state's responsibility to this type of education. In 1901, the California state legislature approved the establishment of the California Polytechnic School at San Luis Obispo. The school opened in 1903 and instructed both male and female students in the manual training arts and sciences. These included agriculture, mechanics, engineering, business methods, domestic economy, and other branches. The significance of the establishment of this school was the involvement of state support for vocational education. In 1902 the voters of the state passed a constitutional amendment that levied a school tax for the support of high school and technical schools. By 1911 there were 47,000 students enrolled in high schools, but only a ten percent completion rate was expected. At this point, the state superintendent of education became any

advocate of "practical education" because of its holding power.

In 1912 there was a reorganization of the California State Department of Education that provided for the position of Commissioner of Industrial and Vocational Education. Dr. Edwin R. Snyder, a champion of vocational education for years, accepted this position. Snyder believed that vocational education prepared youth not only for future employment, but contributed to their social and cultural development. Before taking this position, he had been Superintendent of Schools for Santa Barbara and a former Director of Manual Arts at San Jose State Normal School.

Six months after his appointment, Dr. Synder has visited fifty-three schools in the state. He made a report to the State Board of Education defining a philosophy and direction that shaped vocational education in California for many years to come. He realized that the majority of students attending public schools would never attend college and would leave school without adequate preparation for life. (At that time, the secondary curriculum was structured for university approval and admission). He advocated that students be assessed to discover what they could accomplish and be placed in careers they they were interested in and were capable of doing. Dr. Snyder may have been one of the first to advocate that schools were for all children and that they fail, not because of a lack of ability, but because education hadn't served their needs or interests.

Dr. Snyder's recommendations as the new Commissioner included the establishment of vocational schools and programs to be offered as full-time and part-time, day and evening, intermediate schools offering vocational education from seventh through ninth grades, and provisions for financial aid to support these programs. He further recommended occupational surveys to determine what vocational education should contain in its curriculum and called for the state certification of teachers. He said that teachers should have five years of occupational experience prior to certification and that it was the responsibility of selected teacher training institutions to provide the special training methods necessary for instructors who would be teaching occupational subjects.

Vocational education continued to progress. The Stockton schools established a pre-vocational school for boys in the sixth through the eighth grade in Oakland. This became the first vocational school to be supported by public funds and opened with a curriculum offering courses in homemaking as well as in trades in industrial education. By the close of 1916, 27 courses were being offered in California's public schools and six percent of all high school students were enrolled in vocational education.

At a national level the American Federation of Labor and the National Society for the Promotion of Industrial Educatio in addition to other national groups gave support to efforts to secure federal support for vocational education. This resulted in the landmark legislation for vocational education in the United States known as the Smith-Hughes Act passed in February of 1917. The California State Legislature quickly approved and accepted the act in May of that year. The State Board of Education began to develop plans for the implementation of the new federal legislation. Just at the time comprehensive vocational education programming came to be, the nation entered World War I. California's State Plan now reflected conformity with Snyder's philosophy in that all courses were designed to equip students for employment. Furthermore, vocational education programs were to be supervised statewide under a set of program standards that were formulated to enforce definite policies of content and conduct.

The first reliable enrollment figures became available in 1920. This data indicated that 10,810 persons were enrolled in federally-aided programs. These figures constituted four percent of the national total enrollment for vocational education with supportive funds amounting to $70,476. Enrollments totaled 70,464 by FY 1930 and there were established vocational programs in 170 high schools in forty-four counties. Pre-service and in-service teacher training contracts were signed with specified higher education institutions in the subject areas of trade and industrial education, agriculture education, and home economics. By 1925, business, labor, industry, and community representatives were involved in educational planning through local trade advisory committees for all trade and industrial courses.

The George-Barden Act of 1946 and the GI Bill of Rights provided equity for peace time enrollment in vocational education. Vocational education moved forward in program and policy areas. Vocational education programs were expanded in the junior colleges and in other postsecondary schools. A new curriculum was introduced in the area of health occupations. Practical nursing was upgraded to vocational nursing with established licensing by the state. The Soviet challenge presented by Sputnik provided funds for technical education, vocational guidance and counseling. By the end of 1960 vocational educators had prepared 30,000 technicians.

In the 1960's California undertook a self-analysis of its responsibilities and encouraged school districts to do likewise in an effort to update their programs. As a result of this evaluation, recommendations were made to close San Jose Technical High School and put all vocational education programs into comprehensive school settings. Recommendations also called for

using the old facilities and its staff as a district-wide vocational education center to provide part-time programs for students from all schools who did not have such programming. This became the prototype for a regional occupational center. At present there are sixty-six regional occupational programs and centers (ROP/C) in California with an estimated enrollment of 162,500 students.

The 1960's was a decade of considerable growth for vocational education in California: enrollment increased from 400,000 to nearly one million; significant federal acts supporting vocational education were implemented in the state; funding increased tenfold from $2.4 million in 1960 to $27.5 million in 1970; a state advisory council on vocational education was formed; a state-wide conference on vocational education involving 1000 citizens became the first of its kind in the nation; statewide regional programs and centers were started; a special sub-committee on vocational education was created by the California State Legislature; the State Board of Education formed a standing committee on vocational education; and expenditures of LEAs for vocational education increased from $18 million in 1960 to $50 million in 1970.

Organizational Structure

As was stated prior to this section, the Vocational Education Division is one of the five education program branches of the State Department of Education. Figure 2.5 shows the organizational structure for the delivery of secondary vocational education in the state as of December, 1978.

Vocational education is responsible for direct services to LEA's receiving state general fund monies for ROC/P, and federal monies through the Vocational Education Act (VEA), the Comprehensive Employment and Training Act (CETA) and the Education Professions Development Act (EPDA). This division has three sections: Field Operations, Manpower Education, and Support Services. The Field Operations Section has three regional offices and provides technical assistance to districts to develop plans, collect data, improve program management and accountability and make statistical reports. The Support Services Section consists of the Program Planning & Evaluation Group and Special Services Group. The Planning and Evaluation Group is responsible for curriculum development and evaluation while the Special Services Group is responsible for instruction and professional development.

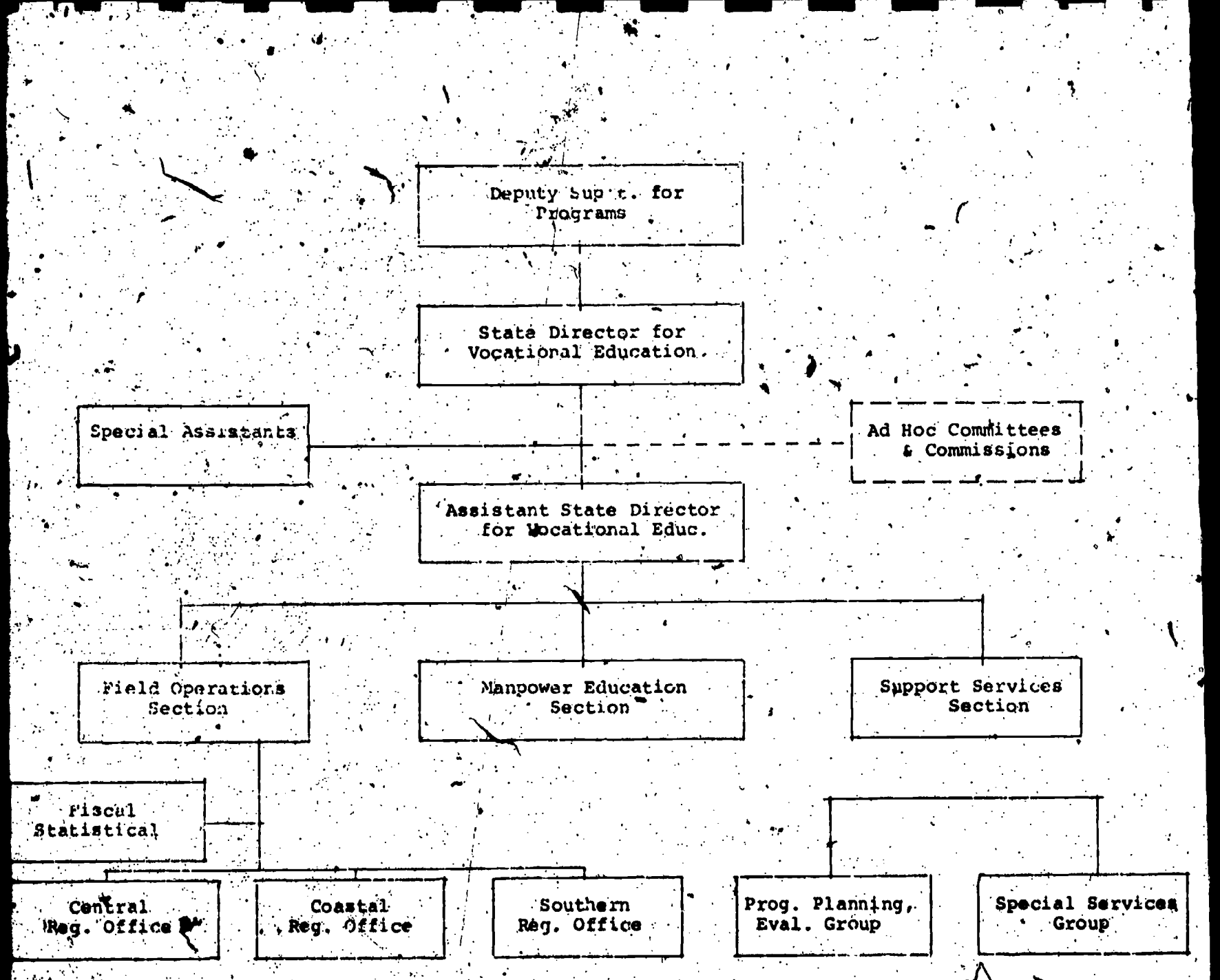


Figure 2.5 Organizational structure for the delivery of secondary vocational education in California as of December 1978

While the State Board of Education serves secondary and some adult vocational education in the state, postsecondary education is made available primarily through the community college system. There are two separate boards for the administration of vocational education. However, the Director for Vocational Education in California is an assistant superintendent in the Division of Vocational Education under the Deputy Superintendent for Education Programs who reports to the office of the Superintendent of Public Instruction. The Governor of the state appoints the members of both the Board of Governors of the California Community Colleges and the Board of Education. The Board of Governors in turn appoints the Chancellor of the community college system. The two board articulate at the program level through a Joint Committee on Vocational Education while the State Department of Education and the Chancellor's Office articulate through a Joint Staff Council for Vocational Education.

Vocational education is provided in most high schools throughout the state of California. Participating in the secondary vocational education effort are approximately 350 school districts representing 1,000 participating schools that offer over 12,000 vocational education programs. ROC/P's are provided to qualified students with occupational training opportunities which would not otherwise be available to them because of one or more of the following limitations: it is not feasible for one district to operate a particular course; facilities are inadequate and/or equipment within the district is inadequate to operate the course; enrollments are too low in the district to support the course or training opportunities lie outside the district boundaries. The ROP's are vocational training programs conducted in the variety of facilities that are not used exclusively for that program. The ROC's, as mentioned previously, are separate identifiable facilities designed for vocational or technical training programs. Curriculum for the ROC/P's must reflect the needs of the job market and must be recommended for apportionment by the local Regional Adult and Vocational Education Council, (RAVEC) signifying that curriculum does not necessarily duplicate programs and services. These programs are established and maintained with the advice and cooperation of a representative advisory committee. The ROC/P's support vocational training for over 100,000 high school students and over 63,000 adults and out-of-school youth.[52]

Providing postsecondary vocational education in the state is the California Community College System administered by the Chancellor's Office. Postsecondary and adult education occurs in the seventy community college districts having 106 community colleges. The community colleges provide vocational education training programs in addition to courses that might normally be

offered within the state college or university structure. These colleges are located in places to serve local communities (see Figure 2.2). Courses vary in length from several weeks to two years. Because of the varying length of the courses, it is impossible at any one time to know the exact enrollment within any one of the community colleges.

Like the LEA's at the postsecondary level, some state personnel have expressed that the community college system is suffering from the consequences of Proposition 13, which decreased the local property tax to one percent valuation of the property. For fiscal year 1979, the state had a $2.5 billion surplus as a result of overtaxing for several years. However, they will not have this surplus for ensuing years. This year education was given approximately $2 billion by formula, for district and county superintendents. The ramifications of Proposition 13, recorded in the 1978 California statutes as Chapter 292, have yet to be realized. It has forced cutbacks in administrative staff at the state level and will force reduction of teaching staff and programs at the local level.

Staffing and Certification

Staffing for delivery of vocational education in California is a function of formal and/or informal preparation. The following units deal with staffing for state and local education agencies and professional development.

State Education Agencies. State and regional office staff who have administrative and supervisory positions generally have at least a master's degree and many possess degrees at the doctoral level. These individuals usually have realized experiential opportunities in the field of education in addition to their formal degree credit requirements. Credentials are required for supervisors and chief administrators. Credential requirements are set forth by the Teacher Preparation and Licensing Commission which is separate from the designated educational agencies of the State Department of Education or the Chancellor's Office for California Community Colleges. In general, state office positions require a prior teaching credential, a degree, and two years work experience in an occupational area.

Local Education Agencies. Vocational teachers at the local level in California are credentialed by the Teacher Preparation and Licensing Commission just as supervisors and administrators in education are. Vocational educators may obtain credentials in

one of two ways: 1) by having a four-year baccalaureate degree and validating two years work experience in the area in which they intend to instruct; or 2) by graduating from high school, and validating seven years experience in the area in which they intend to instruct, completing 60 units in instructional methodology. The University of California at Los Angeles (UCLA) is responsible for certifying teachers who come from industry. The requirements demanded of teachers who instruct in community colleges are somewhat higher than those generally required at the high school level. (Requirements for credentials are set forth in more detail in the California State Plan for Vocational Education.) Somewhat unique to California is the requirement that all teachers and administrative personnel be fingerprinted. Fingerprints are required so that there is some means of checking on school personnel who may have had their licenses revoked.

Professional Development. California has set major objectives in teacher education that include: 1) to promote and develop competence so that both males and females in all of the service areas can be served well; 2) to provide in-service to vocational educators so they can more effectively teach the disadvantaged; 3) to serve the handicapped through identification, adaption of facilities, and modification of instruction; and 4) to improve programs through professional and occupational upgrading of the instructor.

Presently, to promote services for the disadvantaged, identification criteria is being developed. The category disadvantaged does not necessarily depend on financial status but rather as California sees it, on a goal versus role status. For instance, certain roles that appear financially rewarding are modeled in the community, but may in fact be models of illegal occupation. Persons living in this type of an environment, who desire to follow such a role in the future, would be considered disadvantaged. Others who have a goal of some legal occupation might not be considered disadvantaged even though they might live in the same environment. The 5-H project now taking place in cooperation with UCLA will assist vocational education in the identification of the disadvantaged and the handicapped.

To begin to serve the handicapped more effectively, preservice students are cycled through existing programs that are known to be successful. Such a program with excellent facilities is located at the Veterans Administration Hospital at Long Beach. Thus, students can become familiar with the kinds of facilities and types of instructional modification needed for successful teaching.

Certain state level personnel have expressed the feeling that

the state cannot require that teachers already in the field take courses designed to make them more effective in teaching the handicapped. However, these teachers are encouraged to work with special educators, but what occurs usually depends on the programs offered at the individual school site. In addition, every university has its own system for introducing courses and any modifications of curriculum. Thus, specialized courses are difficult to initiate at the college and university levels.

In-service activities are provided to vocational educators statewide. This program costs in excess of $700,000 annually. Approximately 70% of these funds are directed toward professional development and 30% of them are directed toward occupational development. Teachers are not required to participate in in-service activities because of their involvement at the local level with collective bargaining. Thus, in-service activities that are conducted are given in a motivating fashion.

Some state staff have indicated that if the state goes to a statewide salary system, with a statewide contract, some provision may be included that would provide for upgrading through in-service course requirements. This might include a provision that would require ten semester credits per year for priorities of instruction indicated six months prior to commencement of in-service instruction. Evaluation would include an indication of improvement measured by the affects students experienced, as well as by positive changes indicated thfough pre and post-testing of teachers. (Competency based curriculum could provide a measure of effectiveness.)

State level educators from the Chancellor's Office funded a program identified as "Organization for Direction and Coordination of Occupational Education" (ODCOE). The purpose of this project was to identify competencies a vocational educator needs over and above other types of educators. Knowing these competencies, they would be able to set priorities and provide in-service training in the areas identified. This study was completed in 1978. The results have been given to teacher training institutions which are interested in pursuing an in-service endeavor directed toward such competencies.

The State Department of Education, in conjunction with the California Community Colleges, has identified 1978-1979 priorities for program improvement. A few of these are listed as follows:[53]

Research - devise strategies for strengthening rural vocational programs.

Curriculum development - develop new curriculum

designs and instructional strategies for identified new and emerging occupations in business education.

Vocational guidance and counseling - in-service for vocational counselors to develop greater competencies in planning, implementing, and evaluating effective programs that are relevant to the world of work.

Personnel training - provide leadership training for department chairpersons, state staff, and local vocational coordinators, directors, and deans; inservice for teachers and advisors regarding youth organization management; inservice for teachers and administrators regarding vocational operations, standards, and CETA; inservice for experience coordinators and allied personnel on rules and regulations; inservice for state and LEA administrators regarding evaluation and review processes.

Sex equity - determine nature of vocational enrollments in terms of sex and racial balance; devise strategies to overcome deficiences; develop strategies to recruit and retrain students in non-traditional programs, and to assure program completion and job placement.

Disadvantaged - conduct inservice to effectively teach and provide services for disadvantaged and limited English-speaking

Handicapped - conduct inservice to effectively teach and provide services for the handicapped.

Program

Vocational programs are discussed in the section that follows. It addresses the types of programs, related enrollment figures, and special needs components and provisions. References are also made to placement follow-up of program trained students.

Program Types and Enrollments.[54] During the fiscal year ending July 30, 1976 California reported the following numbers of enrollees and completers in the service areas indicated. In interpreting the data presented it must be realized that the number of completers will be markedly less than the numbers of enrollees since these individuals may be in programs from periods of several months to several years. California offers approximately 12,000 vocational education programs in over 1,000 participating schools.

In the area of agriculture, 56,125 students were enrolled in secondary vocational programs and 23,094 were enrolled in postsecondary programs. A total of 18,841 students completed agriculture programs including regular, preparatory, supplemental, and cooperative programs.

In distributive education programs 26,680 students were at the secondary level and 86,043 at the postsecondary level. Completers in this area including regular, preparatory, and cooperative programs were 35,371 students.

The area of health occupations showed 11,192 enrollees in secondary programs and 43,400 in postsecondary programs. Completing their programs were 31,612 students in regular, preparatory, supple,ental, and cooperative programs.

Consumer homemaking programs had 199,963 students enrolled in secondary programs and 25,079 in postsecondary programs. Completers included 60,076 students from regular, preparatory, supplemental, and twelve cooperative programs.

In the area of occupational homemaking, 21,294 students were enrolled in secondary programs and 28,799 in postsecondary programs. Some 15,310 students from regular, preparatory, supplemental, cooperative, and six apprentice programs completed occupational homemaking.

The area of office and business showed the largest enrollments and completers. At the secondary level 248,902 students were enrolled while at the postsecondary level 205,902 students were enrolled. Some 146,366 students from regular, preparatory, supplemental, cooperative and 120 apprentice programs completed office and business programs.

The least number of enrollees was recorded in the technical area. Enrolled at the secondary level were 1,535 students and at the postsecondary 75,042 students. Completing regular, preparatory, supplemental, apprentice and cooperative programs were 19,501 students.

Heavy enrollments were recorded in the trade and industry programs. Secondary students recorded numbered 142,074 and postsecondary students numbered 145,847. Total completers from regular, preparatory, supplemental, apprenticeship and cooperative programs were 108,213.

Total students enrolled in regular secondary programs were 707,765 while regular postsecondary enrollments were 632,351.

Completers at both levels including regular, preparatory, supplemental, apprenticeship and cooperative programs were 425,290.

Estimated enrollments by racial ethnic group totaled 1,780,256 of which 1,237,278 were white, not of Hispanic origin. Enrollees representing other racial ethnic groups were 8,901 American Indian or Alaskan Native, 178,026 Black, not of Hispanic origin, 53,408 Asian or Pacific Islands and 302,643 Hispanic.

Special Needs Components and Provisions. The Educational Amendments of 1976 focused attention on serving special needs groups and women in vocational education. The paragraphs that follow provide an overview of California's attempts to provide programs and additional services to the handicapped, the disadvantaged, minority groups, persons of limited English-speaking ability and women. The identification of the handicapped, disadvantaged, and women (including the displaced homemaker who may be male or female) has been a problem for persons responsible for evaluation and program activities in both a physical and definitional sense.

California does not provide programs just for women. The effectiveness of programs and whether programs fit the needs of women will be determined in the general evaluation effort. State staff members will be reviewing data to see if women from various ethnic groups are being served equally well. They are looking at present enrollment data to see if there is a reversal of trends within program offerings. While the choice of entering a vocational program is up to the individual, state staff are checking to see that Title IX provisions are being followed. They are encouraging women to take remedial courses for non-traditional programs in which women traditionally have not received prerequisite preparation.

Awareness efforts have occurred this year and will continue next year. Special emphasis in the coming year will be placed on awareness efforts directed at educational administrators so they can acquire a better knowledge of the women's equity problem. Sex equity staff plan to review 25% of the districts per year for the next four year period. They are also presently funding projects that will allow women's groups to work with directors of vocational education as they attempt to follow the guidelines pertaining to the ten functions regarding women in the Educational Amendments of 1976. California has been given special funds to identify and evaluate programs for the displaced homemaker.

Community colleges are working in a joint effort with the Department of Education. They are presently conducting the "Vocational Education Equity Project" funded for $172,000 which is

essentially an awareness program. This project has a director and seven private coordinators who oversee seven different areas for community colleges and ten areas for secondary schools for vocational education personnel. Participants in the project will learn how to comply with the sex equity program as designated in the Educational Amendments of 1976. It is believed that vocational education training at the community college level assists women in obtaining higher paying jobs and apprenticeships.

Support services to women are needed at the community college level, particularly as this relates to recruiting, placement and child care centers. Yet, federal legislation does not provide funds to support this kind of effort. (Community colleges will not enter into cooperative education agreements with any business or industry that refuse to place women in non-traditional occupations.)

It was indicated that data need to be collected on the number of female program categories, on the number of females in administration and on hiring and firing, resignations, and promotions within the educational system.

Under the California Search and Serve Program, districts must identify every handicapped person in the school system. This is the responsibility of the Special Education Division within the Department of Education. Persons having responsibility for vocational education participate in developing the vocational component of the handicapped person's IEP.

Students are placed in vocational education on the basis of assessments made and contents of their record on file as part of their school history. Skill testing or assessment varies from school district to school district. Normally, commercial assessment instruments are used. The school record indicates conditions of health and such things as endurance while the other assessment instruments indicate practical skills a student is able to perform. Vocational education for the handicapped is based on the concept of slowly building on each previously learned skill in small increments. For instance, if the handicapped person's goal is to become an auto mechanic, he or she may begin with a course called "New Car Preparation" in which he or she learns some simple skills such as car washing, pumping gasoline, etc.

Enrollment data involving handicapped groups are collected by the Special Education Division. These statistics are a matter of record in their office. No follow-up data exist in the Division of Vocational Education concerning the handicapped. However, this is a forthcoming effort of Follow-up of Students and Employers (FUSE).

The "FIVE-H Project" commenced the fall of 1978. This project was funded for $163,000 to provide professional development for persons having responsibility for vocational education for the handicapped. The project is a joint venture of the State Department of Education, the California Community Colleges, and the UCLA extension.

Follow-up information and the lack of matching funds are cited as problem areas pertaining to the vocational education of the handicapped. In addition, records from the secondary system have not been transferred to the postsecondary system. Therefore, the postsecondary system must reassess handicapped students upon entrance. Lack of such information also makes planning difficult within the community college system.

At each of the community colleges, there is a specialist bearing the label "enabler" in charge of services for handicapped students. Presently, California is serving 36,000 disabled students. Identification of these persons occurs during and immediately after registration. Students either ask for assistance or indicate a disability at registration. Such individuals are contacted by community college personnel so they may be served effectively. Community colleges make the availability of programs known to disabled individuals through outreach programs delivered by means of radio, television, newspapers, visits to "feeder" schools. The Purple Heart group in California also participates in awareness efforts for the handicapped. This group seeks out handicapped in the community and does physical and mental aptitude tests. On the basis of these tests, they make recommendations to an "enabler" at the community college, who in turn is able to supply them with an appropriate group. It should be noted that these programs are not limited to vocational education. Vocational rehabilitation and the employment development department also refer handicapped individuals to the community college system. The General Aptitude Test Battery (GATB) is used as the assessment instrument by both agencies. The vocational rehabilitation agency also used the Singer-Graflex System.

California may be unique in that it has a handicapped fund which was passed through two houses, seven committees and two floors to become mandated legislation calling for inter-agency coordination. This piece of legislation was antecedent to the 504 federal regulations. Due to the special state legislation, a cooperative effort between rehabilitation and vocational education occurred.

Handicapped are provided special services by the community colleges. For instance, if a handicapped individual were hospitalized for some reason while enrolled at a community college,

the community college would serve them in the hospital so that him or her can take finals to complete the programs. The college philosophy is to help them succeed and to retain the gains they have made. It should be noted that one of the highest cost factors is remediation of the handicapped who have not received the benefits of special education prior to enrollment. It was thought by certain state personnel that some of this remediation would be unnecessary at the community college level if they knew the number of students to expect from the K-12 system.

The community colleges are concentrating on mainstreaming disabled individuals. However, they do provide one-to-one instruction until the disabled person is ready to shift into a situation where group efforts can occur successfully. Nevertheless, tutorial situations are provided where indicated.

California is attempting to serve those individuals who may be labeled as disadvantaged, minority, and of limited English-speaking ability. Many of these individuals are presently living at a low economic level. Vocational education will be made available as a method of improving the economic condition of members of these groups.

At the present time, there is a precise methodology set forth for the identification of disadvantaged students. According to P.L. 94-482 economically disadvantaged includes those persons who are receiving federal allocation for support of one kind or another, and those that are behind in their academic achievement level.

Part of the philosophy in California is that vocational programs are not reaching these special population groups because they do not feel themselves, that they are accepted by society. Vocational educators need, therefore, to dwell on individual needs rather than on teaching skills according to some state personnel.

It is believed that evaluation efforts underway, subsequent to the Educational Amendments of 1976, will help to determine areas of need for both regular and special needs students. Inequities in the delivery of vocational education may appear and areas of need may be identified. Pursuant to these identified needs there will be a call for the development of in-service programs so that administrators and instructors will become aware of the differences between the special needs groups, noting that there are cultural differences. What is perhaps most necessary are successful program models that have been proven in the field.

Placement and follow-up. California is awaiting final federal specifications from VEDS, with regard to such matters as sampling procedures, before it implements its Follow-up of Students and Employers (FUSE). This system will collect data on 25% of vocational education completers and leavers and their employers on an individualized basis over the next four years. In addition to numerical data, this system will supply information about selected characteristics of the program and the students themselves.

Prior to this effort, the state has reported numerical data about the status of completers and leavers. The Federal Report Form 346-4 for FY 1976 indicated the following information: at the secondary level, there were 199,478 completers of programs and 10,601 students who left prior to the completion of their programs; the status of 53,824 was unknown while 48,810 had gone on to higher education pursuits; available for placement were 94,527 while 61,728 were not available for placement; unemployed were 13,610; and 45,435 were placed in full-time jobs for which they were trained.[55]

At the postsecondary level, 106,556 students completed their vocational education programs, while 55,885 left prior to completion with marked skills. The status of 53,870 was unknown. Not available for placement were 15,892 while 92,679 were available for placement. Employed full-time in an occupation for which they were trained were 63,616 students. Unemployed were 6,661.[56]

Both levels served the handicapped and disadvantaged populations. Handicapped completers numbered 6,837 and disadvantaged numbered 26,564. Leaving their programs before completion were 941 handicapped and 9,869 disadvantaged persons. In the state's unknown category were 2,841 handicapped and 14,885 disadvantaged individuals. Some 1,896 handicapped and 9,538 disadvantaged were available for placement. Continuing in higher education pursuits were 908 handicapped and 3,692 disadvantaged students. Employed were 1,476 handicapped and 8,188 disadvantaged while 577 handicapped and 2,082 remained unemployed.[57]

Vocational/Technical Education Evaluation

This section presents the vocational evaluation system of California which includes its history, present organizational set-up, roles and responsibilities. This section also focuses on the state accomplishments and needs in evaluation as per requirements of the Educational Amendment of 1976 (P.L. 94-482).

History of Vocational Education Evaluation

It was probably the Vocational Amendments of 1963 that gave impetus to evaluation in California. In 1966 the research coordinating unit (RCU) was established. This group collected evaluation summaries that indicated the nature or status of vocational education evaluation across the nation so as to give direction to their efforts in evaluation in California.

Late in 1968, the RCU put out a Request for Proposal (RFP) to determine the status of vocational education in California. The Arthur D. Little, Inc. was given the contract. This resulted in interim reports and a final report in 1970 entitled "A Policy and System Study of California Vocational Education."

About the same time the advisory council for vocational education in California published reports in a number of specific areas. Their priority direction was in planning and evaluation of schools, contributing to the development of the state plan, sign off on the state plan, and recommendations given for state department activities in vocational education.

Participants in this workshop were local directors of vocational education. Thus, it was that twelve functions were identified by approximately seventeen counties in California. One of the functions was evaluation. The state director at the time recognized the great urgency to establish a statewide evaluation system for vocational education.

The twelve function system for management was already conceptualized and became the basis for criteria for the statewide evaluation system. A committee was formed of department heads and consultants who knew about the accreditation system as practiced by the Western Association of Schools and Colleges. It was their conceptualization of this system approach that led to the accreditation model. They hired additional consultants to draft instrumentation for new evaluation system. Thus, it was that the District Review of Vocational Education (DROVE),

a twelve function system of management came to be.

"The Twelve Functions of a Vocational Education Delivery System" was published to be accompanied by a tape-slide presentation entitled "A Delivery System for Vocational Education" that was to be used as an aid for understanding and using the system approach to vocational education delivery system management.

The twelve functions identified in the publication are as follows:[58]

1. Population Needs - providing current and usable information on the populations seeking or needing vocational education.

2. Job Market - providing current and usable information that identifies and projects job market opportunities in the labor market served.

3. Job Performance Requirements - specifying and updating the basis for instruction, the performance requirements (skills and knowledge) of occupations included in vocational education offerings.

4. Program Planning - a long and short term planning designed to provide vocational education offerings meeting the needs of the population and labor market served.

5. Vocational Education Promotion - informing the public of the strengths and merits of vocational educati[illegible]nd target populations of vocational education opportu[illegible] ties and advantages.

6. Student Recruitment - identifying and enrolling in vocational education those students, and potential students, who will profit from such instruction.

7. Curriculum Resources and Ancillary Services - providing resources and services necessary to maintain, expand, and improve appropriate vocational education offerings and to develop new offerings as needs emerge.

8. Guidance and Counseling - assisting individuals to make meaningful and informed occupational choices from the options available and suitable to them.

9. Placement - assisting students desiring employment to become employed in situations which meet their needs and the needs of the employers.

10. Vocational Instruction - providing vocational education offerings which meet the needs of the labor market and the population served.

11. Program Review - reviewing current and proposed vocational education offerings in relation to the total educational program.

12. Evaluation - ongoing and periodic assessment of how well the system is performing in vocational education functions, as a basis for program improvement and management decisions, both locally and at state and national levels.

This twelve function system for management became the basis for the growth of California's secondary vocational education evaluation system. Instrumentation was geared to the twelve functional elements. This system was tested in selected local schools over a period of five years.

In this passage of time, over 100 DROVE reviews were undertaken. Teams were composed of vocational education directors, superintendents and principals. These team reviews became quite popular. It gave these educators opportunities to visit other districts for a period of three to five days. As a result of these reviews recommendations were accepted, changes took place, and it was thought that the educators themselves perceived that they had grown in professional ways.

The DROVE system was criticized because the reviews took place in only 80 districts in a four-year period. In the final three years, arrangements were made for the subject matter bureaus to have area specialists review the teaching aspects of programs. After three years of DROVE, acquiring teams for reviews became unpopular with the districts that were supplying team members because it was costing them money for absent employees. DROVE was paying for the travel expenses but did not cover the salary component for the team members. Public law 94-482 required that the state review all programs in a five year period and that the reviews include school-level services rather than just district management.

With the adoption of the Educational Amendments of 1976, funds were cut drastically making it impossible to continue the DROVE process. It was decided that a new system must be developed that would meet the requirements of the Act and somehow

be financially feasible. Questionnaires would be developed which were aimed at the school program delivery level that would be administered according to a sampling procedure permitted by the Act and available state personnel would manage the verification visits. This is the process in which the state is involved at the present time.

It should be understood that postsecondary vocational education is delivered as part of and within the community college system in California. Therefore, vocational education is not totally delivered under the 12 function system for management since management occurs through two separate but cooperating agencies, namely: The State Department of Education and the Chancellor's Office of the California Community Colleges. It should also be noted that prior to and parallel with the development of DROVE the evaluation efforts known as the Student Accountability Model (SAM) and the California College Occupational Programs Evaluation System (COPES) were developed by the Chancellor's Office.

State Vocational Education Evaluation System

The California Advisory Council on Vocational Education (CACVE) in its 8th Annual Report for fiscal year 1976-77 acknowledged the importance of vocational education evaluation.

> Any large program dealing with social needs and affecting the very core of human lives deserves continued assessment and evaluation to assure development and movement with changing times and needs. The very nature of people-oriented programs dictates such investigation; for example - education - and its integral component vocational education. Vocational education programs collectively and singularly need a flow of feedback information to assure improvement and adjustment to a changing environment.
>
> ...
>
> Evaluation data with a statewide perspective are needed to enable state decision makers to:
>
> - assess the changing and unmet needs of those individuals and communities served by vocational education in California.
>
> - identify changes in trends that would"

require reallocation of fiscal or staff resources

- o channel technical assistance or professional development efforts to address emerging problems

- o provide information to federal, state and local agencies regarding the impact and success of vocational education so as to maintain or increase support.[59]

Due to the recognized need for evaluation and the mandate of Public Law 94-482, California has responded by installing a vocational education evaluation system which is unique to its own situation. The discussion that follows describes this system including its strengths and limitations.

Organizational Roles and Responsibilities (State Department of Education). Responsibility for developing, initiating and coordinating the evaluation system in California lies with the Research and Evaluation Consultant in the Support Services Vocational Education Unit. This individual, with the involvement and assistance of a number of people in the Department and in close coordination with postsecondary evaluation, has established the system described in this section. The major responsibility in the conduct of the vocational education evaluation for secondary programs lies with the Field Operation Section of the Office of Vocational Education. Among other things, the section which has three regional offices, "provides technical assistance to districts to develop plans, collect data, improve program management and accountability, make statistical reports, and perform evaluation."[60] The Field Operations Section works cooperatively with the Office of Program Evaluation Research of the State Department of Education. (see Figure 2.6).

California's system for evaluating vocational education at the secondary level includes four major activities: the Program Administrative Reviews (PAR), which provides for documenting efficient administrative practices; the Program Assessment - Vocational Education (PAVE), which is an evaluation of instructional program effectiveness; the Desk Review and Field Audit (DRA), which reviews accounting procedure; and the Follow-up of Students and Employers (FUSE).

To accomplish the accountability plan, California divided its districts and regional programs into four groups. Each group was designed to be representative of the public agencies which deliver vocational education services in the state. It was thought that "by gathering administrative, vocational

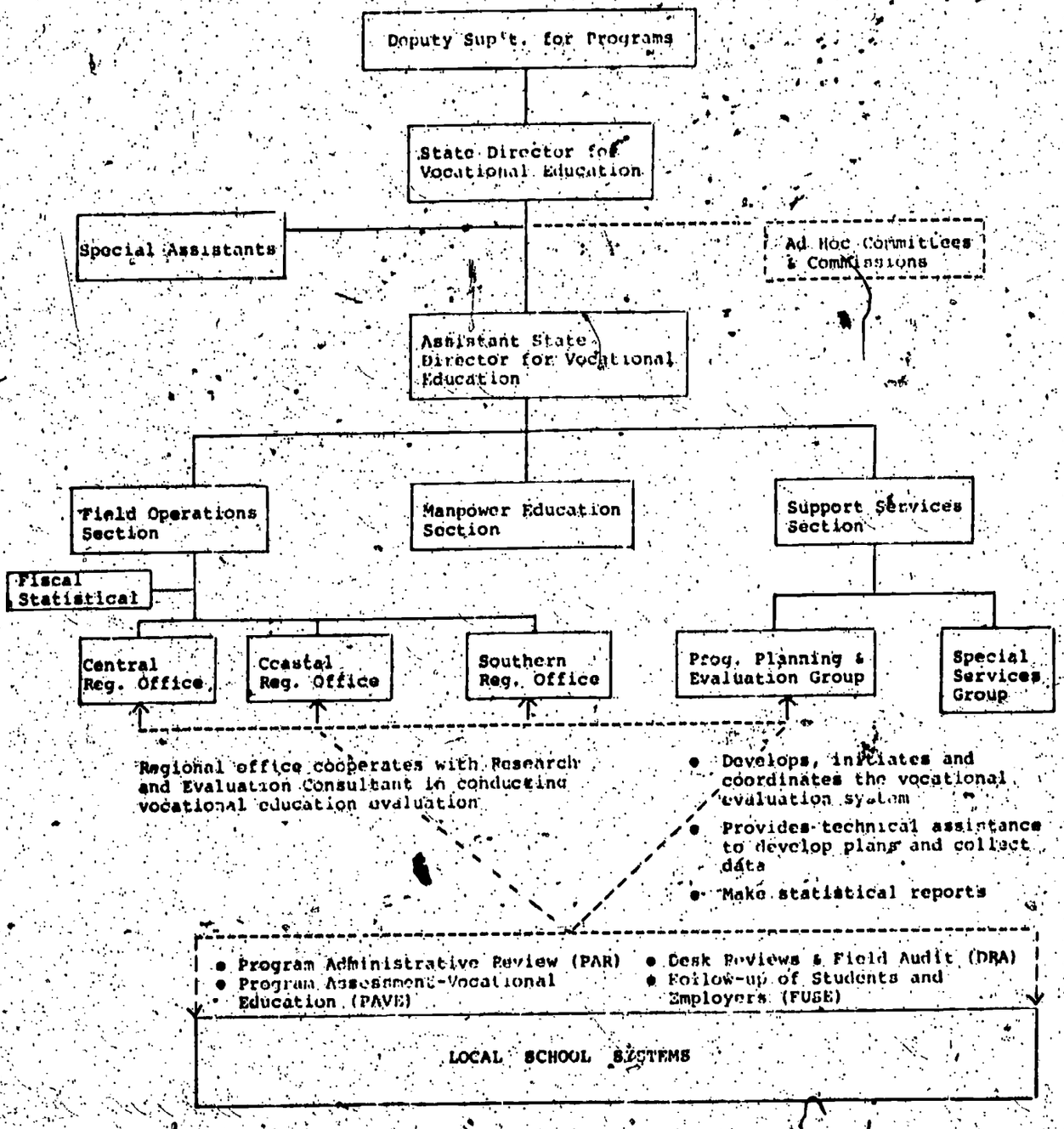


Figure 2.6 Organizational chart of the vocational education unit indicating the secondary education evaluation functions

instruction program, accounting, or student follow-up information from any one of the four sample groups in any one year, accurate estimates can be made about how all of the districts and ROC/Ps stand on all areas of inquiry." [61]

Program Administrative Review [62] was designed to insure that each administrative unit -- school district or regional occupational program administration -- ~~is taking~~ those measures necessary for the proper administration of vocational education funds. PAR is applied at the central administrative level, that is, the school district or regional occupational program central administrative office. PAR attempts to help vocational education coordinators and other administrators understand the laws and regulations under which they operate.

PAR serves the dual purpose of informing instructional service agencies of their administrative obligations and of providing a means for helping them to devise methods for supplying the documentation and records necessary to satisfy audit requirements.

Each school district and regional occupational unit in the PAR Sample is visited by a state consultant. Using a comprehensive interview and observation schedule, the consultant determines how well the local agency is meeting the requirements for record keeping and fiscal administration. Ways for improving district administrative practices are suggested and a written report of recommendations is made to each agency. Subsequent follow-up to determine the courses of action that agencies have adopted in response to recommendations and their effectiveness is made. A final letter of agency PAR status is sent after the follow-up.

Program Assessment - Vocational Education [63] describes and determines the effectiveness of the educational process for each instructional program. Each year one of the four groups is involved in this process.

The first part consists of obtaining evaluation information from each program. Each program in each school or regional occupational unit responds to a questionnaire. The questionnaires are sent through the regular school or regional program distribution system. Those completing the questionnaires are requested to consult and/or solicit the help of teachers who provide the program instruction. Questionnaires are assembled by each district and regional occupational unit and mailed to the appropriate Department of Education Vocational Regional Office. A questionnaire is required from a specific program once in a four-year period.

The second part of PAVE consists of a visit by program area specialists in agriculture, office, distributive, consumer and homemaking, occupational related homemaking, industrial, health, industrial arts, and work experience education. These specialists verify and amplify the program reports by observing facilities and services and by questioning students, teachers, counselors, and administrators.

Area specialist visits are designed to cause the least disruption possible to instructional programs, but it is necessary to talk to individual instructors and counselors and to obtain brief questionnaire responses from students.

The program area specialists summarize their observations in oral and written reports which are delivered to the school or regional unit to help local personnel in making instructional program improvement.

Desk Audits and Field Review[64] requires that all participating administrative units submit selected financial records to the State Department of Education for review. These records include analytical statements of vocational education program expenditures for the disadvantaged, the handicapped, and other target groups.

In the event that difficulties are encountered in understanding the records, a state representative calls on the district or regional program office and completes his or her work there.

In addition, DRA includes an onsite review of the financial records of a small sample of public educational institutions receiving financial assistance under Public Law 94-482. These sample reviews are performed by an independent outside contract agency.

Desk reviews and field audit activities are scheduled in advance and involved institutions are informed of their involvement ahead of time to assemble and present required records.

When recordkeeping discrepancies or irregularities are found, every effort is made to confer with the institution on ways of correcting or overcoming the problems.

Follow-up of Students and Employers (FUSE)[65] provides for a questionnaire survey of former vocational education students (completers and leavers) which results in information for the participating district or regional occupational program to help them justify and improve their programs and for annual reports to the national Vocational Education Data System.

Prior to completing vocational education programs, students are informed by their teachers about the follow-up study and encouraged to respond to questionnaires that might be sent out from their schools.

In the one year in four that they participate in FUSE, districts and regional programs prepare rosters of previous year participants which contain the necessary address and telephone locator information for sending questionnaires. The roster matches the previous year's statistical report of student completers and leavers by program. (VE 48 for districts, and the equivalent for regional occupational programs.)

The materials needed to conduct the survey (questionnaires and master cover letters) are prepared by the state and forwarded to the participating units. The units conduct two mailings two weeks apart.

The district or regional occupational program responsibility is completed by a brief sample survey by telephone of some of those not responding to the mailed questionnaires.)

Questionnaires and telephone survey forms are analyzed by the district or regional program office and a summary report is sent to the state.

Districts will conduct an employer survey of those employers identified in the student questionnaires. Questionnaires (furnished by the state) will be mailed and a mailed out follow-up to non respondents after a two-week period will be completed. Results will be analyzed by the local unit and a summary report sent to the state.

Organizational Roles and Responsibilities (Postsecondary Vocational Education Evaluation). At the postsecondary level, the leadership role of conducting vocational evaluation lies with the Office of Program Approval and Evaluation Unit. Through its Evaluation Specialist, it provides technical assistance in evaluation to community colleges. The office also works cooperatively with the Program Improvement office especially in terms of financial support to some of its projects on evaluation research. Additionally, the evaluation activities are conducted in conjunction with the Chancellor's Office Information System (see Figure 2.7).

Basically, two methods are employed by community colleges to evaluate vocational education programs. These are: the Community College Occupational Programs Evaluation System (COPES) and the Student Accounting Model (SAM). Additionally, the Program Administration Review (PAR) instrumentation developed

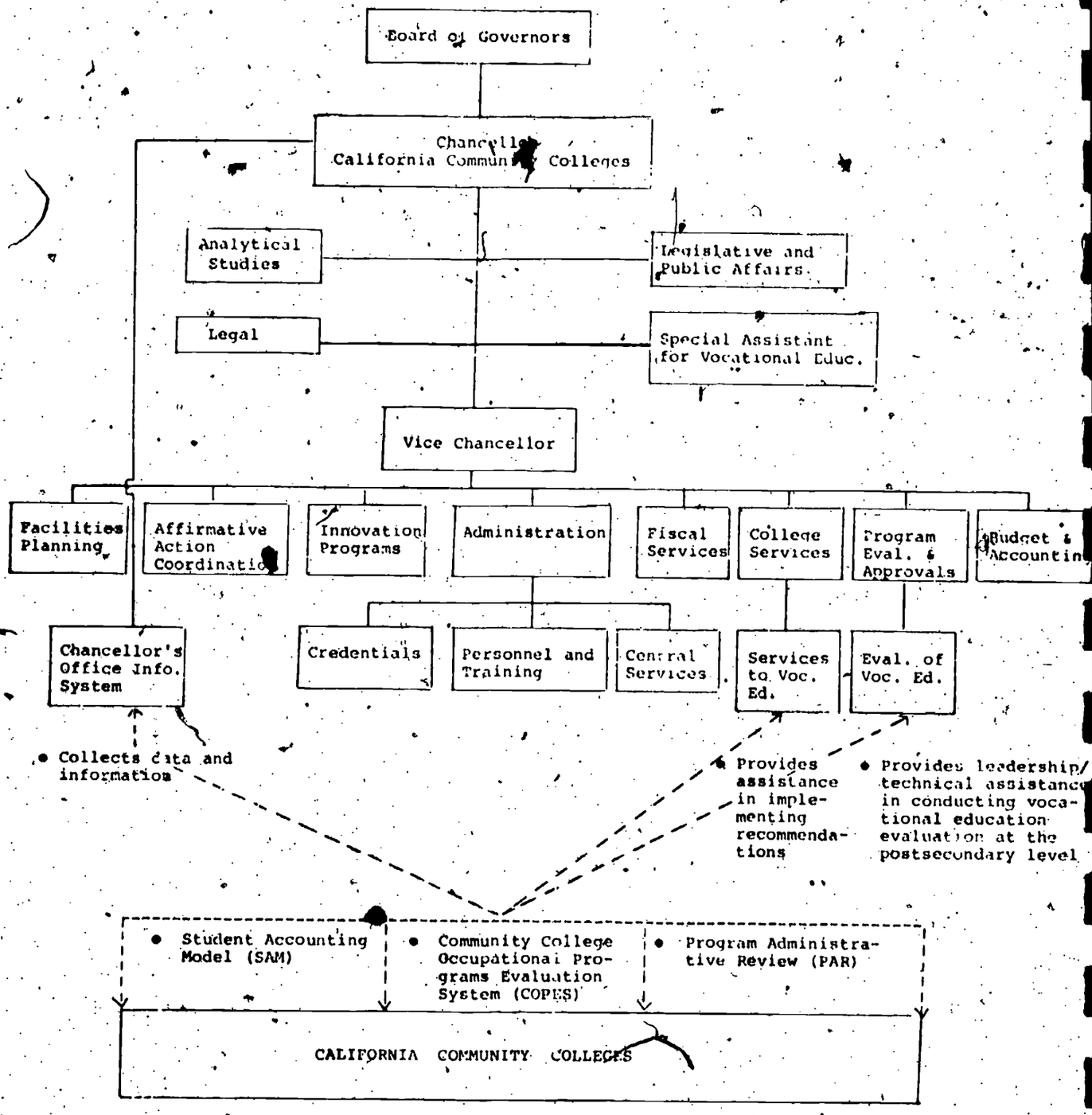


Figure 2.7 Organizational chart of the California community colleges indicating the postsecondary vocational education evaluation functions

by the secondary system will be used to address compliance of college programs.

COPES was established in 1971 as a cooperative undertaking of community college leaders and the Chancellor's Office of the California Community Colleges. Since then the system has been applied at a minority of all of the community colleges of the state. The basic goal of COPES is to "improve the quality and availability of occupational education in California community colleges."[66] The system has been modified to reflect the quantitative requirements of Sec. 112 of Vocational Education legislation of 1976. Plans for the validation process of COPES have been severely curtailed due to fiscal limitations imposed as a result of Proposition 13.

SAM is a "system of procedures (or model) constructed for the purpose of improving occupational student follow-up in California community colleges."[67] The model has been sponsored by the Chancellor's Office and developed by a consortium of twelve leaders in California Community Colleges. A fundamental component of the model is to have "uniform methods for classifying courses and identifying occupational majors so that non-continuing students could be categorized for various approaches to follow-up".[68]

Capabilities and Limitations

Problems identified in the California evaluation system are discussed in detail in a later section of this chapter. Those problems are, of course, closely related to limitations in the system. This section contains some observations of the project team as to some more general features of the evaluation system and the environment in which it operates. These observations are based upon experience and comparisons with situations in other states. Thus, what appears in this section should be taken as impressions of the project staff.

1. An excellent relationship exists between the coordinators of evaluation at the secondary and postsecondary levels.

2. The secondary plan for evaluation, if fully supported and completely implemented, could provide very useful information on program quality, achievement, and needs.

3. The Community College vocational evaluation system is continuing to build on a strong base of program analysis.

4. The evaluation systems should concentrate on determining the outcomes of vocational education. Process should be reviewed in light of these outcomes and as clues to needed improvements.

5. Commitment to evaluation as a vehicle for program improvement and a data source for decision making should be expressed at the top administrative level.

6. The State should continue to plan and work toward an evaluation system which can yield uniform, reliable, comparable data on a statewide basis for all secondary and postsecondary vocational education programs.

7. Size of the state and complexity of the educational system coupled with local school autonomy and limitations of resources make evaluation very difficult. Viewed another way, the need for evaluative information to guide administrative decisions and program assistance presents a critical challenge to evaluators and administrators at the state level and to teachers and administrators in local schools.

Problems, Alternative Solutions, Solutions, Results

Introduction

The secondary evaluation system in California is responsible for 1) describing the status of the program delivery system and 2) providing information on sources of support or information on problems. This description of status could lead to the setting of some state priorities for assistance to programs. The focus of evaluation in the California Community College system is on effectiveness of the local community college delivery system. In the past the state has provided incentive projects for addressing major needs identified by the evaluation system.

There is presently no statewide agreement on outcomes to be achieved by programs and this is not likely to done in the foreseeable future. While local programs or institutions may establish some desired outcomes such as placement, competency achievement, etc. these are not considered to be common enough to be used in evaluation. This leaves only a review of the process as the basis for evaluation. Employer and student follow-up information will provide some other opinions as to quality of program with the judgment of whether or not placement or other data are at an acceptable level being a local decision.

In light of the autonomy of local schools and the decision that the evaluation system should only describe what is, the following problems and alternative solutions appear to be applicable. Each of the problems discussed has been identified by state staff as being important in providing evaluation services with limited resources.

Not all of the alternatives are recommended for the state. Many of those mentioned are possibilities that might be considered and rejected because of the disadvantages listed or other disadvantages. Some of the items listed as disadvantages may in fact be difficulties which could if sufficient time and resources were applied be advantageous.

Problem 1: Collection of data in the most efficient manner.

Explanation: The evaluation system has responsibility for collecting and analyzing follow-up data and information on vocational completers and leavers and employer follow-up. The amount of data involved in this process in California makes it imperative that the most efficient methods be used to collect and analyze information.

Selecting the guide that states may use in deciding what data to collect and determining the most efficient method of collection are two questions the state must attempt to answer. Consideration must be given to the uses which will be made of the information. If data needs can be correlated between organizational units and if duplication of effort can be eliminated, greater efficiency can be achieved.

Vocational education needs to begin to establish some objective measure of quality beyond purely descriptive data. Surely there must be some generally acceptable outcomes which can be applied to programs providing training in the same instructional area. Can some agreement be reached by auto mechanics teachers, employers and others as to what constitutes success in terms of competencies, job placement, and other characteristics?

If at some time in the future a system of measuring outcome objectives should be initiated, this would provide guides as to the data needed. Individuals representative of all affected institutions should be involved in specifying the outcomes to be required and the data necessary to determine the extent of achievement of each objective. In this way, evaluation and the information system would be working in conjunction on data collection. The role of the State Occupational Information Coordinating Committee (SOICC) is yet to be established and tested.

Alternative 1: Collect only essential data (planning, describing programs, reporting).

Advantages:

- o The amount of data collected will be reduced to a minimum.
- o Causes planners, evaluators, and administrators to decide what is really important.
- o Indicates to schools what is important.

Disadvantages:

- o Nice to know information will be eliminated.
- o Future data needs may exceed present planning.
- o There may be some questions important to some groups or individuals which could not be answered.

Alternative 2: Collect only data related to established outcome objectives.

Advantages:

- o States could identify programs that are not achieving outcomes.
- o Local teachers and administrators would be caused to think in terms of outcomes.
- o Expectations for vocational education would be clearly identified.

Disadvantages:

- o Agreement on outcome objectives required.
- o Agreement on data to measure outcomes required.
- o Follow-up of students and employers would be required if student outcomes are included.

Alternative 3: Investigate and use advanced sampling procedures.

Advantages:

- o System would allow for oversampling on groups with anticipated low respondence rates.
- o Amount of data to be collected and handled would be reduced.
- o Data could be projected to the total population within a reasonable margin of error.
- o Information by instructional program area and by school district would be provided.
- o Cost would be lower.

Disadvantages:

- o Information in individual local programs would not be provided by this method.
- o This alternative could be used for follow-up but not for enrollment data.

Alternative 4: Make disbursement of funds dependent on receipt of data.

Advantages:

- o Teachers and schools would be more responsive.
- o Responsibility for data collection would be on local administrator.
- o Provision of data could be a part of teacher's contract.

Disadvantages:

- o Some legal problems might be experienced in this alternative.
- o An extensive record system in the state office would be required.

Alternative 5: Make student and employer follow-up a responsibility of the local school.

Advantages:

- o Schools would be more likely to make use of the data they have collected themselves.
- o Local schools are closer to the data source and have better contact with students.
- o Data load on the state would be reduced.

Disadvantages:

- o Direction, instrumentation, and training by state would be required.
- o Cooperation or control of local schools would be necessary.

- This would take time away from preparation for teachers.

- Third party effect would be lost.

Choice - Results

Size, complexity and teacher negotiations in California greatly complicate the problems of data collection. There is a danger of oversimplification by those viewing the situation from outside or from other than a personal concern. The Vocational Education Data System (VEDS) requirements further complicate the problem.

Certain givens seem to be present which dictate what the minimums in data collection must be. An individual student accounting system which identifies each student in some detail seems to be a necessity. The school or state agency should know each student's age, sex, program, ethnic classification, membership in special groups, and future contact point. This can best be collected at time of enrollment or during training. The school or state agency must also be able to follow-up all or a sample of its completers and leavers. Reaction of employers to the training received by the student is also required.

California is presently requiring the local school to keep enrollment data on each student in vocational education. One-forth of the schools will follow-up completers and leavers each year and will report this information to the state vocational department (Alternative 1 and 5 with some modifications).

Some of the instruments presently being used in evaluation collect information relating to compliance. While this is not directly related to evaluation of programs, it is information needed for compliance and accountability. This should be recognized when effort and data collection by the evaluation unit is considered.

Vocational education should be exploring how best to use what is known about the collection of information to lighten the data burden and improve the quality of information. The California evaluation system is involving many people in identifying evaluation data and information needs. They are continuing to explore alternatives and needs toward increasing effectiveness in the information area.

Problem 2: Targeting the evaluation system.

Explanation: A question asked in connection with increasing the efficiency of the evaluation is "Are we targeting on the right audience? Are we asking the right people the right questions?" Evaluation information must be able to describe the services and determine program effectiveness for a specific set of individuals and identify ways programs need to change in order to increase effectiveness. This set of individuals may be all students participating in a program or some special group. Program description and effectiveness for regular students may carry with it a different set of questions other than those concerns about program description and quality for special needs populations. It is incumbent upon evaluators to be able to specify the student target and the means of determining services and effectiveness.

Alternative 1: One evaluation to determine effectiveness for all participants--regular and special.

Advantages:

- Would require less effort than separate evaluation.
- Mutual benefits and some comparable information for all groups would be provided.
- Will help to reduce "separateness" of special groups.

Disadvantages:

- Different groups may have different objectives.
- This alternative may mean evaluation for one group will outweigh others.
- Requirements of regular evaluation system would be increased.

Alternative 2: Separate evaluations for each special group.

Advantages:

- Concentrated effort in evaluations for certain groups would be possible.
- The state can direct its evaluation to reflect special emphasis.

- More diverse input in evaluation would be possible.

Disadvantages:

- "Separateness" of special groups might result.
- Communication between groups would be reduced.
- This system would require many more evaluation instruments.

Alternative 3: Assure targeting by relating questions to outcomes. If there are different outcomes expected for each group, evaluation could concentrate on achievement of designated outcomes.

Advantages:

- Process questions unless directly related to outcomes would be eliminated.
- Importance of outcomes to local schools/programs would be emphasized.

Disadvantages:

- Additional information on poor programs would be needed before recommendations for changes could be made.
- Agreement on outcomes would be necessary.

Alternative 4: Attempt to gather process and outcome information and data.

Advantages:

- Information for compliance and accountability reports would be provided.
- Researchable information on relating outcomes and processes could be available.

Disadvantages:

- Massive data gathering by state and reporting by locals would be required.
- Some information collected might have little or no relation to program quality.

Choice - Results

The decision has been made to target one evaluation effort at all groups to be served by programs. Thus, one evaluation will be aimed at describing both regular students and special needs students being served and services provided.

National Center project staff provided a series of questions relating to each of the special needs groups. Selections of these questions or others identified within the state can be incorporated into regular evaluation instruments to collect information needed on special groups.

Instruments in use will collect descriptive information. This information is required for compliance and for the accountability report. Administration and local schools should recognize that the evaluation system is providing this additional service.

Problem 3: Determining the effectiveness of the evaluation system.

Explanation: Administrators and evaluators at both the secondary and postsecondary levels have requested an assessment of their evaluation system. Those persons on state staff have expressed a desire to have the National Center project staff do a critique and evaluation of their system. Concern has been expressed that information be given on (1) the extent to which the present system meets the federal requirements, (2) the extent to which the present system is meeting state and local needs for program improvement, and (3) recommendations for improvement.

Those in administration and those in evaluation seem genuinely interested in improving the evaluation system and the request for an assessment appears to stem from that interest in improvement. Administrators are understandably anxious about compliance while evaluators naturally are concerned with the complexities of making their plans operational. Alternatives being considered are the following:

Alternative 1: National Center project staff evaluate state evaluation system.

Advantages:

- This is what was requested by state administration.
- This would provide an opportunity for project staff to get increased experience in evaluation.

- Some improvements might result.
- Procedures used could possibly serve as a guide for evaluation of other state's evaluation systems.

Disadvantages:

- The scope of work of the project does not include this activity.
- Having project staff serve as provider of assistance and evaluator is not compatible.
- State needs a continuing system, not one dependent on this project.

Alternative 2: Project staff in conjunction with state staff develop a system for self analysis of strengths and weaknesses of evaluation system.

Advantages:

- State could continue to improve and use this system.
- State input as well as technical assistance would be available in developing the system.
- A long range plan for evaluation improvement could be developed.

Disadvantages:

- This alternative would require time and effort of both project staff and state staff.
- Information on effectiveness of evaluation would not be available this year.
- Provisions would have to be made for a very objective procedure to avoid dangers of self interest.

Alternative 3: Base evaluation on judgment of users (State Legislature, State agency management, State Advisory Council, local schools).

Advantages:

- Usefulness to users would be primary criteria.

- o People who make the decisions about vocational education and evaluation would be involved.
- o Feedback on changes needed in evaluation system would be provided.

Disadvantages:

- o Each of these users may have different needs.
- o It may be difficult to anticipate needs in advance.

Choice - Results

No final decision has been made on a method for evaluating the evaluation system. National Center project staff recommend that alternative 3, evaluation by users, be strongly considered. A survey of these user groups could provide a checklist of expectations against which to judge evaluation efforts. Project staff in conference with administrators of state education agencies identified the following items as being important in evaluation:

1. Consider and evaluate based on other benefits of vocational education in addition to placement.
2. The evaluation should go beyond compliance and look at state needs.
3. Evaluation should identify those programs that need help and suggest ways they can improve.
4. The state should develop a solid data system.
5. The data along with evaluation should be used as a basis for allocation of funds.
6. Evaluation should produce evidence that dollars spent in vocational education produced more payoff than dollars spent elsewhere. Payoff in terms of training for jobs and making people employable should be reported.
7. Evaluation should provide solid evidence that vocational education makes a difference in jobs, pay, and upward mobility.
8. Evaluation should provide evidence to use in eliminating or redirecting programs.

9. Evaluation should describe program results in terms of placement.

10. Evaluation should determine competencies achieved by students.

11. Evaluation should determine how well teachers are doing in terms of student reactions, updating of course materials, contact with industry and what students do with their training.

While these expectations are certainly challenging, and perhaps in some instance unrealistic, with the requirements of the other users added, this could provide an idealistic yardstick against which to measure the evaluation system.

Consideration is also being given to alternative 2--the development of criteria and procedures for state analysis of the evaluation system. Early thinking is centering on the specification of the essential characteristics of an effective evaluation system. The project staff has completed the preliminary work on identifying these essential characteristics. This included the input of other evaluation specialists at the National Center, state directors, and state evaluation specialists. State input and acceptance of these characteristics is yet to be secured.

The next phase of the development of this evaluation analysis procedure will be to develop measures for each of these characteristics. When these measures have been reviewed, revised and accepted, the state can proceed to gather data which, when used to measure the level of effectiveness of system characteristics, can give the state a profile which will indicate the strengths and areas needing improvement of the evaluation system. This is a long range effort which would require extensive effort but one which, when perfected, should be usable to many states.

Problem 4: Coordination between secondary and postsecondary evaluation system.

Explanation: In assuring efficiency and effectiveness of the evaluation system, it is essential that there is close coordination between the secondary and postsecondary work. Many will agree with this assertion; however the difficulty comes when practical implementation of this concept is attempted. An important point to keep in mind is that systems and organizational units do not coordination and cooperate - people do. If good working relationships are established, it is because

people have made the effort and adjustments necessary in any such situation. As a minimum the data elements and definitions should be comparable and effectiveness of programs should be mutually defined.

NOTE: Based on observation, the project team must make mention of the fact that an outstanding example of coordination and cooperation and exchange of information and ideas exists between individuals responsible for evaluation at the secondary and postsecondary levels in California.

Some of the choices for making the two systems mutually supportive are listed below:

Alternative 1: Systems completely integrated.

Advantages:

- o Everyone would be using same instruments, data, and procedures.
- o Complete comparability of data.
- o Cooperative analysis and reporting.
- o Stimulates integration of other parts of educational effort.

Disadvantages:

- o Two systems may be working toward different objectives.
- o Integrated systems do not fit into separate organizational structures.
- o Systems designed to serve different populations under different regulations.

Alternative 2: No coordination, communication, or cooperation between systems.

Advantages:

- o Each system can adjust to its own needs and demands.
- o Eliminates danger of domination of one part by the other.

Disadvantages:

- o Causes duplication of effort.
- o Prevents sharing and learning.
- o Inhibits reporting of total accomplishment of vocational education system.

Alternative 3: Discussion and sharing of all elements of the system.

Advantages:

- o Makes possible mutual planning, development, and reporting.
- o Eliminates duplication of effort.
- o Allows for adjustment to separate organizational demands.

Disadvantages:

- o Requires time and effort on part of staff.
- o Depends on individual initiative and dedication of individuals.
- o Changes in staff can change degree of cooperative effort.

Choice - Results

California is using alternative 3 which includes mutual planning and sharing. This has been in effect for some time. The results are that those individuals involved are aware of what transpires in each operation. This cooperation results in compatible results and reporting which if combined could present the total results of the vocational education effort.

Problem 5: How to do employer follow-up.

Explanation: It is important for decision makers at state and local levels and teachers to know how employers view the adequacy of training of recent vocational completers. This along with a number of inputs provides valuable information on how well programs are reaching student outcome objectives and on changes which need to be made in programs.

This information may be difficult to get. Employers may

feel that this is an infringement on their time and refuse to respond. There may be concerns about the confidentiality of this information in the minds of employers. In larger businesses, the inquiry may go to a person who has no knowledge of this employee. The collection of adequate, reliable data could be very expensive.

In spite of these difficulties, it is important that ways to gather this information be explored. First, the Education Amendments of 1976 mandate that employer reaction to training be used in evaluating programs. Second, this information is valuable in assisting in program improvement. Third, this information is valuable in convincing others of the value of vocational education. Fourth, this survey can be a factor in strengthening relationships between vocational education and the business community.

As a first step if it has not been done it is recommended that evaluation coordinators in the states personally interview a few employers to get their thinking on what needs to be done to get a response. Interviewers should present some alternatives and see which seems to promise the greatest response. The state may want to try several methods the first year to determine what works best for them.

The problems seem to break down into three categories: 1) who should provide the data, 2) how to gather the data and 3) how to avoid confidentiality problems.

Sub-problem 1: Who and how many to collect data from.

Explanation: It is important to be able to contact a person who is familiar with the work of the former student. This would usually mean the immediate supervisor of the individual. In the follow-up to the student, the name of the immediate supervisor or the person most knowledgeable of their work, along with the company name and address could be requested. Contacting this person should assure an informed response if a response is made. As to the size of the sample, at least two alternatives are apparent:

Alternative 1: Contact all employers.

Advantages:

- o Provides information which can be applied at the individual program level.
- o Adequate statewide data would probably be provided.

- Avoids sampling problems.

Disadvantages:

- Tremendous requirement of time, people.
- This could be very expensive.

Alternative 2: Sample to assure representation by program area.

Advantages:

- Requires less resources.
- Provide information by program area (i.e., welding, auto mechanics, etc.)
- Could concentrate on getting adequate response.

Disadvantages:

- Could not provide response to local program level.

Considering the tremendous numbers involved in California, alternative 2 seems to be the only feasible possibility.

Sub-problem 2: How to collect data.

Alternative 1: Mailed questionnaire.

Advantages:

- Least expensive.
- Less interference in business.
- Easiest to analyze.

Disadvantages:

- Less personal.
- Easiest to ignore.

Alternative 2: Personal interview by teachers, supervisors, students.

Advantages:

- o Great learning opportunity.
- o More in-depth information.
- o Personalized system.

Disadvantages:

- o High input of time.
- o Difficult to analyze data.
- o Add another individual bias element.

Choice - Results

It may be necessary that the state go with the questionnaire method just to get the job done the first year. It is recommended that the individual interview system be tested on a limited basis to determine the feasibility of using such a method. If teachers and students could use employer interviewing as a class project this could provide very useful feedback and an educational experience as well.

Sub-problem 3: Confidentiality.

Alternative 1: Provide employee's name to employer but have him remove before returning questionnaire.

Advantages:

- o Employer would be reassured of confidentiality.
- o Response could be coded by program, school and type student.
- o System recommended by VEDS.

Disadvantages:

- o Difficult to recontact non-respondents.

Alternative 2: Get completer's permission to contact employer.

Advantages:

- o Removes questions of confidentiality.

- o Could influence employer to respond.
- o More open method.

Disadvantages:

- o Students might respond negatively.

In testing this method, Maine received a 70% positive response on permission to contact employer from completers who responded. Maine also had an 80% response from all employers contacted. Of course additions vary between states, but the method would appear to be worth testing.

Problem 6: Securing commitment of administration, field staff and local schools to evaluation.

Explanation: Administration and the field staff appear to be committed to evaluation. They still have some questions as to whether the present system is the one which is best for the state. Local schools will have reservations about any activity which requires their time until they are convinced of the benefit to their own school or program. The problem then seems to be one of demonstrating to several interested parties that this evaluation system will meet their expectations of an evaluation system. Suggestions for achieving this is presented in the form of steps.

Step 1: Determine what is expected of an evaluation system.

Steps - 1. Survey state staff on expectations.

2. Survey locals on expectations.

Step 2: Determine extent to which evaluation system is meeting expectations and changes needed.

Steps - 1. Match the list under alternative 1 against observable or predictable outcomes of evaluation.

2. Calculate additional resources needed to meet all reasonable expectations.

3. Identify parts of evaluation not helping to meet expectations.

Step 3: Select changes to be made in system.

Steps - 1. Calculate resources freed by eliminating non-productive parts of system.

2. Ask administration to determine what additional resources can be allocated to achieve what outcomes.

3. Initiate changes.

Choice - Results

Project staff through interviews with administrators have constructed a list of their expectations. This was done by discussing with these individuals a list of possible expectations and having each of the administrators indicate ways in which the evaluation system would contribute to the improvement of vocational education at the classroom, school and state level. (See page this Chapter). This same procedure could be followed with field staff and local vocational educators.

As administrators are asked to provide funds and others are asked to contribute time and effort, this list may be again reduced but in this way it can be determined what the level of commitment is and adjustments can be made. This procedure at least lets those individuals who are involved say what they want and what they are willing to work for and pay for.

California Chapter II

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CHAPTER III

COLORADO CASE STUDY

A synoptic overview of Colorado's historical and contextual background is presented in this chapter since these topics have influenced the delivery of vocational education in this state as described herein. Also presented is a more detailed presentation of the existing education evaluation effort that includes the identification of its problems, alternative solutions, solutions chosen and results.

Contextual Background

Important to the operation of vocational education is the context in which it operates. The following topics report on the vitality of Colorado as a state through a discussion of its history and educational development, general description, economy, governmental structures and general public educational delivery system including the way this system contributes to vocational education through guidance and counseling and career education.

History and Educational Development

Long before the arrival of the white man to the Colorado region, Indians roamed its plains and mountains. Although Indian culture was simple, it influenced Colorado's development. Indian words are still used locally. Indian folk-tales, music and dances have been assimilated into the American culture. Indian foods and works of art contributed to Colorado's image and economy.[1]

Some of the best preserved archeological findings, left by the Pueblo Indians, are the ruins of communal houses. These houses were originally constructed within caves by the Pueblo's predecessors, the Basket Makers, as early as 500 B.C. The ruins are preserved in southwestern Colorado at Mesa Verde National Park and adjacent areas.[2]

Tribal Indian names familiar to the "Western Movie" watcher are those of "Cheyenne" and "Arapahoe." These tribes who roamed the plains region east of the mountains, helped explorers, traders and trappers to find their way across the plains.[3] These Indians knew the streams, natural routes, sources of fresh water and firewood, the areas of natural protection and the feeding groups of the buffalo. Inhabitants of the mountains and plateau regions were the Utes who helped the Anglo-Americans with their knowledge of the terrain.[4]

Francisco de Coronado was the first white man to enter the Colorado region. In search of the Seven Cities of Cibola and treasure, Coronado penetrated the southeastern corner of Colorado in 1540-41.[5] Before the 17th Century, occasional prospectors and herders entered the Colorado region. It wasn't until the 18th Century when Juan de Ulibard pursued runway Indians into eastern Colorado that the region was recognized. It was this man who took formal possession of this region for the king of Spain. The first American entered Colorado in 1803. This man was the fur trader James Purcell.[6] In 1806, Lt. Zebulon M. Pike, while exploring the Arkansas River, sighted the famous peak that bears his name in central Colorado. Other important pathfinders were the trappers and traders. Famous amoung these are personages of Kit Carson, Jim Bridger, and Tom Fitzpatrick, who became knowledgeable of the region's geography before the gold-rush days.

In 1803 the eastern and central portion of what is now the state of Colorado was purchased as a part of the Louisianna Purchase from France.[7] The western portion was owned by Spain but control of this region was won by Mexico in 1821. The United States took control of this western region in the Mexican War of 1846-48.[8]

In 1850 a party of Cherokee Indians found a little gold near what is presently the city of Denver. Larger prospecting parties arrived in Colorado in 1858. A company headed by Green Russell of Georgia discovered the first paying placer. It was the news of this discovery that resulted in the gold rush of 1858.[9] (This event followed the discovery of gold in California at Sutter's Mill in 1849.) There came to Colorado over 100,000 people within a one year period seeking their fortunes in gold.[10] The motto of the time was "Pike's Peak or Bust." The first gold was panned from streams; when this source was depleted the prospectors went to the mountains looking for the mother lode. The towns of Central City, Black Hawk, Gold Hill and Cripple Creek made mining history.[11] Many prospectors were disappointed in their search for gold. Inflated prices and scarcity of food led to the abandonment of the original cities.[12] Some men continued to work in the mountain mines but others were forced to turn to farming for survival.

Education of the children of these pioneers became a recognized need. In 1859, the Union School started in Auraria (now Denver) at the meeting of the South Platte River and Cherry Creek. This was a small log building that served 13 tuition paying children. A school was next built in Boulder in 1860. The town of Golden held school in a tent. A woman, Miss Indiana Sopris, opened a private school in Denver and by 1861 she had opened a total of four schools. A school was established at Pueblo in 1862.[13]

The U.S. Congress established Colorado as a territory on February 28, 1861. Abraham Lincoln appointed William Gilpin as the first governor. The first legislature divided the territory into 17 counties, enacted criminal and civil codes and passed other needed legislation.[14] This legislation was important to the establishment of education in the territory because it provided for a territorial superintendent who recommended a uniform series of textbooks for the local districts. Legislation also provided for the election of county superintendents of schools. These superintendents could be petitioned by the electors to vote on the establishment of tax-supported school districts. The first tax-supported schools were organized in 1862 in Denver, Pueblo, Trinidad and Colorado City (later a part of Colorado Springs). By 1871, 160 school districts had been established that could serve the 7,742 children of the territory ranging in age from 6-21. Of these, 4,357 enrolled in public schools.[15] Parents of school-aged children could petition county superintendents of schools for an election to form new school districts out of unorganized territory or out of territory having existing districts. At this time, there had to be 10 children who would attend public school for this process to occur. (In 1945 this number was increased to at least 15 children.) By the use of this statute, over 800 school districts had been established by 1880.[16]

Colorado City became the capital; later Golden became the capital in 1862. In 1867, Denver became the territorial seat and was permanently established as the capital in 1881.

Progress toward the development of the territory was difficult. A territorial dispute with Kansas occurred over the "Arapahoe county" in 1858.[17] In 1861, Congress provided the President with the power to appoint a governor to the territory. In 15 years, 7 governors were appointed, none of whom served a full term of four years. Clashes with Indians became a common occurrence. A general Indian war involving the Cheyennes and Arapahoes threatened settlements. Federal troops attacked a Cheyenne Indian village in Kiowa country in 1864.[18] This became

known as the Sand Creek Massacre in which nearly 300 Indians met their death.[19] In 1868 Indians isolated 50 army scouts in a battle on Beecher Island on the Arikaree River in eastern Colorado. Indians killed Nathan C. Meeker, a reservation agent, in 1874 and ambushed a body of troops. This was the last big Indian battle in Colorado because Ouray, a respected Ute chief, helped to calm the Indian warriors and settle their problems with the whites.[20] Indians were removed from the territory during the 1870's.

Horace Greeley, a New York City editor, believed in the development of the West. He sponsored a farming colony in Colorado in 1870. It was he who developed the then popular saying "Go west, young man."[21]

The period of the 1870's saw new vitality in the development of the territory. In 1870, the Denver Pacific Railroad linked Denver with the main line of the Union Pacific at Cheyenee, Wyoming. Thus, Colorado became permanently linked to the East. Later that same year the Kansas Pacific built its line to Denver.[22] In 1875 a constitution was drawn up and ratified by the territorial Assembly.[23] Colorado became "The Centennial State" on July 4, 1876.[24]

Colorado showed its concern with education by creating the University of Colorado in 1861. It officially opened in 1877. The 1870's saw secondary level public institutions of learning established.[25]

The new state constitution provided for an elective state superintendent of schools and county superintendents. The directors of local school districts were given the power of autonomy in selecting school textbooks.[26] Many of these school districts were organized on such a small basis that as time passed it became impossible for them to continue. However, rapid expansion of the population, due to the Homestead Act, mandated their creation.[27] General Laws provided for the organization of school districts across county lines so that by 1877 one-third of Colorado's school districts had territory in more than one county. These laws also provided for "Union High School Districts." These districts were entities made up of several independent elementary school districts and were established to provide education beyond the eighth grade. They were operated on a cooperative basis that maintained the local autonomy of the common school district.[28]

It became evident that Colorado was succeeding in state development and that people were planning to stay despite declining gold and, later, silver reserves. The development of permanent cities and the spanning of the nation by the Transcon-

tinental Railroad, contributed to the further expansion of Colorado's population and economy. Farming, cattle, and sheep raising balanced the need for local food requirements and the state prospered in being able to trade with the East and West via an effective transportation system. By 1881 the buffalo herds had been destroyed, prairies had been plowed and agriculture predominated the economy. But, this would have been impossible without the ingenuity of "Dry Farming", which calls for irrigation. Developed in the mid 19th Century, it still prevails today as a requirement for agriculture.[29] The advent of the automobile led to the need for road development. The state expanded its agricultural pursuits to include the raising of sugar beets. By 1930 there existed nineteen sugar factories. Iron and coal deposits near Pueblo made it possible for that city to become a major producer of steel. World War II and its demand for molybdenum established yet another industry.[30] Oil was discovered in the Arkansas Valley between 1910 and 1920. Later additional oil fields were discovered so that by 1920, oil had become Colorado's most important mineral product. Military bases were opened as was an ordinance plant near Pueblo during the war years. This stimulated the depleted economy that suffered due to the drought and dust storms of the 1930's that nearly destroyed agriculture during the Great Depression.[31]

During the 1950's and 60's more federal offices and military installations were established. In 1954 the National Bureau of Standards moved its laboratory from Washington, D.C. to Boulder. The Air Force established its worldwide financial center in Denver. The United States Air Force Academy opened its campus in Colorado Springs in 1958. The North American Air Defense Command (NORAD) combat operations center established its headquarters 1,200 feet underground in Cheyenne Mountain in 1966.[32] Manufacturing became the state's leading industry. Dams at various locations continued to be built to harness water for general use and industry.[33]

Colorado has unusual natural beauty, variation in topography and a pleasant climate makes it an attractive place for both tourists and permanent settlers. It is a state that continues to flourish and expand. It is now faced with problems of rising government costs, air and water pollution, and mass transportation.[34] It is a state that must plan effectively to preserve its many gifts and wonders.

Geographic and Social Characteristics

Colorado is considered to be one of the western states. It

is located almost in the middle of the contiguous United States. The state is bordered by Wyoming to the north, Nebraska on its northeastern corner, Kansas to the east, Oklahoma on its southeastern tip, New Mexico to the south and Utah to the west. The Continental divide runs through Colorado. In land area it spans 104,247 square miles which includes 481 square miles of inland water in the form of rivers.[35] Three major rivers originate in its Rocky Mountain region, namely: the Colorado River which flows in a southwesterly direction, the South Platte River which flows in a northwesterly direction and the Arkansas River which flows in a south to easterly direction.[36] Colorado ranks eighth among the states in size and third among the Rocky Mountain States.

Colorado is nearly rectangular in shape and is divided into four main land regions: (1) the Colorado Plateau, (2) the Intermontane Basin, (3) the Rocky Mountains, and (4) the Great Plains.[37]

The Colorado Plateau stretches along Colorados western border and covers about one-fifth of the state. This region is an area of high hills, deep valleys, plateaus and mesas.

The Intermontane Basin is north of the plateau and is wedged between mountain ranges near the northwest corner of the state. The Rocky Mountain region extends through the middle two-fifths of the state in a strip running from north to south. Between fifty and sixty peaks reach heights of 14,000 feet and are the highest in the Rocky Mountain chain that extends from Alaska to New Mexico. Because of this fact, the Colorado Rockies have been called the "Roof of America".[38]

The climate in Colorado is generally dry and sunny. Temperatures vary between regions due to changes in altitude. Altitudes also affect rain and snow fall. Average yearly precipitation is approximately fifteen inches. This varies: the highest precipitation occurs on its western slopes; the driest region is in the southeast.[39]

In 1860, Colorado had an established population of 34,251 of which eighty-six and one tenth percent were classified as rural.[40] In 1950, urban population rose sharply. By 1960 the state population reached 1,753,000. By 1975 this figure rose to 2,541,311 of which approximately twenty-one percent were classified as rural.[41] Present population is estimated to be 2,700,000. About eighty-five percent of these people live in the region east of the Rocky Mountains and about half of these live in the Denver area. Denver employs fifty-nine percent of Colorado's industrial labor force. Population density is lowest

in the high plains where it rarely exceeds five persons per square mile.[42]

As to race composition, in 1960 native whites constituted ninety-three and seven tenths percent of the population while foreign born whites constituted three and two tenths percent and non-whites three and one tenth percent. By 1975 the composition in terms of ethnicity were ninety-one percent whites, three percent blacks, and six percent other races.[43]

The birth rate has steadily decreased over the years although it remained slightly above the country as a whole. In 1960, Colorado had a birth rate of 24.5/1000 population. Then in 1970 this rate decreased to 18.8/1000 and in 1975 it reached 15.8/1000 which is slightly above the 14.8/1000 rate found nationally.[44]

As to literacy rate, Colorado is one of the nation's most literate states. Its illiteracy rate has always remained below that of the national average. As of 1970, its literacy rate of seven tenths percent compared to one and two tenths percent for the whole country.[45]

Economic Indicators

Colorado has rich mineral deposits, a pleasant climate, rich soil, vast evergreen forests and sufficient water. Therefore, unlike some other states, it has shown a more balanced economy and development. Besides manufacturing, agriculture, and mining, tourism ranks high as an income producer.

Half the value of all goods produced in Colorado can be contributed to manufacturing, including processing. Manufacturing employed one-fourth of the employment sector of 152,300 persons in 1977. From 1968 to 1974, a steady employment expansion occurred. However, the national recession of 1975 resulted in a loss of 11,000 jobs. The post-recession period restored lost jobs and added another 2,900 to the employment category. Projections indicated 1978 manufacturing employment would reach 158,200.

In 1967, the total value added by manufacturing was $1.5 billion. In 1972, it increased to $2.5 billion. Even in the recession year of 1975, it reached a figure of $3.4 billion. It was projected that total value added would reach $4.7 billion in 1978. If so, it will represent an increase of nine percent compared to 1977.[46]

Leading manufacturing industries in Colorado are food processing and defense work which includes the aerospace industry. Other important industries include the manufacture of fabricated metal products, instruments, electrical and nonelectrical machinery, transportation equipment, luggage, photographic supplies, rubber products and steel. The fastest growing industrial activities include the production of computer and electronic equipment.

Agriculture. Forty percent of all goods produced in Colorado are contributed by agriculture. In 1976, it ranked sixteenth in the country in terms of farm income with cattle, wheat, corn and milk as its principal commodities in order of cash receipts. Also in the same year, it ranked number thirty-one in terms of crop value with wheat, hay, corn and sugar beets as its leading crops in terms of value. Other important agricultural products include vegetables, flowers and fruits.[47]

Gross farm income which includes receipts, government payments and farm production consumed on the farm totaled $2.11 billion in 1977 which was down fractionally from 1976. It is expected to rise to $2.28 billion in 1978. On the other hand, net income should total $255 million in 1978 which is about half of the 1974 record income level of $540 million.[48]

Mining. The enormous growth of the mineral extraction industry in Colorado during the past few years has been due to the national energy crisis. Employment growth in mining increased thirteen percent in 1977. It is expected to increase by an additional nine percent by 1978, bringing the total mining employment to 26,000 persons.

About ten percent of the value of goods produced in the state come from the mining industry. In 1973, the total value of mineral production was $533 million. In 1978, it is expected that it will reach $1.29 billion, an increase of fifty-nine percent over the last five years.

Tourism. The rate of growth in tourism in Colorado slowed down during the last few years. A combination of factors such as lack of snow, gasoline shortages, increased competition from other vacation areas and bad national publicity have all contributed to impede its growth. However, in 1978 tourism is still projected to contribute $867 million to the state's economy with 9.6 million vacationers expected.[49]

Employment and unemployment. During February 1978, a total of 1,038,000 persons were employed in the nonagricultural sector while 27,800 were employed in agriculture.[50]

Unemployment problems in Colorado are not as severe as in most other states. In 1973, a four and two tenths percent unemployment rate occurred and decreased to four percent by 1974. Unemployment increased to six and nine tenths percent in 1975 and dropped again to five and nine tenths percent in 1976. In 1978, the unemployment rate is projected to be five and four tenths percent which is below the national predicted average of six and seven tenths percent.[51]

Per capita income. Considering the increase in Colorado's per capita income, it may be considered as one of the growth states in the country. In 1959 its per capita income was $1,889 and ranked fifteenth in the country.[52] In 1974 it improved, ranking eleventh place with a per capita income of $4,884. In 1978, per capita income in Colorado is expected to reach $7,535.[53]

Government As It Affects Education

Governmental structures influence societal institutions. This section describes state, country, and local governmental structure.

State government. The constitution of Colorado was adopted in 1876 when Colorado became the thirty-eighth state in the Union. Since its adoption, the constitution was amended sixty-five times. Proposed amendments can be ratified by a two-third's vote of the legislature, by a petition of the voters or by a constitutional convention. A constitutional convention may be called if approved by two-third's of the legislature and the majority of those voting on the issue in an election.

Voters in Colorado cast one vote for the team of governor and lieutenant governor. Their term of office is for four years. Unique to Colorado are some of the powers of the governor. For instance, this person may veto specific items in money bills while signing the rest of the bill into law. The governor has the power to appoint the revenue director and the adjutant governor. The positions of Secretary of State, Treasurer, and Attorney General are determined in an election by the people. The duration of these offices are for four-year terms. The auditor is appointed by the legislature for a five-year term. Members of the State Board of Education are also elected by the people. One member is elected from each congressional district in the state. Members are elected for terms of six years.[54] The regents of the University of Colorado are also elected by the people. These officials comprise the executive branch of

government as reorganized in 1968. The departments include: state treasury, law, higher education, education, administration, revenue, institutions, health, social services, labor and employment, regulatory agencies, agriculture, natural resources, local affairs, highways, military affairs, and two subsequently added by a Constitutional Amendment of 1970 and Senate Bill 22 (1974), the Department of Personnel and Office of Planning and Budgeting.[55]

In Colorado the legislature is called the General Assembly and consists of thirty-five members in the Senate and sixty-five members in the House of Representatives. Senators serve four-year terms while the representatives serve two-year terms. The assembly meets each year commencing in January. In odd-numbered years, sessions may take up any subject. In even-numbered years, only bills from the governor and money bills can be considered.[56]

In 1964 Colorado reapportioned its legislature to provide equal representation of the population. Essentially, they sub-districted counties that elected more than one legislator. However, the Supreme Court of the state ruled the sub-districts unconstitutional and eliminated them in 1965. The voters retaliated by instituting a constitutional amendment allowing sub-districts. This legislation was passed in 1966. The legislature in turn responded and acted on the amendment by dividing the state into single-member legislative districts. This was followed in 1972 by a reapportionment of its legislature based on the 1970 census.[57]

The Supreme Court, as its name implies, is the highest court in the state of Colorado. The chief justice heads the Supreme Court and is assisted by six associate justices. These justices are appointed by the governor. Justices are allowed to serve for two year appointments but must win the voters approval in an election to serve for a continuing ten-year term. Any subsequent terms are for ten-year periods and are voted on by the people.[58] The Court of Appeals is the next highest court in Colorado. Most criminal and major civil cases are tried in District Courts in the states twenty-two judicial districts. Appellate and District Court judges are appointed and are approved in a manner similar to justices. The Appellate Court judges serve eight-year terms and the District Court judges serve six-year terms. The District Courts may act as probate or juvenile courts with the exception of those courts located in Denver, where they are separate courts.[59]

State taxes provide for almost three-fourths of the government's income. Producing the largest amount of income for the state are income, motor fuel, highway and sales taxes. Colorado's other income is secured from U.S. government grants and

other programs.

Voters in Colorado have generally favored Republican candidates for the presidency. Voters in the Denver suburb area and from northeastern Colorado generally favor Republicans, while voters in Denver and Pueblo usually support Democrats.[60]

Local government. In all, the state of Colorado has sixty-three counties and approximately two hundred and sixty towns and cities. Each county has a county court, and larger cities have municipal courts. The city and county of Denver has a single government with the same orders and the same officials. The other sixty-two counties are governed by three commissioners elected by voters for four-year terms.[61] All communities with more than 2,000 persons are referred to as cities and those with smaller populations are termed towns. Most cities in Colorado use the mayor-council form of government and several of them have city managers. Cities may choose to adopt home rule charters which give them greater autonomy in their own affairs. Under certain conditions, home rule charters and laws passed under these charters may overrule state laws.[62] All towns and cities have a mayor and a board of trustees.

Description of the Educational Delivery System

The State Board of Education is composed of elected members representing each of five congressional districts. Members are elected for five-year terms.[63] The Board's duties include: to exercise general supervision over the public schools through the twelfth grade level; to appoint a commissioner of education; to appraise the public schools and submit recommendation to the governor and general assembly for improvements in education; to order the distribution or apportionment of federal and state monies granted or appropriate; and to review the annual report prepared by the commissioner and to transmit it to the governor (see Figure 3.1).

The State Board of Education powers include: to perform all duties delegated in the law; to employ personnel; to promulgate and adopt policies; to set rules and regulations; to approve the salary schedule for department personnel; to create, maintain and modify administrative organization for department personnel; to appraise for purpose of accreditation any non-public school; to require a school district to take a school census.

The Board appoints a Commissioner of Education who takes on the role of chief state school officer. This person serves at the pleasure of the Board and is responsible in general for public education that occurs from kindergarten through grade twelve.[64]

The "Boards of Cooperative Services Act of 1965" provides for the creation of boards of cooperative services. The purpose of those boards is to enable two or more school districts to cooperate in the delivery of education at the K-12 level.

General K-12 education is provides under the State Board of Education and the Department of Education. There is a mandatory attendance requirement for children between the ages of seven and sixteen.[65] Vocational education is made available in comprehensive high schools. However, high school students may also attend program offerings found in area vocational schools. Vocational and occupational education is made available at the postsecondary level in Colorado's junior and community colleges.

Higher education with the exception of Community and Jr. Colleges is administered by the Department of Higher Education. The Commissioner of this department is appointed by the governor.

Guidance and Counseling

The State Board for Community College and Occupational Education (SBCCOE) in Colorado has noted that eighty percent of the jobs in Colorado require less than a baccalaureate degree to perform. In the past, guidance and counseling efforts emphasized working with college bound or with persons who had really severe educational problems. Therefore, Colorado is now aiming its guidance and counseling efforts toward the seventy percent who may never go on to higher education institutions. In order to assist this group of people, the SBCCOE believes counselors must become aware of vocational education offerings in addition to those offerings normally found in higher education institutions. The University of Northern Colorado at Greeley, the Colorado State University at Fort Collins have put in components relating to vocational guidance as part of basic preservice instruction for counselors.

Each area of the state has a vocational guidance and job development and placement specialist who takes leadership responsibilities for guidance and counseling efforts. This person works with local educators including faculty, administrators, and counselors, to provide awareness of vocational education

is now administered by an executive committee representing a consortium made up of the Department of Higher Education, the Department of Education, the State Board for Community Colleges on Occupational Education and a lay person.

In 1976 the Colorado experience - based career education model began to develop as an exemplary program. Four districts were chosen to work together to develop this experienced-based program. The cities were Eagle, Jeffco, Holyoke, Rocky Ford. These cities were selected to represent urban, rural and bilingual-bicultural areas. This was an attempt on the part of Colorado to adapt the northwest regional laboratory career model, originally developed for grades 11-12, to the 7-10 grade level for Colorado students. Initially, workshops were held which provided for an awareness of the program and demonstrated methods to utilize the program to meet the needs of individual districts. The team thus trained the staff, did a follow-up evaluation and provided technical assistance.

State personnel responsible for career education are now in the process of developing a position paper in the Occupational Education Division regarding career education that will be presented to the state advisory council. They are looking at areas in which they can concentrate the resources available within the department so that career education can be coordinated with the guidance and counseling efforts. They will be looking at district guidance and at the overall K-12 career education program that is interfaced with vocational education. The results of their efforts thus far have shown success in urban centers but much work still needs to be done in rural areas.

Assisting the career development of students will be the combined effort of career education and guidance counseling. The Colorado Information System previously mentioned is to assist this career development effort. Recorded within its data base are over 200 occupations found in Colorado. At this time work is commencing on the state occupational information commission that will supply data concerning job availability in Colorado.

In summary, Colorado is providing a career education program that is similar to others in the nation. Students progress through a sequence of activities: (1) learning through partnership, (2) learning for living, (3) learning by doing, and (4) learning for adulthood. 67

In the first step, learning through partnership, students become involved with learning activities of an exploratory mode in the community with their parents and school personnel.

In the learning for living phase, basic skills are emphasized and reinforced in experiences that use these academic skills in real life situations. The students also identify their career interests with consideration given to their abilities. They increase their knowledge of social, governmental and economic issues in trends in the world of work. They learn about the variety of careers available to them and the skills they will need to secure and retain employment. Life skills are also stressed that integrate the roles of citizens, family, vocation and avocation.

In the third phase, students are given an opportunity to explore a variety of jobs within the community for a short period of time. They maintain journals of their experiences so that their feelings and responses become a matter of record. They have an opportunity to speak with employers in the community, and they are provided with tutors from the school or from the community so that they can achieve proficiency levels in basic skill areas. Career exploration experiences are repeated in their highest interest areas for longer periods of time. They learn the skills necessary for daily living as a functioning member of society. They receive guidance about their career plans and are given projects to do within their areas of interest.

In the last phase, students learn decision-making processes and make their final preparation for adulthood as they learn to recognize and assume responsibility for their behavior. Individual initiative is fostered in that students carry on their own learning activities for which they have planned. There is daily communication with staff and community resource people so that students have an opportunity to interact with adults.

Vocational/Technical Education Delivery System

The delivery of vocational education varies as to the state in which it occurs. The following section, which describes the Colorado vocational education delivery system, includes organizational structure, staffing and certification, and program.

History of Vocational/Technical Education

The first industrial high school was established at Sterling in Logan County possibly earlier than 1912. The first trade school west of the Mississippi was Centennial High School located at Pueblo. This school was established in 1916. The year

1917 and the passage of the Smith-Hughes Act brought about the formation of the State Board for Vocational Education and its headquarters at Colorado State University.[68] The Colorado Legislature accepted the Smith-Hughes Act on April 10, 1917. Their first state plan was approved in December 14, 1917.[69]

The first of the annual conferences of the Colorado Vocational Association was held in 1917. This conference was attended by four superintendents and four local directors who met at Pueblo. Subsequent meetings in 1918 and 1919 were held for coal mine superintendents who served as instructors in evening school.[70]

Although inhibited by the nonavailability of matching funds, expansion of vocational education did occur between 1917 and 1920. Programs sprang up in all the sugar factory towns and all coal mining centers of the state. Instruction was provided in all three occupational areas: agriculture, home economics and trade and industrial education at Grand Junction. The Colorado Legislature of 1920 adjourned without making available new matching funds for vocational education. This meant that there would be no programs before the next bi-annual meeting of the legislature. This may have been one of the reasons Mr. Tieman, the state supervisor and teacher trainer in trade and industrial education, became an agent for the Federal Board of Vocational Education in eleven western states. In the five years of his absence, vocational education programs continued to grow. Upon his return, Mr. Tieman worked with Dr. Frank Avery, Professor of Rural and Vocational Education, to bring educators to Colorado A&M campus for the summer session of the vocational education department. These educators included Dr. Charles A. Prosser, the vocational education pioneer and first federal director of vocational education; Dr. George P. Hambrecht, teacher trainer and state director at the University of Wisconsin; Dr. Charles R. Allen, vocational education agent for the Massachusetts Board of Education; and Frank Kushman, regional agent and later chief of trade and industrial education for the U.S. Office of Education. Courses were provided at this summer session in job analysis, methods of instruction, philosophy of vocational education, and the history of vocational education. Dr. Prosser taught philosophy and history courses at about the same time he wrote his famous "Sixteen Theorems of Vocational Education." The quality of the faculty attracted state directors from across the United States. Students could earn six credits in three weeks allowing them to earn a total of twenty-four credits because three sessions were offered. The University, upon the suggestion of Dr. Allan, allowed credit toward a bachelors degree for trade experience -- five credits for each year of experience as a journeyman. This consideration greatly increased the enrollment of T&I teachers at the summer sessions. In 1926, academicians of

the A&M faculty fought the innovation and attempted to drop the summer sessions. During a faculty meeting it was pointed out that summer students were bringing substantial business to the merchants of Fort Collins. The faculty voted to retain the summer sessions.[71]

The significance of these sessions was that they provided for early training of vocational educators who would be taking positions of leadership across the nation. The summer program, which continued to attract outstanding vocational educators as faculty, was sharply reduced a few years prior to 1926. Tuition for the summer program began to be operated on a cost recovery basis thus making the tuition so high that Colorado resident students and out of state students alike could no longer afford the sessions.

In the years following the initial state cooperation with the Smith-Hughes Act, Colorado continued its support by responding to federal legislation for vocational education as it provided for continuation and further development. The post World War II era saw the establishment of the junior/community college system. This system expanded so that presently twelve such campuses exist in Colorado.[72] Area vocational schools were constructed in response to the Amendments to the Vocational Education Act of 1963. Today there are nineteen such schools in existence throughout the state.[73] Both of these systems are supported by local, state and federal funding. (These schools and others that offer vocational education are discussed in more detail under the section entitled: Vocational/Technical Education Delivery System.)

Organizational Structure

The agency responsible for public vocational education in Colorado is the State Board for Community Colleges and Occupational Education, and in particular, the Occupational Education Division (OED). This division is headed by the state director for vocational education. The State Board for Community Colleges and Occupational Education is a corporate body. The body is composed of nine members appointed by the governor who in turn appoint their own chairperson and vice-chairperson.[74] The governor also appoints an advisory to assist it in carrying out its responsibilities pertaining to occupational education.

There are five branches in the OED that are responsible for the performances of division functions. These are: the Professional Services Branch, the Inter-agency Relationship-Personnel Branch, the Administrative Service Branch, the Planning and Eval-

uation Branch, and the Program Operation Branch. Each branch is headed by an assistant director who is directly responsible to the director with the exception of the assistant director for planning and evaluation and the assistant director for program operation. These two individuals report directly to the Deputy Director of Field Services (see Figure 3.2).

The Administrative Services Branch consists of five sections that handle fiscal matters, supervision of private vocational schools, and other related areas, i.e., the Management Information System, the Private School Section, the State Approving Agency for Veterans Administration Section, the Fiscal Services Section, the Comprehensive Employment Training Act Section, and the Audit Section.

The Program Operation Branch is charged with the responsibility of providing technical assistance to LEAs in a variety of subject areas, especially as to instructional techniques and methodologies. In addition, the supervisors conduct regular evaluations of vocational programs through site visitations.

The Planning and Evaluation Branch has nine functions that provide for the planning, evaluation, professional development, career education, guidance and counseling, and exemplary programs of the entire division. This branch has four regional planning sections. In addition, it has five other sections including a local evaluation and curriculum section, a comprehensive review section, an adult education and mini-plans section, a research/exemplary/professional development section, a career education and state plan section, and a guidance/counseling/job development section.

Secondary vocational education occurs in both high schools and area vocational schools. The latter schools are defined as those offering both approved secondary and postsecondary vocational education programs for credit operated by a local school district or by a board of cooperative services, and designated by the general assembly as an area vocational school in conformity with standards established by the State Board for Community Colleges and Occupational Education. Most of these individuals are located in the higher population areas of the state, particularly east of the Rocky Mountains and concentrated in the Denver area (see Figure 3.3).

Postsecondary vocational education and adult education are also provided in junior/community colleges, some with and some without designated area vocational schools.. Again, these are provided in the more densely populated areas of the state so as to serve the maximum within the state population.

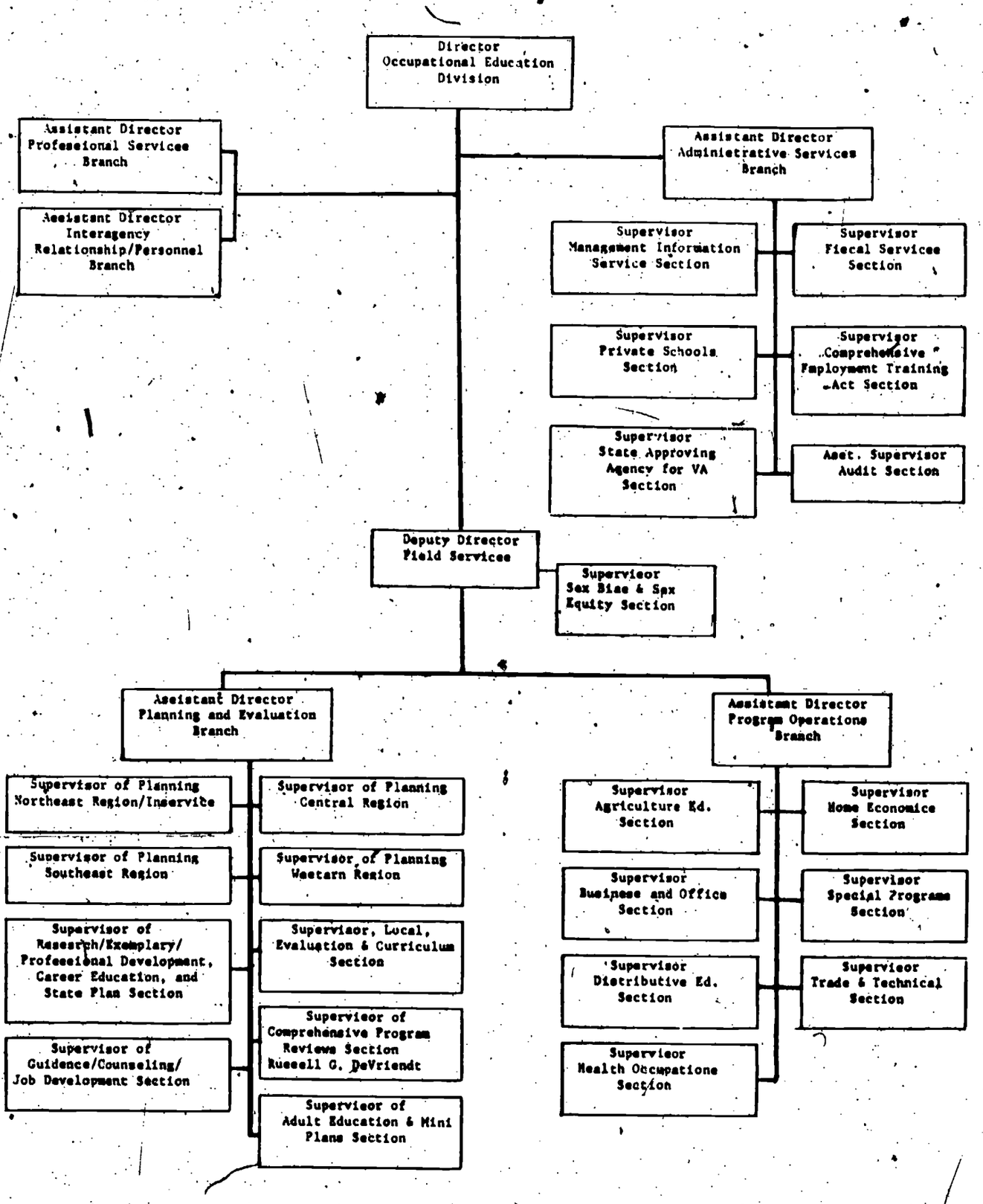

Figure 3.2 Organizational chart of the division of occupational education of the Colorado state board for community colleges and occupational education

Staffing and Certification

The delivery of vocational education is dependent upon staff who are trained in the areas of administration and teaching of skills. The following paragraphs present necessary qualifications that satisfy state requirements for these positions and in general, discuss efforts made in professional development.

State education agency. Administrative positions at the state level do not have specific requirements stated in the law. However, persons holding these positions have generally come from other leadership positions in vocational education or from the ranks of vocational teachers with considerable experience in both occupation and the teaching of skills in these occupations. Normally these positions require at least a masters degree and the tendency in Colorado has shown that many have obtained doctors degrees or are working on them.

Local education agency. In Colorado certification is the function of the Department of Education. It certifies teachers who teach in the kindergarten through twelfth grade level of instruction. A credential on the other hand is required of people who desire to teacher in occupational areas. Credentialing has been done by a credentialing agent at both Colorado State University and the University of Northern Colorado. However, as of July 1, 1979 this task will revert to the State Board for Community Colleges and Occupational Education. At that time this responsibility will be assigned to one of the staff members who will be known as the state credentialing officer.

At the secondary level, both a credential and a certificate are required of vocational teachers. A bachelors degree is required in order to obtain certification except in the area of Trade and Industrial teachers. At the Community College level, no degree is required and therefore no certification is required. However, teachers must be credentialed in their occupational area in order to become an instructor.

Professional development. Two universities provide for teacher education in Colorado. The Colorado State University provides education to potential vocational/technical educators while the University of Northern Colorado provides instruction to potential vocational educators. These two institutions provide both preservice and related inservice instruction.

Inservice requirements are determined through surveys of local administrators to determine needs of instructors and other personnel. MIS data also contribute to inservice need requirements. The coordinator for inservice activities is

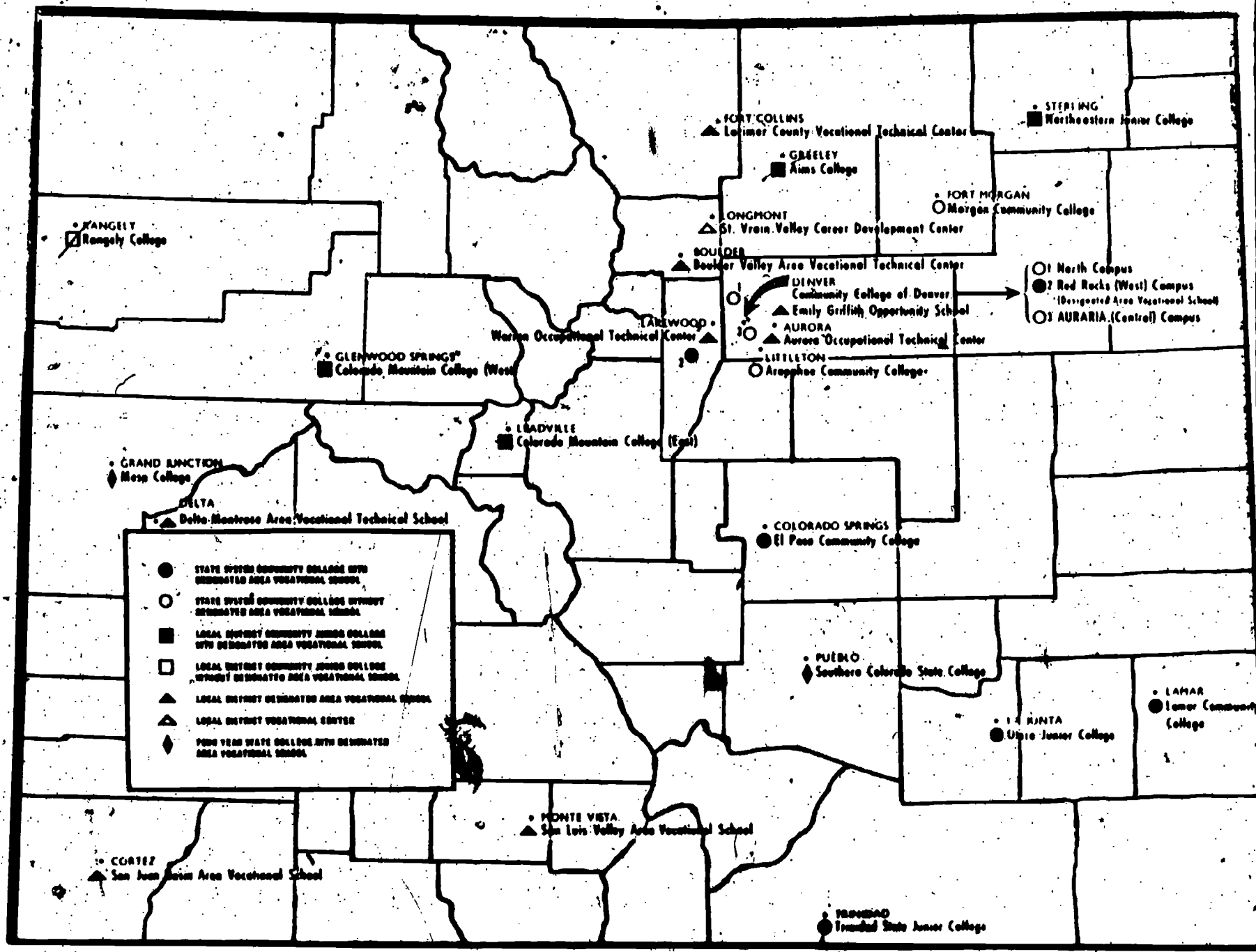

Figure 3.3 Map showing the locations of community colleges and vocational schools in Colorado

located at the Colorado State University. Assisting this person is an off-campus coordinating council that functions as a sub-committee. This council works in conjunction with the Colorado State Board for Community Colleges and Occupational Education (SBCCOE) to satisfy requests for inservice education. In addition to this sub-committee, there is the teacher education coordinating council which acts as a sub-committee and works in conjunction with (SBCCOE) to satisfy requests for both inservice and preservice teacher education. Inservice workshops are also provided for local administrators at various locations throughout the years.

Inservice is often indicated as the administrators at the local level work with the professional development plans of their teachers. Emphasis at the LEAs is placed on credentialing and recredentialing in the various service areas. It is now a state requirement that vocational teachers instructing the handicapped at least take three courses in special education. Both the University of Northern Colorado and Colorado State University have provided staff to instruct vocational teachers about the handicapped.

Program

Vocational programs are discussed in the section that follows. The topics of program types and related enrollment figures; special needs components and provisions are addressed, and references are made to placement and follow-up program trained students.

Program Types and Enrollments. At the secondary level during fiscal year ending July 30, 1976, Colorado reported a total enrollment of 68,174 secondary students in vocational programs. Of these students, designated in categories 1,263 were handicapped, 6,647 disadvantaged and 746 were a combination of handicapped and disadvantaged.

Among the secondary vocational studies, home economics (25,001), business office (18,690), and trade and industrial occupations (9,057) were the most popular. Health occupations (773) and technical (1,649) had the lowest enrollments.

At the postsecondary level 50,097 students were enrolled. Of these, categorically 943 were handicapped, 2,728 disadvantaged and 231 were a combination of handicapped and disadvantaged. The programs with the high enrollments were business office (15,801), Trade and Industrial occupations (14,472), and technical

(8,643). The programs with the lowest enrollments were agriculture (1,191) and distributive education (1,816).

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Special Needs Components and Provisions. Public law 94-482 concerns itself in part with special needs populations and additional services provided by vocational education. These groups are the handicapped, disadvantaged, minorities, persons of limited English speaking ability and women.

Colorado has a sex equity supervisor who reports directly to the deputy director. Early in 1978 the vocational education division received proposals for identifying displaced homemakers and determining their needs on a state level. Projects were established and were included in the state plan in an attempt to meet the needs of these individuals.

Vocational educators in Colorado, as in the other states, have had to become aware of problems concerning women in vocational education. To assist them in Colorado the sex equity person has provided awareness workshops to administrators and directors in the four regions of the state. In these workshops supervisor educators are made aware of how they may implement sex equity within their institutions. Colorado has found that by having the regional planners tie sex equity issues into other meetings, they are able to reach a larger audience of administrative staff.

A reference book was developed for use in LEAs entitled, "Equity in Vocational Programs". This booklet gives the LEAs direction on approaches to recruitment and provides worksheets for local planning.

In the summer of 1978, at a student leadership conference attended by student youth organization officers, the sex equity issue was addressed. The sex equity person worked with these officers in an attempt to make them aware of what they might do to assist with equity within their organizations. This stimulated interest in that they wanted to conduct their own workshops for members of their individual organizations. The sex supervisor developed a leader guide that could be used by student officers. This approach stimulated great interest among the district officers who in turn are using the leadership guide in their local club meetings.

During fiscal year 1977-78 allocations of funds for grants to overcome sex bias are equal to those set aside for state level sex bias personnel. It is Colorado's intention to provide substantial increases in this funding over the next five year period. Priorities as are stated in the Colorado State Plan for

Vocational Education funds will be provided to acquaint guidance counselors, administrators and teachers with ways of effectively overcoming sex bias; projects that are designed to set forth methods to assist males and females in selecting careers; projects to deal with the development of criteria for use in determining whether curriculum materials are free from sex stereotyping; and projects which examine existing curriculum materials to assure that they are free of sex stereotyping.

In addition to the allocated funds, monies have been granted from the Occupational Education Division to a research group in Pueblo. The research project will attempt to identify displaced homemakers and their needs. Results of this project should be known in December of 1978. Thus, the $50,000 allocated at the postsecondary level for displaced homemakers will be used to deal with problems identified in this study and an RFP will go out from the state office in February of 1979 so that work may be started on problem solving in this area. Another $50,000 will be used to support services for women. Monies will be allocated on the basis of RFP incentives so that accomplishments can be made in support services. Late in 1978, a task force was identified to establish criteria and to determine and recommend to state staff how this money allocated for support services should be used. But first, this task force had to determine what support services for women are in Colorado. They have some idea regarding support services from community meetings that have been identified by the sex equity supervisor.

According to the state personnel there are a number of things that must be looked at in the state of Colorado regarding sex bias and sex stereotyping. These include: vocational staffing as well as enrollments in programs; looking into the six-digit code areas of the major service areas to determine if stereotyping exists among teachers and students; and inclusion of sex equity questions in the Colorado Program Review (CPR) instruments.

There is some concern pertaining to the disadvantaged and minorities as separate groups, and this issue is a matter for present discussion among the state staff in vocational education. They know that enrollments in vocational educational courses parallel the ratios of minorities found in the total population. Upon examination of program enrollment, they know that black females dominate the health occupation programs to the exclusion of black males. They are aware that white males predominate in agriculture courses while white females predominate the business and office areas. State staff pointed out that health occupation programs are training students for low paying jobs and

state staff are concerned as to whether vocational education should be providing training for individuals in occupations where the financial rewards are low.

It is also known that ethnic minorities are not represented among the teaching ranks. There are efforts being made to recruit teachers from minority groups. One of these efforts was a two-year EPDA grant given to minorities entering teacher education at the University of Northern Colorado. Additional services for minority groups are unknown with the exception of providing basic education as an additional service within vocational education under supplemental services.

The state staff in vocational education believes that minorities can profit from vocational education and that they must do more to encourage minorities to enter these programs. It is recognized that ethnic organizations promote college training and not skill training. It is anticipated that recruitment efforts to involve minority groups in vocational education programs will be addressed in the forthcoming state plan.

In November of 1976 the State Department of Education determined that there were 3,112 students in grades 1-12 with limited English-speaking ability. They further assumed that the K-12 population was at least as large as the 15-25 age group. Of 525 limited English-speaking students in high school, 196 were enrolled in vocational education. Applying a factor based on this percentage enrollment, $7,915 were reserved for supplemental services for persons with limited English-speaking ability from the $1,336,000 set aside funds for disadvantaged programs. In general, these funds have been spent for tutorial services for a variety of language groups. These tutors work in vocational classrooms and explain the technical aspects of the program to students having language difficulties.

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According to the Colorado State Plan, federal funds authorized for "cooperative vocational education programs" under Section 1.22 of the Act are allotted exclusively for disadvantaged and handicapped persons. In fiscal year 1977-78 ongoing secondary programs and new special cooperative programs were funded using these monies. Receiving top priority were school districts where dropout rates and youth unemployment were above average. Beginning in fiscal year 1978-79, special cooperative programs will be extended to serve the disadvantaged and handicapped at the postsecondary level. Application and program standards were developed during the 1978 fiscal year.

Also addressed in the State Plan is the area of services to the handicapped as it is recognized to be a national priority. As stated in the Plan:

> Ten percent set-asides are specified for handicapped persons. A fifty percent local match is projected based upon full costs of vocational education for the handicapped. Priorities for funding allocations to local educational entities include: expanded support to provide supplemental services for handicapped persons enrolled in vocational programs at all levels; continued support for secondary W.E.S. (Work Experience and Study) programs in cooperative agreement with the Division of Vocational Rehabilitation and the State Department of Education; increased in-service and pre-service to teachers of handicapped individuals; establishment of new courses/programs through coordinated efforts with other appropriate state agencies to provide individualized instruction for the handicapped, in concert with the Education of the Handicapped Act, particularly at the secondary and postsecondary levels; and continued support for existing programs for the handicapped.[76]

The W.E.S. effort, which is a cooperative program, is funded through allocated funds to vocational education in conjunction with the Department of Education and the State Vocational Rehabilitation Agency. The state supervisor in charge of programs for the handicapped allocates vocational education money that will go into this joint effort. Separate account numbers for each set of funds are kept at the district level and these numbers must be reported to the three state agencies involved in the W.E.S. program. The process to secure funds for the W.E.S. programs requires the LEA to make a program application that is jointly developed through the efforts of the three involved agencies. A copy of the proposal is sent to the three agencies and at this time each agency either approves or disapproves the proposal from their own prospective. Not all of these programs are jointed funded. In any event, vocational education money only funds ten percent of teachers' salaries in these joint programs.

State law provides for the identification of handicapped students. This law is written in compliance with federal legislation P.L. 94-142. The IEP is developed through compliance with requirements established in the Division for Special Education. At the local level, IEP staffings for students who have been directed into vocational education programs must be attended by a vocational educator.

Special programs are offered for the handicapped in a number of locations throughout the state, i.e. the Occupational Center in Grand Junction offers courses in trade and industry, more specifically carpentry, business and office courses, home economics, and a janitorial program in addition to other programs.

For handicapped students who cannot succeed in regular programs, supplemental services such as a tutorial program are offered at local LEA's. These programs may also include special equipment.

At the postsecondary level handicapped needs are met through supplemental services based on individual needs. In most cases services are of a tutorial nature. However in some cases, they do fund the vocational counselor at least part-time, a part-time job developer, interpreter, tutors, and/or readers for the blind. No medical services or other assistance are provided the handicapped through vocational funds. Expansion of supplemental services is anticipated as more handicapped students enter regular programs.

According to state level vocational educators there is a need on the part of special educators to realize that vocational education is not the most desirable program for every handicapped student. For instance, when a class becomes overloaded with retarded students, it becomes difficult for the vocational educator to teach them; yet in most cases vocational teachers do not experience assistance from special educators at the the local level. Vocational education funds pay no portion of special education teachers' salaries. And certainly funding is not available to put a special educator into every vocational education classroom. Many of the vocational educators providing W.E.S. programs are also special education people. All of them are certified special education teachers with 4,000 hours work experience credentials and nine hours of vocational education to their credit. Philosophy about entry of handicapped students into vocational programs varies from district to district. Usually there is no problem with a handicapped student entering a vocational program as long as there is predicted success. Vocational education programs are not to be used for exploratory purposes and if this is suspected, handicapped students may not be admitted to the program. If students are not admitted to a vocational education program, special programs are provided for them at the local level. State level vocational educators believe W.E.S. programs would survive in Colorado with or without support by vocational funds.

Placement and Follow-up. Employer follow-up information on vocational graduates is being planned by the SBCCOE Management Information System to take effect starting November 1979.[77] Employers will be asked to rate employed completers and graduates on the following items: work attitude, work quality, and relevance of training to present job. Employers will also be asked to compare the performance of graduates of non-vocational programs and completers of vocational programs.

At present the state reports minimal data about status of completers and leavers.[78] Information is being obtained by the MIS through "VE-135 WHITE COPIES" which are forms provided by the State Board. Information is supplied to the MIS on recorded computer tapes. In June and July local schools report completers and leavers who are identified as having or not having marketable skills on "VE-135 GREEN COPIES" or on computer printouts. Then in November computer lists of students to be followed-up are prepared and mailed to local school personnel. The program instructors mark appropriate follow-up responses and return the lists to the State Board through a specified coordinator.

Follow-up analysis of the 1975-76 vocational completers showed that the available placement rates for secondary programs ranges from fifty-one to eighty percent for the seven major vocational program areas while the available placement rates for the postsecondary programs ranges from eighty-eight to ninety-five percent".[79]

In terms of program areas, the three programs at the secondary level with the highest placement rates were distributive education, eighty percent; agriculture education, seventy-four percent; and home economics, seventy-one percent. Technical education had the lowest placement rate with fifty-one percent. At the postsecondary level, high placement rates were reported in all program areas.

As to placement of handicapped graduates, the secondary level reported a sixty percent placement rate while the postsecondary level recorded a one hundred percent placement rate.

Vocational/Technical Education Evaluation

This section presents a discussion of the history and present structure of Colorado's vocational education evaluation system. The discussion includes the evaluation system's organizational set-up and roles and responsibilities. This section also focuses on the state accomplishments and needs in evaluation as per requirement of the Education Amendments of 1976 (PL 94-482).

History of Vocational/Technical Education Evaluation

There is no formal written evidence describing the early history of Colorado's vocational education evaluation system. Formal evaluation as a documented legal requirement was mandated by the Vocational Education Amendment of 1968 for "any state which desires to receive a grant" from the federal government.[80] At that time, it became the responsibility of the State Advisory Council to evaluate programs, services and activities. Colorado complied with the requirement.

Previous to the Education Amendments of 1976, Colorado had an on-going vocational education evaluation through supervisory visitation. It tried to systematize and broaden this effort by using a validated supervisory checklist and by expanding the number of schools and programs to be evaluated.

In 1975, Colorado implemented its Comprehensive Program Review (CPR) to supplement the existing supervisory evaluation visitations. This marked the beginning of a more sophisticated vocational education evaluation system which utilized local involvement of both school and community leaders. The program review team was designed to validate the findings of supervisory visitation and at the same time get a more in-depth assessment of serious or important problems.[81] Evaluation membership included school officials, state subject area supervisors and persons from business and industry advisory committee members, teacher educators, and teachers. For the part three years, the CPR has covered an average of six schools per year or an annual average of 150 programs.

In addition to the CPR, Colorado has also installed a Management Information System under the Administrative Service Branch. Its principal duty has been to collect and distribute

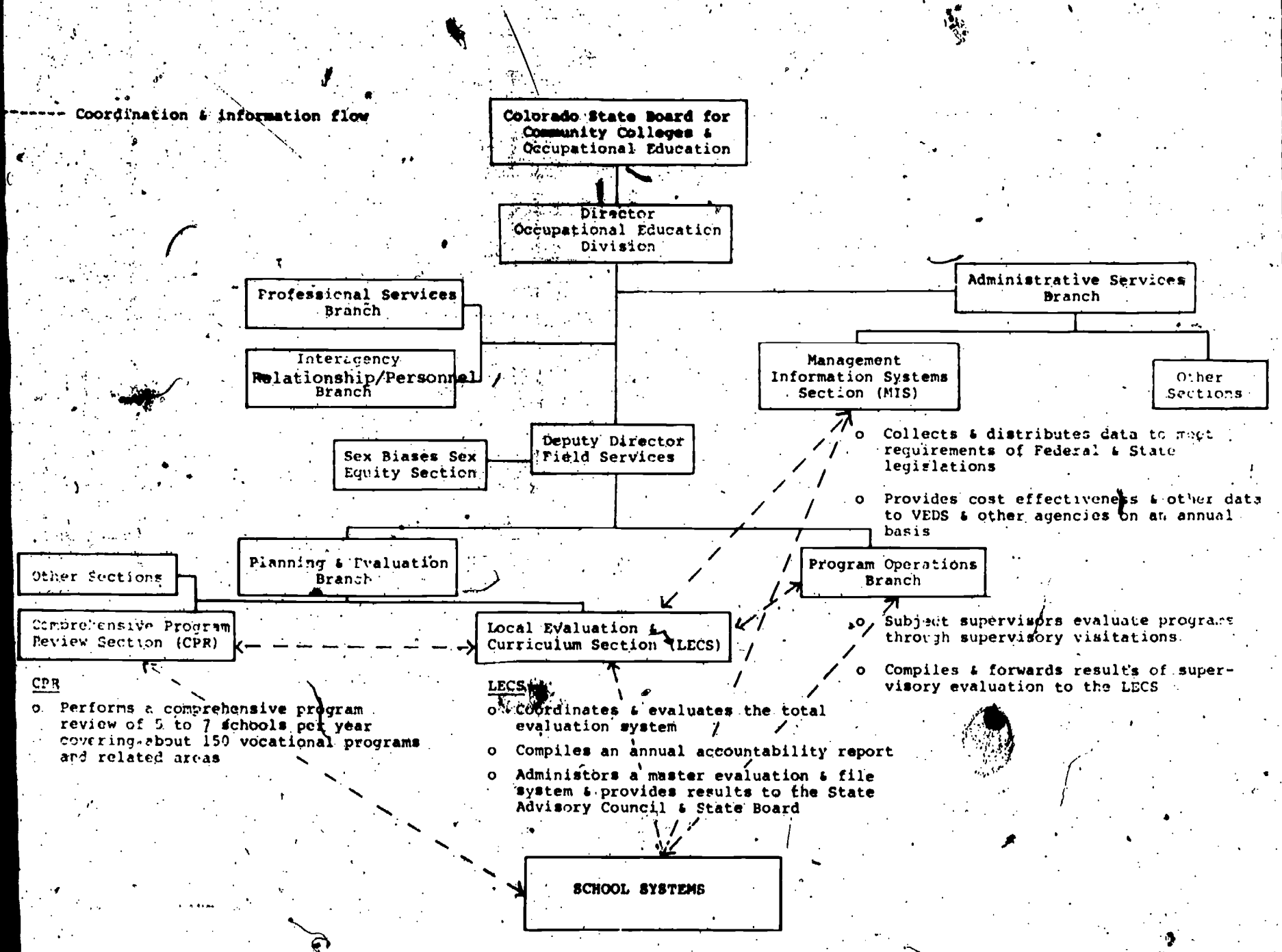

Figure 3.4 Organizational chart of the Colorado community colleges and occupational education indicating vocational education evaluation functions

data to meet requirements of federal and state legislation. It also provides information to the CPR team and the program area supervisors.

State Vocational Education Agency Evaluation System

Colorado has acknowledged the mandate of Public Law 94-482 and the popular clamor for accountability. It recognizes that "greater emphasis on program evaluation is one way of assuring accountability in vocational education." [82] In Colorado the requirements of the law and its concern for vocational education evaluation are being met by the Comprehensive Program Review along with evaluations conducted by individual program supervisors.

Organizational Roles and Responsibilities

The major responsibility of conducting a systematic and effective vocational education evaluation for both secondary and postsecondary programs lies with the Occupational Education Division of the Colorado State Board for Community Colleges and Occupational Education. Within the division, the following branches are involved in the process: Administrative Services Branch, Planning and Evaluation Branch and Program Operations Branch (see Figure 3.4).

The Administrative Service Branch, through its Management Information System (MIS) section, collects and distributes data (enrollment, placement, etc.) to meet the requirements of federal and state legislations, especially those that pertain to reporting requirements. At the same time, it provides cost effectiveness and other state data to VEDS and other agencies on an annual basis.

The Planning and Evaluation Branch performs two basic functions in the total vocational evaluation system. First, the Branch develops and compiles "an annual accountability report which addresses evaluation reports." Second, through its CPR Section the Planning and Evaluation Branch performs a comprehensive program review of five to seven schools per year covering about 150 vocational programs and related services.

The Program Operations Branch handles the supervisory visits. Subject supervisors evaluate vocational education programs through supervisory visitation. Using prepared checklists, supervisors review programs for which they are responsible in their service areas where CRPs are not being conducted. The checklists contain specific areas to be reviewed (sex equity, compliance documentatation, instructional program, equipment, disadvantaged and handicapped, etc.). These areas are rated by the supervisors as satisfactory, needs attention, immediate attention and not applicable depending on their evaluation. The branch compiles and forwards results of supervisory evaluation to the Local Evaluation and Curriculum Section of the Planning and Evaluation Branch for compilation, monitoring, and integration with other evaluation data and reports.

Comprehensive Program Review (CPR).[83] The CPR was implemented during the 1975 school year with the primary objective of developing and implementing a comprehensive team approach for review of vocational programs . . . . to assure both accountability and quality at the secondary, postsecondary, and adult levels." Its general objectives are as follows:

1. To promote, strengthen, and assure the operation of quality vocational programs and services, including special needs programs, on a statewide basis.

2. To provide the LEA and the State Board Staff with data upon which planning and improvement of vocational programs can be based.

3. To review the scope of vocational offerings and the accessibility of these offerings to the community.

4. To examine the role of the administrative and instructional staff in the operation of vocational education.

5. To examine the extent of guidance and support personnel in the operation of vocational education.

6. To assist in assuring accountability in the use of federal, state, and local funds allocated to vocational education programs in the state.

7. To provide information to the LEA and the State Board for decision making.

8. To establish follow-up procedures which provide for

continuous assessment and improvement.

The Comprehensive Program Review consists of three phases. Phase I is preparation for evaluation, Phase II is on-site visitation while Phase III is follow-up procedures. Basically, it employs two evaluative methods: process method and product method.

Phase 1--Preparation for Evaluation. This phase deals with compilation of data by local personnel and collection of information by State Board staff.

To measure the effect of process (Inputs) in vocational programs and services, on-site review teams utilize information from the institution's VE 120 proposals and revisions currently on file in the State Office and the LEAs. Information compiled by the Management Information System (MIS) is also utilized.

LEA personnel report process information through the completion of CPR forms and evaluation instruments by team members during the Comprehensive Program Review.

Review teams observe and evaluate process criteria during the on-site visitation and prepare written reports based on the LEA's total vocational programs and services. Various teams review the following inputs at the LEA:

1. Philosophy and objectives
2. Programs and curriculum
3. Student population (secondary, adult, special needs, etc.)
4. Student success in the attainment of program goals
5. Program supervision and overall program direction
6. Instructional materials and supplies
7. Guidance, counseling, and job development and placement services
8. Facilities and equipment
9. Short- and long-range planning
10. Funding and budgeting
11. Student leadership activities

12. Utilization of local advisory committees

Product evaluation focuses on the outputs (graduates-terminees) of the local vocational programs. Information in the product area is compiled through the State Board's annual follow-up system of graduates. In addition, evaluation teams review various product criteria on file at the school. Previously reported follow-up data on file with the State Board consisting of the following are also used:

1. Number of students enrolled in each program.
2. Total number of enrollees who completed their program.
3. Graduates available for placement.
   a. Graduates employed in full - and part-time related occupations.
   b. Graduates employed in full - and part-time non-related occupations.
   c. Graduates seeking employment.
4. Graduates not available for employment.
   a. Graduates continuing in related education.
   b. Graduates continuing in non-related education.
   c. Graduates in armed forces.
   d. Graduates not in the labor force.
   e. Graduates not seeking employment.
5. Unknown.
6. Student dropout rate (percentage).

Phase II - On-Site Visitation. The CRP Section, in cooperation with the local vocational director and/or designated local administrator, arranges the on-site review of the local vocational programs and services. The on-site review usually requires from two to three days for completion.

The procedures for conducting the Comprehensive Program Review consist of eight stages.

1. Notification and Previsitation Preparation -- The dis-

trict/institution scheduled for review is notified by the State CPR Supervisor in advance of the on-site visitation. The local vocational director and/or designated local administrator coordinates the review with the CPR Section. Criteria for selection of the local coordinator and a listing of responsibilities is specified in the CPR manual.

2. Distribution of Materials and Orientation of School Personnel -- Following the notification and previsitation preparation, the State CPR Supervisor distributes the necessary forms to the designated LEA Coordinator who assists in coordinating the review. At the request of the Local Educational Agency, an orientation session is scheduled to clarify the CPR Plan and prepare the local staff for the on-site review.

3. On-Site Visitation -- Review teams spend from two to three days at the local district/institution observing the total vocational education program in operation. The teams attempt to identify strengths and areas which may need improvement. In addition, the teams offer assistance through written and oral recommendations for the improvement and/or modification of local programs and services. A written report is prepared by the CPR Section based on the team member's review and evaluation.

4. The Review Team -- Review teams are selected approximately two to three months prior to the scheduled on-site visit. There are three to five program review members on each team as determined by the size and complexity of the educational program.

   a. Composition of the team -- The team consists of persons who have demonstrated competence and knowledge through experience. Members are selected from a list of representatives of local educational agencies, consultants, interns, and specialists, state and local advisory committee members, teacher-educators from approved vocational teacher-training institutions, persons representing business and industry, and State Board supervisory personnel.

   b. Selection of Team Members -- The LEA has an opportunity to select one member of each program/service review team. This is accomplished by completing the program/service area review team form--CPR 2. Recommended criteria to be followed in the selection of local representatives is included in the

CPR Manual.

The State Board staff supplies all additional team members. Names of team members selected by the State staff are forwarded to the LEA. The local district/institution may disapprove any member of the team by submitting in writing the reasons and the justification for the refusal; otherwise, the team composition is considered final. The State Board has final approval of the composition of all selected teams.

c. Responsibilities of the Review Team -- Review teams are responsible to evaluate vocational education programs/services in operation at the LEA. The teams:

(1) Review all documented materials prepared by the LEA and those compiled by the State CPR Section.

(2) Visit with teachers, administrators, support personnel and students and with other business and industry representatives, including advisory committee members, as needed, to objectively evaluate the total vocational program.

(3) Review classroom facilities, equipment, instructional materials, and supplies available to the program/service area.

(4) Participate in interaction sessions with administrative, instructional, and support personnel, and with local advisory committee members.

(5) Participate in group exit interview sessions with program/service area personnel and with the advisory committee representative.

(6) Prepare written reports on each area evaluated listing strengths, areas for improvement and recommendations.

d. Coordination of Review Team Activities -- The CPR Section selects a state staff member to serve as Team Chairperson to coordinate the total local program review. Team leaders are selected by the CPR Section to coordinate the review team's activities in each program/service area. The responsibilities of the Team Chairperson and the team leaders are outlined in the CPR Handbook.

Review team members participate in an orientation session prior to the actual on-site visit to become familiar with the local facility, CPR procedures and reporting forms, and specific team responsibilities.

5. Specialty Area Interaction Sessions -- Each review team participates in an interaction session with local school personnel in each program/service area and with members of the local advisory committee during the on-site visitation. The purpose of the session is to review the evaluation instruments prepared by the LEA staff and to discuss in great depth the operation of the total vocational program.

6. Team Report Preparation -- Each program/service review team prepares a written composite report based on the team's evaluation. Composite reports are used for discussion at a summary conference scheduled at the conclusion of the on-site visit.

   In addition, a Comprehensive Program Review Report is prepared by the CPR Section utilizing all composite reports developed by individual teams. This report will be distributed to the LEA for their review and response. The Comprehensive Program Review Report identifies strengths, areas for improvement, and recommendations and will serve as a guide for future planning and decision making by both the LEA and the State Board.

7. Speciality Area Exit Interview Sessions -- Each review team participates in an exit interview session with local school personnel in each program/service area at the conclusion of the on-site review. The exit interview provides the LEA instructional and support staff an opportunity to discuss and react to the team's findings and recommendations.

8. Summary Conference -- A summary conference is conducted on the final day of the visit and includes the LEA coordinator and appropriate local administrative personnel. The purpose of the conference is to review and discuss the findings and recommendations, etc., which affect both the LEA and the State Board. The CPR Section arranges the final conference with the local coordinator.

Phase III -- Follow-Up Procedures. The final phase of the Comprehensive Program Review consists of a follow-up of the on-site visitation. Following the on-site visit, the CPR Section

prepares a written Comprehensive Program Review Report and distributes copies to the appropriate local administrators.

The local agency is requested to prepare a written response to the Comprehensive Report and forward the response to the State CPR Section.

Through a coordinated effort with the LEA, a meeting with the appropriate regional planner and representatives from the State Board's administrative staff is scheduled to review, discuss, and prioritize the concerns and recommendations contained in the Comprehensive Report. The State Board's staff assists the LEA in formulating a feasible plan of action for implementation of the recommendations.

Further follow-up activities consist of periodic visits by program supervisors, the regional planner, and other state staff members, for the purpose of reviewing local progress. In addition, periodic progress reports are requested by the state staff from the local educational agency.

Capabilities and Limitations

From the organizational standpoint, Colorado's vocational educational system enjoys an advantage over states that have separate evaluation systems for the secondary and postsecondary programs. The personnel/offices that do evaluation work cover both programs which is an important factor in the efficient utilization of staff, fiscal and material resources.

Planning and evaluation are located under one branch. While they may not guarantee the efficient utilization of evaluation results in planning and making wise decisions and policy recommendations, the organizational arrangement nevertheless tends to provide this opportunity.

Colorado's CPR merits recognition. The foregoing discussion reveals that its program review seems to satisfy the following major criteria of one dimension of an effective evaluation system:

1. It focuses on both process and product.
2. It has a broad involvement of people.
3. It provides for assistance and feedback recommendations.

There are some weak spots, however, that need attention to

improve the total system. These are:

1. Limited coverage of the CPR. At the present rate of five to seven schools per year, it will take more than five years to cover all the schools of the state. Weak schools and/or programs may therefore have to wait for two to five years before CPR assistance could be offered.

2. The MIS collected tremendous amounts of data mainly for "compliance purposes of federal and state legislations." Utilization of the MIS could be improved by offering an important service not only to the SEA but also to the LEAs by compiling an annual profile of schools and districts vocational programs on the basis of certain indicators of quality.

3. At the time of this study, the state had no well-defined and approved plan for the total vocational education evaluation. As expected and observed by the National Center staff, there seemed to be problems of uncertainly on part of the personnel concerned with evaluation.

Problems, Alternative Solutions, Solutions, Results

Based, for the most part, on observation and discussions during several state visits, it is the opinion of the project staff that Colorado has many of the essential parts of an effective evaluation system. The Management Information System (MIS) can provide required information in whatever form desired for the evaluation effort. There is an excellent working relationship between those responsible for the collection, storage and retrieval of information and those charged with evaluation. The range, quality and availability of data and the cooperation of the staff are strong contributors to an effective and efficient evaluation system.

Colorado's supervisory staff is responsible for a portion of the evaluation scheme which consists of a checklist of strong and weak points of programs visited.

A Comprehensive Program Review (CPR) is done by a team of individuals representing most segments of the society having an interest in vocational education. This team has both related data and the supervisory findings as background information to its review of the process operation as a basis for recommendations on program improvement.

Plans have now been made for the CPRs and the supervisory visits to reach all vocational programs in the state in a five-year period. Administration voices strong support for evaluation. Some additions and modifications are needed if the evaluation system is to be fully effective. Some of those additions and modifications which the state is making or is considering are discussed in this section.

Problem 1: Measuring student achievement

Explanation: the 1976 Education Amendments suggest that student achievement be used as one of the criteria in evaluating vocational education programs. Evaluation coordinators in the four participating states (California, Colorado, Alabama, Maine) in this project indicated measuring student achievement as one of the four major problems common to the states. State Directors, when surveyed during a national conference in September, 1978, ranked this problem in the upper quartile of evaluation problems in the states.

The whole field of competency teaching, testing and reporting would appear to be well suited to vocational education. Certainly, if we know specifically what it is we want students to learn, and if we construct ways of measuring and reporting this learning, we have a reasonable method of evaluating programs.

Curriculum materials are being developed which concentrate on teaching and testing for competency attainments of students. Many schools in several states are moving in the direction of more specific determination of student learning. The reporting and accumulation of this information for use in evaluating programs is an area which needs development. Colorado, along with several other states, has expressed an interest in this as a part of an improved and expanded evaluation system.

Alternative 1: Competency testing and reporting of student achievement at school/program level. (Use of competency based curriculum.)

Advantages:

- Less effort on part of the state is required.
- With this procedure schools could design programs to meet local needs.
- Schools would have measures of their effectiveness.

Disadvantages:

- There could be wide differences in competency requirements between schools even in same program areas.
- Educators might have a limited view of competency requirements of an occupation.
- Presently, valid and reliable tests do not exist in all instructional areas.
- This would require extensive inservice training to be reliable and valid.
- All programs may not be using uniform curriculum or have curriculum available.

Alternative 2: Statewide competency testing and recording of student achievement.

Advantages:

- o There would be uniformity across the state.
- o Schools/programs would know what is expected.
- o Teachers would know what employers expect of a trainee.
- o A sound basis for determining program effectiveness would be provided.

Disadvantages:

- o A major financial and personnell effort on the part of the state would be required.
- o Tests do not exist.
- o Schools might feel their local autonomy was being threatened.
- o There might be danger in judging teachers on pupil performance.

Alternative 3: Base student achievement on success on the job.

Advantages:

- o Student and employer follow-up would provide information needed for this procedure.
- o Schools would be encouraged to emphasize importance of follow-up to students.
- o The state would have reason to expand follow-up beyond the first year.

Disadvantages:

- o This would not be applicable for students who did not become employed.
- o It is difficult to judge effects of outside influences on employment.

Alternative 4: Rating of students by skilled indivicuals outside the school.

Advantages:

- o The community would be involved in the vocational program.

- o Excellent experiences for students would be made available.

- o This could be a stimulus and aid to employment.

Disadvantages:

- o It would be difficult to maintain uniformity under this method.

- o A major effort on the part of the state and local schools would be required.

- o Programs might be reluctant to accept poorer students.

Choice - Results:

Obviously, whichever alternative is chosen, a major effort will be required. This is a long range objective to which the state should expect to allocate a considerable amount of time and resources over a period of several years.

The state can begin to test some alternatives. If agreement can be reached on competencies required for successful employment then curriculum can be constructed which is based on these competencies and which provide tests to determine the level of achievement of each student. Validation of curriculum materials is a complex and time-consuming activity.

The Mid American Vocational Curriculum Consortium, of which Colorado is a member, is a starting place for recording student achievement. If tests do, in fact, measure competency, and if curriculum materials are valid, this should give reliable information upon which to begin to build baseline data on how well students are mastering the competencies needed for employment.

Problem 2: LEA self-evaluation

Explanation: The supervisory visit and the CPR can service all programs or schools in the five year mandated cycles. A locally administered self-evaluation was proposed by the state staff to supplement other evaluation efforts. A preliminary plan was presented to a group of local vocational directors for their review and suggestions. Local directors suggested extensive revisions stressing particularly the need to reduce the time and work required by teachers and administrators.

Alternative 1: Give locals basic procedures and let the school design its own system.

Advantages:

- o In this procedure schools would feel more committed.
- o Schools would know best what they need to know to improve.
- o This would require less effort on the state's part.
- o The school could design a system which is most appropriate for them.

Disadvantages:

- o Results would not be uniform.
- o It would be difficult to judge quality of evaluation unless some basic guidelines were set.
- o All schools would not necessarily participate in this procedure.
- o With this procedure it is probable that schools/programs which need evaluation most would get the least.

Alternative 2: Provide locals with all procedures and instruments.

Advantages:

- o Uniformity would be greater.
- o The state could get kinds of information and data it thinks are needed.
- o Effort required of local schools would be reduced.

Disadvantages:

- o Local administrators and teachers might see this as imposition from the state.

- Inservice training would be needed to implement this alternative.
- It would probably be difficult to get agreement on procedures and instruments.
- A major input of resources and time by the state would be required.

Alternative 3: Discard local self-evaluation and depend on reported data as initial evaluation.

Advantages:

- Effective and ineffective programs would be identified.
- This would indicate to local administrators and teachers what was expected of programs.
- The data base for this procedure is for the most part, in place.

Disadvantages:

- Use of this procedure would not provide suggestions for improvement.
- It might be difficult to secure agreement on evaluative criteria-standards. (See Problem 8).

Alternative 4: Expand supervisory review (Problem 10) and CRPs.

Advantages:

- Recommendations for improvement would be possible.
- Increased contact with state staff and non-educators would be provided for more schools/programs.

Disadvantages:

- Additional effort and resources from the state would be required.

Choice - Results:

Plans for a local self-evaluation have been cancelled. Since supervisory visits have been expanded so that every program is reviewed in a five year period the self-evaluation is less critical. The alternatives presented have relevance if, at some time

in the future, a decision is made to revive the self-evaluation part of the evaluation effort.

Problem 3: Employer follow-up

Explanation: The Educational Amendments of 1976 mandated contact with employers to determine how satisfied they were with training received by recent vocational completers. The Vocational Education Data System (VEDS) has specified how this information is to be collected. The problems faced by state staff are how to secure continuing support from employers and how to avoid violating the confidentiality rights of former students.

VEDS has proposed a procedure which will eliminate the name of the former student from the employer response. There are other alternatives a state should consider. This will be the first part of the problem discussed. The most appropriate method of securing continuing cooperation of employers is the second part of the problem faced by those in Colorado planning this part of the system.

Problem 3A: Assuring confidentiality of employer follow-up

Explanation: The state is asked to obtain perceptions of employers on the comparative quality of training evidenced by recent participants in vocational training. Employers will be asked to make judgments as to employees' technical knowledge, work attitude, work quality and overall training. If this is perceived as an invasion of privacy by either the employer or the employee, the response rate could be drastically affected. VEDS has proposed that the employee be identified to the employer and that the identification be removed before the response is returned. An alternative used by another state (Maine) is to explain to the former student in the follow-up instrument that the state wants to contact the employer and ask for the student's permission to do so. In Maine eighty percent of the students responding (fifty-five percent) gave their permission.

Alternative 1: Use VEDS "tear off" method.

Advantages:

- o It meets federal requirements.
- o It is possible to analyze by program and group.

Disadvantages:

- o It is impossible to determine which individual has responded.
- o If no employers fail to remove identification, the state has no proof of anonymity.
- o If information is collected on one employee from one employer, confidentiality is not maintained.
- o Employers may not feel secure with this system.

Alternative 2: Request former student's permission to contact employer.

Advantages:

- o This system would probably be more acceptable to employers.
- o With this procedure former students are more informed of the state's intentions.

Disadvantages:

- o The response rate might be reduced.
- o Employees having problems with employers are not likely to give permission to contact employer.
- o This, in effect, eliminates other approaches if the student does not give permission to contact employer.

Choice - Results:

The state will proceed with the "tear off" system recommended by VEDS. Some testing of Alternative 2 or other approaches would be advisable. As stated in the introduction to this problem, Maine received an eighty percent positive response from those students who responded. (fifty-five percent). This still leaves a large group of former students on which there is no data. A strict sampling technique or strong effort to pool non-respondents is still a necessity if there is to be full confidence in the results.

Problem 3B: Securing continuing cooperation of employers.

Explanation: Employer perceptions of quality of training are to be a continuing part of the state evaluation system. A method must be devised which will assure an acceptable level of response over a number of years. A few states have received up to a seventy-five percent response from employers. Whether or not this level of response can be maintained remains to be seen.

In observing a number of employer follow-up efforts, the project staff has concluded that there are certain steps which should be considered in establishing an employer follow-up.

1. Keep questions to a minimum of critical information.
2. Personalize the correspondence - ask a certain person (employer) about a certain employee.
3. Explain how information will be used to benefit employer.
4. Involve employers in a planning survey.
5. Allay confidentiality fears.
6. Get support of employers groups.

Alternative 1: Mail our survey instrument.

Advantages:

- o This method is the easiest and least costly.
- o This procedure makes for easy analysis.
- o This procedure is probably less trouble to employers.
- o This is an opportunity to make employers aware that vocational educators are attempting to meet their needs.

Disadvantages:

- o This does not provide interest of personal involvement of educator and employer.
- o There is no way to be sure inquiry gets to the person most knowledgeable of former students' work.

- Employers receive many inquiries and some may resent being asked for information.

Alternative 2: Teacher (student?) personal interview of employers.

Advantages:

- It interjects personal involvement of teacher or student with employers.
- This experience would be very educational for students.
- It provides direct feedback to teachers.

Disadvantages:

- Many additional hours would be required unless done as a class project.
- The data gathered in this way would be difficult to analyze.

Alternative 3: Secure cooperation of employer organization such as Chamber of Commerce.

Advantages:

- This method could increase interest and support of employer organizations for vocational education.
- An increase in employer response is probable.
- There would be increased interaction between educators and employers.

Disadvantages:

- A major effort on the part of employer organization would be needed.
- Not all employers would be members.

Choice - Results

Most states, including Colorado, will be using a mail out instrument. It is important, regardless of the system used, that employers be involved in the entire process of planning and implementing the procedures. States should try to personalize the inquiry to the extent possible and also to make a point of how

this information will be used to benefit employers.

Colorado should consider the implementation of one of the other alternatives presented. There does not appear to be one "best" way to conduct an employer survey. As a class project this could be a very worthwhile and enlightening experience for everyone involved. Securing the support of a statewide organization such as the Chamber of Commerce could produce many side benefits in addition to securing information needed for follow-up.

Problem 4: Use of evaluation information and data in planning.

Explanation: Data from the MIS and information from evaluation can be important inputs into state planning. In Colorado state and regional planners make many important decisions on program implementation, expansion or termination. It is important that these planners have available and use all relevant information in making these decisions.

There may be several reasons why information or data are not used in making decisions.

1. Decision makers (planners) may not know the information is available.
2. The data and information may not be in the form that the planner needs it.
3. The planner may not have confidence in the data.
4. The planner may not know how to use the data or information.
5. The information may not be available when the planner needs it.

Most of these reasons for not using evaluation information and data focus on the lack of communication between individuals. How this communication can be assured is a problem which should be of concern to all state administrators and staff. Communication and cooperation between MIS and planning seems to be well established. Several administrators expressed concern about the flow of information between MIS and planning and evaluation and planning.

Alternative 1: Depend on the normal flow of information and data.

Advantages:

- o State staff feels comfortable with this system.
- o Where this system works there is less tension.

Disadvantages:

- o The state staff may not be aware of or know how to use some of the information.
- o Those who supply information may not know what is needed.

Alternative 2: Establish formal request and response communication and time lines.

Advantages:

- o There would be assurance that the staff will at least go through the motions of communicating.
- o Each section would be aware of the other's needs.
- o The administrator will have information on what communicating is being done.

Disadvantages:

- o The staff may feel pushed by this formal system.
- o Such a procedure does not assure cooperation.
- o Monitoring by administration would be necessary.

Alternative 3: Reorganize so that all these units are together under one administrator.

Advantages:

- o Responsibility for assuring communication would be on one administrator.
- o Units would be brought closer together organizationally and possibly physically.

Disadvantages:

- o Reorganization is disruptive.
- o People do not like to be forced to change.
- o This move alone will not assure cooperation and communication.

Choice - Results:

Alternative 3 is already in place since planning and at least part of the evaluation effort are already organizationally together. For the present, the state will continue to employ alternative 1. To enhance the relationship between evaluation and planning in-service sessions are being conducted to consider what information is available, what is needed and how best to use evaluation information in planning.

The initiation of a formal system is illustrated in the Alabama Chapter should probably happen only is all else fails. This system emphasizes that the user specify what information is needed and when. This means that the supplier of the information is in a much better position to comply.

Problem 5: Identifying schools/programs to evaluate.

The question presented by this problem is "since all programs can not have a CRP or supervisory visit immediately; which ones should be selected to receive these evaluations and improvement activities first?"

Alternative 1: Random sample of schools/programs to have supervisory visit or CPR.

Advantages:

- o Data could be considered representative of the entire state program.
- o All schools/programs would have equal opportunity of being reviewed.
- o Each year programs at all levels of quality would be reviewed.

Disadvantages:

- o Some programs needing assistance most might not be reviewed.

Alternative 2: Using outcome data select schools/programs which need help the most.

Advantages:

- o Assistance would be provided to schools/programs that are least effective.
- o The data system is in place to identify the least productive programs.
- o Programs would know what is expected of them.
- o Schools/programs would know if they were not productive.
- o Time would not be taken from good programs.

Disadvantages:

- o This could be embarrassing to administrators and teachers.
- o Under this system teams would see only poor programs.

Alternative 3: Ask for volunteers' or supervisors' recommendation.

Advantages:

- o Only programs wanting to be evaluated would be.
- o Programs needing assistance could be identified by supervisors.

Disadvantages:

- o Programs needing help the most probably would not volunteer.
- o Supervisors might be reluctant to identify worst programs.
- o Supervisors might select programs more on the basis of process than outcomes.

Choice - Results

It can be assumed that supervisors would identify those programs which need help the most. Some programs needing

assistance the most might not be included in early supervisory visits. It is recommended that outcome data provided by the MIS be used as a starting point in identifying programs to be reviewed (alternative 3). This will necessitate some agreement on what outcomes should be used as a basis for determining program effectiveness.

Problem 6: Systematizing all evaluation efforts.

Explanation: As stated in the introduction to this section, Colorado has some very effective parts of an evaluation system. In order to be most effective, a system should be designed which will focus each of these separate parts into an organized effort aimed at improved programs at the local level and improved planning at the state level.

This question, as identified by some administrators, asks "How can the supervisory reviews, the CPR's and data provided by the MIS support and complement each other in order to maximize the impact of evaluation?" All participants - local teachers and administrators, supervisors and CRP team members should be able to see clearly how their activities fit into the total effort of program improvement. Designations should be made which indicate the role and responsibility of each of the parties. Each of these entities is best suited to specific parts of the evaluation effort. To illustrate, the supervisory staff may be best suited to providing technical assistance to local schools in implementing recommendations while the CRP teams may be most effective in making recommendations and providing support for change. How should the state proceed in assigning roles and responsibilities?

Alternative 1. Call conference of representatives of each group.

Advantages:

- o Misunderstanding as to role and responsibility would be cleared up.
- o Input from all parties should produce ideas for increasing input.
- o Individuals would feel more a part of the evaluation effort.

Disadvantages:

- Systematic approach would not be assured.

Alternative 2. Form an oversight committee to direct and monitor activities through evaluation coordinator.

Advantages:

- Committee could view the problem from an objective viewpoint.
- Responsibility for decisions would be outside realm of affected parties.
- Changes could be made without concern for turfmanship.

Disadvantages:

- Decisions would be slower and hindrances to action created.
- The evaluation coordinator might spend a lot of time reporting to this committee.
- It would not necessarily assure a systematic direction to evaluation.

Alternative 3. Use a systems expert (internal or external) to design system.

Advantages:

- This would create a systematic approach.
- The impact would be increased.
- Roles and responsibilities at a point in time would be clarified.
- An objective decision would result.

Disadvantages:

- Some parties would probably be unhappy with the decisions.
- The wrong person selected to do this could multiply problems.

Choice - Results

It is recommended that the state consider a combination

of alternative 1 and 3. The systems design person working with a committee representing the various phases of evaluation under the general direction of the coordinator of evaluation could put together the most appropriate arrangement for the state. A full workshop to present the proposed system and clarify roles and responsibilities could facilitate effective program improvement activities of the department.

Problem 7: Determining effectiveness for special needs groups.

Explanation: Every state is faced with the problem of (1) identifying individuals having special needs, (2) determining what needs individuals have, (3) planning programs or services to meet those needs, and (4) determining effectiveness. While each state has some unique aspects which influence decisions made in this area, in general, the factors to be considered may be grouped as access, process and outcome questions.

One source of assistance and expertise available to the vocational education department is the special education section in the Colorado state education department. The relationship with this section needs to be strengthened through a conscious effort to communicate and cooperate. Evaluation should determine not only how well special needs individuals are being served at the local level but also how effectively all sources of support are being mustered to solve the problem at the state level.

These problems and the alternatives to be considered are discussed as problem 7 in the Alabama Chapter and as problem 6 in the California Chapter. These same alternatives would seem appropriate for Colorado keeping in mind those state characteristics which may result in the choice of different alternatives.

Problem 8: Development of standards for program evaluation.

Explanation: Some consensus on outcomes should be reached if Colorado or any other state is to do an equitable job of evaluating programs. The state has a data base which could be used to reach seom firm agreements on what is acceptable in terms of performance of local programs and schools. If standards are made to deal with process alone, without any firm knowledge of how these processes affect outcomes, vocational education is just engaging in window dressing.

Alternative 1: Use part outcome data to set outcome standards.

Advantages:

- o The data base to do this is on hand.
- o It should be considered reasonable by those involved.
- o To realistically plan for the future, it is necessary to know what has happened in the past.

Disadvantages:

- o Past performance alone is not a sufficient cause for determining quality.
- o This procedure might not provide challenge to top programs.

Alternative 2: Set school/program standards on process, facilities, equipment, etc.

Advantages:

- o Programs needing additional funds would be indicated.
- o The visible aspects of programs would be improved.

Disadvantages:

- o Program effectiveness in achieving student outcomes would not be indicated by this procedure.
- o This procedure alone avoids and may substitute for measures of real effectiveness.

Alternative 3: Hold conference to identify standards.

Advantages:

- o An opportunity for everyone to make an input would be provided.
- o Standards should be acceptable if developed in this way.
- o Vocational educators and others would be informed of what is important.

Disadvantages:

- o Many individuals are inclined to overemphasize process standards.
- o Agreement may be impossible to achieve.

Choice - Results

The state is in the process of developing standards at the present time. All three of the alternatives mentioned are being used. Conferences are used to review and revise standards which set levels for both student outcomes and program conditions and processes. Effectiveness of these standards in determining program quality and in identifying needed improvements will be observed during use this year.

Problem 9: Meeting requirements of mandated postsecondary evaluation.

Explanation: The Colorado State Board for Community Colleges and Occupational Education has mandated that all colleges, both state and locally supported, be reviewed to indicate their strengths and weaknesses. How the state staff will meet this requirement is a major problem. If review is taken to mean a team review, this would appear to be impossible with present staff and resources.

Identifying strengths and weaknesses requires someone who examines conditions and processes in that particular school. Another question which arises is what the Board wants to do with this information. If it wants to know which programs are effective, this can be determined by examining outcome data. If, on the other hand, the Board is planning special assistance toward program improvement, this requires experts to recommend changes in programs that are fully effective.

Alternative 1: Review of data on all programs combined with self-evaluation of all programs.

Advantages:

- Data system is in place to do this.
- An opportunity for vocational educators to take an in-depth look at their own programs would be provided.

Disadvantages:

- Development of a self-evaluation procedure and acceptance by postsecondary institutions would be required.
- It would have to be determined whether or not this procedure meets the requirements of the Board.

Alternative 2: Review of data on all programs with team visit to programs needing improvement the most.

Advantages:

- o Programs needing help the most would receive the most assistance.
- o An indication of effectiveness of all programs would be obtained.
- o This would be the most efficient use of teams.

Disadvantages:

- o Process strengths and weaknesses of all programs would not be identified.
- o Requirements of the State Board might not be met by this procedure.
- o Team members could form wrong impressions of quality of all vocational programs.

Alternative 3: Contract for outside review.

Advantages:

- o This would avoid staff neglecting other duties.
- o An outside view might be more acceptable to some parties.

Disadvantages:

- o Outside contracting would be very expensive to fully meet the requirements of the regulation.
- o Some benefits of local involvement could be lost.
- o The state relinquishes control over the findings and comments of outside reviewer.

Choice - Results

The state is concentrating the Comprehensive Program Reviews in the post-secondary area in order to meet the regulation of the Board.

Problem 10: Increasing effectiveness of the supervisory review.

Explanation: Under the present system, supervisors review programs on the basis of a checklist of items. This results

in suggestions for improvement and identification of programs which are in greatest need of assistance.

Anytime one person, especially a person closely involved in the operation, is asked to make judgment about the quality of that operation there is room for skepticism about the results. In order to avoid putting supervisors in an untenable position it is important that every effort be made to assure objectivity and credibility.

Alternative 1: Involve at least one member of the local advisory committee in the program review.

Advantages:

- o This could be done at minimal additional expense.
- o The role and understanding of advisory committee members would be expanded.
- o Recommendations made for improvement would be strengthened.
- o Formation and use of advisory committees would be stimulated.

Disadvantages:

- o Careful scheduling of supervisory visits would be necessary.
- o There is the potential for bias in using a local committee.

Alternative 2: Provide supervisor with as much supportive data on the program as possible.

Advantages:

- o Data system is in place to do this.
- o The supervisory would know student employment success record for each program.
- o There would be greater opportunity to relate outcomes to process.
- o The supervisor could observe results of program changes.

Disadvantages:

- o Some modifications in data system might be necessary.

Alternative 3: Make basis for judging program quality as objectively as possible. (See problem 8).

Advantages:

- o This would lighten pressure on supervisors in pointing out program deficiencies.
- o Effectiveness of evaluation would be increased.
- o Credibility of evaluation would be increased.

Disadvantages:

- o Program weaknesses reflect strongly on program and school. These are important deficiences and could cause school embarrassment in the local community. (This may be viewed as an advantage from another perspective.)

Choice - Results

Supervisors will be provided with as much applicable data as are available in preparation for a school visit. Basing evaluation on objective measures to the extent possible will be stressed.

Project staff recommend that one member from each program advisory committee be included in each program reviewed by the supervisor. This will add another perspective to evaluation as well as providing for additional involvement of the advisory committee. An indepth review of the instruments used by supervisors is recommended. Revision of the supervisory checklist to include essential criteria of program quality as well as to verify data and additional services for special populations could increase the effectiveness of that evaluative effort.

Many of the problems addressed in this section require long range planning for solution. In some instances, temporary treatment is applied until a more permanent answer can be achieved. The project team working with state staff will continue to search for the most effective and practical solutions to these and other problems as they arise.

Colorado Chapter III

Notes

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CHAPTER IV

MAINE CASE HISTORY

This chapter addresses vocational education developments as they have been influenced by Maine's historical and contextual background. In addition, a description of the state's historical and present vocational evaluation system is presented. It also addresses evaluation problems, alternative solutions to these problems, and results of applied processes in evaluation.

Maine Contextual Background

Important to the operation of vocational education in any state is the context in which it exists. Topics that report the vitality of Maine as a state are presented in a discussion of its history, general description, economy and governmental structures and general public educational delivery system. This section also includes the way the system contributes to vocational education through guidance counseling and career education.

State History and Educational Development

The northeasternmost land mass in the United States was named New England by the historically well-known explorer Captain John Smith. The New England states are Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island.[1] Originally these states were inhabited by Indians of the Algonkian Group. The earliest primitive people were known as "Red Paint" people because they lined the graves of their dead with red clay. These people hunted in Maine long before the coming of the Micmac and the Abenaki Indian nations, and are believed to have resided in Maine as early as 3000 B.C.[2]

The two earliest Indian nations were the Micmac of eastern Maine and New Brunswick who were largely a war-like people. The Abenakis were generally peaceful people and were more prone to farming and fishing as a way of life. The modern day descendants of these tribes are the Passamaquoddies (1,500) who live on two reservations located at Pleasant Point near Eastport and the Penobscots (1,200) who live on Indian Island on the Penobscots River at what is known as Old Town.[3]

coastal villages of Maine from British raids, led to separation at the onset of the War of 1812. Maine became the twenty-third state in the Union, as a free state, opposed to slavery under the Missouri Compromise in 1820.[9] The population of Maine at this time reached 300,000. The new state had nine counties and 236 towns.[10]

After a boundary dispute between Maine and New Brunswick was settled in 1842, economic development went forward. Entrepreneurs came to Maine to make their fortunes which led to the greatest period of economic growth which occurred between the years 1830 and 1860. Industries developed from the availability of lumber, ice, granite, limestone, and fish thus contributing to the state's economy.[11] Water powered factories were developed alongside the many sawmills that were established along Maine's important rivers. The primary sources of manufacturing employment were textiles, paper, and leather products. Fishing and farming became more important although they experienced greater economic fluctuations. The industries in the state received setbacks due to the occurrence of the Civil War and the Industrial Revolution.[12]

When Maine was admitted to the Union as a free state under the provisions of the Missouri Compromise, they did so with strong anti-slavery tradition. Harriet Beacher Stowe, wife of a Bowdoin college professor, wrote Uncle Tom's Cabin, at Brunswick, Maine. This book had serious implications for inflaming anti-slavery sentiments through the northern states prior to the outbreak of the hostilities of the Civil War. Some 73,000 Maine men served in Union forces and approximately ten percent of these lost their lives during this conflict. Maine contributed two famous generals to the Civil War. Joshua L. Chamberlain was the hero of Little Round Top and the general to whom General Robert E. Lee of the Confederate States surrendered at Appomattox Courthouse in Virginia at the closing of the Civil War. He later became the president of Bowdoin College in Maine. The second great general was Oliver Otis Howard, who was said to have performed brilliantly at Gettysburg and Bull Run. Howard later became one of the principal founders of Howard University and served as its first president.[13]

Maine's citizens experienced struggles of a political nature in its development. The Jeffersonian and Jacksonian Democrats and WIGS held political sway in Maine until the emergence of the Republican Party that started in 1854. Credit for its establishment is given to Hannibal Hamlin, a former Democratic U.S. Senator, who separated from his party over the slavery question. He served as the first state GOP Governor, and in 1860 was elected the first republican vice president of the United States under Abraham Lincoln. From the time of

It is believed that as early as 500 years before the arrival of Columbus, who is given credit for discovering America, Leif Ericison and a crew of thirty Viking sailors explored the coastal areas of Maine. It is thought that they may even have tried to establish a settlement somewhere along the coast.[4] Documented exploration of this land by the Portuguese, Spaniards, French, and English was achieved as early as the sixteenth and seventeenth centuries. A settlement was first attempted by the English at Popham Plantation on the Kennebec River in 1607, but severe winter weather made settlers return to England. Permanent settlements were established by the English in Maine during the 1620's.[5]

At first, Indians lived in peace with the first settlers. However, the French and the Indian War eventually ensured between the French and English crowns who both laid claims to the general territory and the Indians who resented their being encroached upon by newly arriving settlers. When the British conquered the French in Eastern Canada in 1763, open hostility ended. Peace brought the establishment of summer fisheries on certain coastal islands and fur trade with the Indians in the early seventeenth century.[6]

Maine became a separate province in New England under Charles I of England. However, the Puritan colonists, of Massachusetts to the south, took over governments of the district of Maine at the end of the British Civil War. They offered 100 acre lots to anyone who would settle the northern province. Thus, the population of Maine grew from 12,000 to 24,000 between the years of 1743 and 1763 and by the end of the century Maine's population was more than 150,000.[7]

The citizens of the territory of Maine were considerably oppressed by the taxation policies imposed by the British Parliament. In retaliation, a mob seized a quantity of tax stamps at Falmouth (now Portland) in 1765, and continued attacks on custom agents in the province became common. In 1773, the same year as the Boston Tea Party, citizens of Maine burned a shipment of tea stored at York. Then in 1775, British War Ships, under the command of Captain Henry Mowatt, shelled and burned Falmouth and punished its residents severely. There were ensuing naval battles and land conquests involving Maine men. The war cost 1,000 lives and the destruction of the district sea trade as well as the destruction of its principal city at Falmouth.[8]

Massachusetts to the south had taken over governance of the district of Maine at the end of the British Civil War. The Massachusetts commonwealth, in its inability to protect the

the formation of the Republican party in Maine, the Democrats experienced victories only in the national elections of 1910, 1912, and during the depression years of 1932 and 1934. It wasn't until 1954 in the election of Democrat Senator Muskie, that sustained competition developed between the two major natural parties.[14]

It is significant to note that Republican Margaret Chase Smith achieved national fame as the first woman to serve in both the Senate and House of Representatives. In her role as a Republican Senator she spoke out against excessess of McCarthyism in the 1950's. In 1964, her name was placed in nomination for the presidency of the United States at the Republican National Convention in San Francisco.[15]

Keeping in mind the developmental history of Maine, it follows that Maine did not have a school system developed in its early years of exploration and settlement. The territory was settled slowly and the threat of Indian attacks left little time for social and cultural development. During these years, it was unsafe for children to leave the site of their homes. Thus, it wasn't until about 1700 that schools were maintained regularly.[16]

Public schools were first established by law in 1647. The law had the purpose of "to thwart Satan's desire to keep men from knowledge of the Scripture and to prevent learning from being buried in the graves of their forefathers:" Although a number of schools were established prior to 1700, most records were destroyed during the Indian wars. Perhaps the first school of note was established in York, adjacent to the state of Massachusetts. The town voted and bargained with a man by the name of Mr. Nathanial Freeman, who was to keep school for inhabitants of the town of York, for which the town was to pay Freeman eight pounds for teaching a year, three pence for teaching reading, and four pence for writing and ciphering.[17]

The next oldest record of the existence of a school was in the town of Wells, dating back to March 20, 1715. Again, the school master was paid at the town's charge. However, this school had no success, since the town was indicted in 1716 for not having a school.[18]

School was apparently attended in home dwellings prior to the establishment of the first recorded school in York on March 9, 1724. The school was built at the lower end of the town on ministerial land at the expense of the town. The building of this school was followed by the first school house built in Wells in 1731 and another one in 1734.

In 1789, Maine was still part of Massachusetts and it adopted a school district plan for local operation of schools. Certain principles regarding school establishment were set forth. These principles included town support for schools, the establishment of districts as part of the subsection of a town, the teaching of morals, issuance of certificates of literacy and moral qualifications of teachers, establishment of primary schools, the recognition of women as teachers, and the right of the town to manage the schools by a committee. The principles did not include the school districts as a legal entity and lacked any requirement for appropriation. Thus, in 1917, the general court made all school districts corporate entities with power to sue and be sued, to take and hold any estate, real or personal, for support of schools and to raise money for the purpose of erecting and maintaining a school house.[19]

When Maine became a state in 1820, 236 towns had established elementary schools that were supported by public taxes. This tax amounted to forty cents per capita within the towns. The first school law, passed in 1821, did not make provisions for state assistance to public education, thus the burden of support rested solely on the towns' inhabitants. This condition still exists today, however the per capita tax is now twenty dollars as was established by the legislature in 1969. This early local support of schools by the towns people established a prejudice by Maine's citizens against anything in governmental affairs that looked like centralization of control. However, even in these early years, a need existed for state participation in school support. Thus, in 1828, a public school fund was set up with $200,000, received from the sale of twenty townships, together with some money received from Massachusetts as Maine's share of war claims against the United States.[20] This fund was the forerunner and basis throughout later years for larger funds for the equalization of educational opportunities. It was this act that established the principle of state support.[21]

During the early 1800's the legislature passed laws for the development of the public school system that provided for community school districts. The inhabitants of a territory of two or more towns were allowed to form a community school district to serve their children educationally.[22]

The school district plan served an important purpose in the pioneer period, it guaranteed a school wherever people were. Indications in the early nineteenth century showed that all was not well.

In 1822, Portland found that the school district system and the multiplicity of school officers, committees, and agents posed as obstacles to good schools. It abolished the school

The pioneer State Board lasted from 1846 to 1852. During this brief time it collected statistics about schools of Maine. The average teacher's salary was $16.17 a month for male teachers, and $1.52 per week exclusive of board for female teachers. The average school year was twenty-one weeks and a day. During this time 201,992 students were served. The Board also recommended that teacher institutes assist teachers in acquiring some knowledge of their work. Legislation establishing these institutes was passed in 1846, and set the ground work for teacher education in the state. During this year thirteen institutes were attended by 1,686 teachers.[26]

The Board was replaced by County Commissioners of Common Schools in 1854. These commissioners were directed to spend at least fifty days in visiting schools in their counties and to report to the legislature on the character of teachers and the order and condition of schools and school houses. However, there is no record of any such work being accomplished because no reports were made. The failure of these county officials to evaluate and report resulted in the negation of any further tendency to establish a county system of education in Maine.[27]

In 1825, towns were required to make school reports to the Secretary of State once every three years. This was the initial step in the development of state supervision of public school education. However, such reports were incomplete and of doubtful value. The abolition of the State Board also discontinued the positions of the secretary and left the state without a chief state school officer.

In 1854, an act was passed that established the office of State Superintendent of Schools. The Superintendent was to be appointed by the Governor and approved by the Governor's council. He was to devote time to the improvement of common schools in the general interest of education. This position continued without interruption until 1897 when the title was changed to the State Superintendent of Public Schools and later in the twentieth century to the position of Commissioner of Education.[28]

In 1931, the Department of Education was created and assumed the powers and duties formerly assigned to the Commissioner of Education. In addition, this person became responsible for the supervision of the State Normal Schools, the Maine State Library (established in 1939), the State Museum (established in 1919), and the administration of the Teachers Retirement System. However, the library and museum became separate agencies in 1937. In 1947, the Teachers Retirement System merged with the new State Employees Retirement System.[29]

districts and granted school committees all the powers of district agents.

In 1834, the cities of Bath and Bangor enacted a general law authorizing towns to vote to discontinue school districts in favor of town organizations. Then the Friends of Education became established and in 1843, they declared that the school system concept had many defects that resulted from its isolated conditions. At that time, there were more than 450 towns and plantations with over 4,000 separate districts in the state. Each of these districts was a distinct and separate entity, entirely independent from the others. There were nearly 7,000 teachers operating without direction; this resulted in chaos and inefficiency.

It was then recognized that the lack of policies would be fatal to the success of these schools and it was contended that central organization should be devised. Such organization would correct the evils of fragmentation and unite the individual parts to serve as a channel of communication from school to school and from teacher to teacher. An attempt was made to pass legislation that would provide for a school board commissioner to improve education on a state-wide basis. However, this legislation was defeated.[23]

In 1846, the first Board of Education was established in Maine. During this same year, the Department of Education and Cultural Services was originated. The Board consisted of one member from each county chosen by the school committees of the several towns in the county.[24] This development marked an era of reform and advancement in school work.

The Board's duties were: to collect and disseminate information on the location and construction of school houses, on the arrangement of school districts, and the best uses of school apparatus; to consult with school committees and school agents on the best and cheapest method of introducing uniform school books and on the expediency of establishing school libraries; to inquire and report on the advantages of normal schools; to devise improvements of the teaching in the common schools; and to report to the governor and the legislature. These evaluation reports revealed that there were too many independent school districts. This paved the way for the elimination of individual school districts in favor of town operated schools in the 1893's. These reports further emphasized the inadequacies of teacher personnel, poor facilities, and inequality of the length of school terms.

In 1873 the state legislature passed a law that provided for the creation of free public high schools and made attendance in public schools mandatory two years later.[25]

In 1949, expanded powers over public education activities in Maine were realized by the reestablished State Board of Education. It was given the authority to appoint the Commissioner of Education and to select personnel of the department. It also assumed the duties of the Vocational Education Board, originally established in 1917 as a State Board for Vocational Education, and of State Normal Schools and Teacher's College Board. In 1961, the Board assumed the duties of the School District Commission that was created in 1957 to develop plans for the establishment of appropriate school districts in Maine. When the Normal School and the Teacher's college functions of the Board were discontinued in 1967 these institutions became part of the University of Maine's system. In 1959, the Board was responsible for the general supervision of the Vocational Rehabilitation Division but in 1969 this responsibility was transferred to the Department of Health and Welfare.[30]

When the state government was reorganized in 1971, the Department of Education became the Department of Education and Cultural Resources. At this time, the State Board of Education lost the authority to appoint the commissioner and the authority was transferred to the Governor with the advice and consent of the council. In 1973, the department was renamed the Department of Educational and Cultural Services. Presently, it contains designated bureaus as deemed necessary by the commissioner to carry out the functions of the department.[31]

Geographic and Social Characteristics

Maine is unique in being the largest of the New England states. It lies at the northeastern tip of the contiguous United States. In area it measures 33,215 square miles of which 2,295 are water. It is nearly half the size of New England. To the northwest it is bounded by the Canadian province of Quebec and New Brunswick, and to the west, by New Hampshire. Its formed rocky coastline angles along the Atlantic Ocean from the southeast to the northeast. Augusta has been Maine's capital since its admission to the Union as the twenty-third state in 1820. This most sparsely populated state east of the Mississippi River is covered by forest. Limited economic growth has contributed to the preservation of its natural rugged beauty.[32]

When Maine joined the Union, ninety-seven percent of its population resided in rural areas. At that time there were approximately 30,000 people living in the state and Maine ranked eleventh among the twenty-seven existing states and territories in the Union. The state has experienced a constant but slow population increase since 1960. U.S. census figures from 1970

established Maine's population at 929,000 and 1975 at 1.05 million. This represents an increase of three and four tenths percent from the 1960 census figure. Less than 25,000 of the state's citizens are non-white and less than fifty percent of this group are black. About fifty-one percent of the population live in urban areas. The education system has contributed to the literacy of most of the state's people. About seven-tenths percent are illiterate as compared to the one and two tenths percent illiteracy rate found within the confines of the United States.[33]

Emigration of about 69,000 persons from mostly northern and eastern counties was experienced between 1960 and 1970. Imigration was experienced during this period to central, mid-coast and southern counties and especially to York county.[34]

Economic Indicators

Maine's economy is most heavily influenced by income derived from manufacturing, agriculture, fishing, mining, and tourism. The actual production of goods is contributed to by manufacturing, eighty percent; agriculture, seventeen percent; fishing, two percent; and minerals, one percent.[35]

In the area of manufacturing, pulp and paper products represent the mainstay of Maine's economy. The shoe manufacturing industry is one of the state's largest industrial employers. Leather products, including footwear, contribute about $200 million annually to the wages of Maine's citizens. The state's textile industry has declined over the last fifty years, but it still remains an important contributor to the economy producing mostly cotton and woolen textiles. Other important industries include boat building and the production of metal products, machine tools, and snow plows.[36]

In the area of agriculture, Maine has about 7,600 full-time commercial farms, each averaging approximately 225 acres. Potatoes represent the leading cash crop. Maine is the third largest producer of potatoes in the nation, second only to the states of Idaho and Washington. It also grows more blueberries and packs more sardines and raises more broilers than any other state. The coastal waters of Maine produce an annual lobster catch of 20 million pounds which represents seventy-five percent of the total national catch. They also produce fifty percent of the nation's soft-shelled clams.[37]

Sand and gravel are Maine's most valuable minerals. About one-third of the state's $20 million annual mining income is derived in this manner. Limestone used in the making of cement

is another major mineral.[38] Maine is also a vacation state and nearly seven percent of its annual income is derived from summer visitors. It is estimated that 12 million people visit the state each year. Year-round recreational attractions, some 250 youth camps, and 200 privately operated camping areas generate an annual income of approximately $50.million.[39]

An average annual unemployment rate in Maine increased over the years from five and seven tenths percent in 1973 to six and four tenths percent in 1974 and peaked to ten and three tenths percent in 1975. Unemployment decreased to eight and nine tenths percent in 1976 and it increased slightly to nine percent in 1977. Most affected by unemployment were those employed in the area of manufacturing followed by those employed in wholesale and retail trade and government. Maine may be considered a somewhat economically depressed state in that it has ranked thirty-eighth in per capita income between the years 1959 to 1969. However, in 1974 a downward trend was realized and Maine ranked forty-third among the states in per capita income. In actual figures, this represented a Maine per capita income of $3,694 as opposed to the average income among the states of $4,572.[40]

Government As It Affects Education

The following paragraphs present Maine's present governmental structure. The administration of government is important to the operation of public education within the state.

State Government. The governor is elected by the people and is Maine's chief executive officer. There is no lieutenant governor. The President of the Senate succeeds the governor in case of vacancy.[41] As of 1977, a council of seven members elected biannually by the legislature advises the governor. In no case does the council have more than one representative from any one senatorial district. The governor of the state had unusually extensive powers of appointment with the advice and consent of this council. (Note: Changes in these powers were made in the 1977-78 session of the legislature.) He/she retains the power to appoint judges, medical examiners, and notary publics besides all other civil and military officers. He/she has removal powers that extend even to local sheriffs and county attorneys. Besides the seven members of the council, the legislature also elects the secretary of state, the treasurer, the attorney general, the commissioner of agriculture, and the auditor.[42]

The legislature meets biannually commencing the first Wednesday in January. The Senate is composed of thirty-two

members while the House of Representatives is composed of 151 members. Members of each House are elected for terms of two years. In 1966, the Senate was reapportioned on the basis of population by a constitutional amendment as was the House in 1963.[43]

The judiciary is composed of the Supreme Judicial Court consisting of a chief justice and five associate justices, all appointed by the governor with consent of his council for terms of seven years. This court's function is to hear appeals, points of law, and render advisory opinions at the request of the governor, council, or either branch of the legislature. The eleven member Superior Court has members appointed for seven-year terms and is lesser than the Supreme Court. Each of these judges is assigned by the Chief Justice of the Supreme Court and goes on circuit in various counties. The Superior Courts of Maine are the only jury courts that hear appeals from local courts. They hear the most important civil and criminal cases as courts of the first instance. District courts replaced the part-time municipal and trial justice courts by an act of the legislature in 1961.[44]

Maine's local government system is complicated and unique. The principal units of local government are the town or township, the plantation, the county, and the city. The county acts as the intermediate organization between the state and the towns. It assists chiefly in the administration of justice especially in the custody of offenders. The counties have three commissioners, a treasurer, a register of deeds, a judge of probate, a register of probate, clerk of courts, a county attorney, and a sheriff.[45]

Maine is unique in being the only state in the union that still has an organized plantation. This is a government unit organized from an unincorporated township having at least 200 inhabitants. Principal officers within the plantation organization are the moderator, clerk, three assessors, treasurer, collector, constable, and school committee.

Of the three principal units of local government, the town or city is considered most important in Maine. Regular town meetings are normally held in March. At these meetings, the electorate members of the town assemble and decide what will be done in the ensuing year. They elect officers to execute their decisions and vote money to meet the expenses.[46]

About three-fourths of the state government funds are derived from taxation with the rest coming from federal grants and programs. Before 1951, Maine had no income tax or general sales tax. During this year they enacted a two percent general

sales tax, exempting food. In subsequent years this rate of taxation was increased from three percent in 1957 to five percent in the late 1960's. The increased revenue derived from the sales tax assisted greatly the services offered by education, health and welfare. In 1969, Maine adopted a graduated personal income tax as well as a corporation income tax. Additional taxes were placed on motor fuels, tobacco products, public utilities, alcholic beverages, insurance, and horseracing. License fees became the second most important kind of tax. The state has a death and gift tax as well as a state property tax which is the chief source of income for Maine's cities, towns, and plantations.[47]

Description of the Educational Delivery System

In 1957, the enactment of the Sinclair Act permitted the creation of consolidated school administrative districts (SADs). This act improved the efficiency and quality of public education in rural Maine for the past twenty years. Currently, there are seventy-four such consolidated school systems consisting of two or more towns covering 280 of the state's 497 municipalities.[48]

As in other states the school pupulation is currently realizing a period of decline. Maine's birth rate has decreased steadily thorugh the 1960's. The result has been the stablization of public schools' expenditures and improvement in education.[49]

Maine has seventy-four school administrative districts representing 281 municipalities; thirty-three school unions representing 137 municipalities; thirteen community school districts representing forty municipalities (sixteen of which also are in school unions) thirty-one municipalities run their own schools individually; and twenty-four municipalities are operated under district superintendents and agents of the Commissioner.

During FY 1978, there were 166,704 students enrolled in K-8 and 79,084 enrolled in grades nine through twelve with a total enrollment of 245,788. This last figure includes 19,661 special education children ranging in age from three to twenty-one. The cost of operation for FY 1977 was contributed to by local, state, and federal funds. Half ($147,132,324) of the financial support came from local funds while forty-eight percent ($141,592,376) came from state funds, and two percent ($6,315,307) came from federal dollars making a total local school operating budget of $295,040,007.[50] (The federal funds did not include other categorical monies for ESEA titles I and IV and school lunch programs).

Maine also offers vocational education programs at high school and postsecondary levels administered by the Bureau of Vocational Education. In addition to these schools, there are fifty private schools that give advanced training in various skills ranging from medical-technical courses to barbering and cosmetology.[51]

The University of Maine originated with an agricultural school at Orono in 1865. The University of Maine presently has eight campuses located throughout the state with a total undergraduate full-time enrollment of 25,000 students. The Orono campus remains the largest campus in the system serving two-thirds of the total university enrollment. The University has an adult education program that serves more than 10,000 Maine citizens annually. In addition to the University of Maine, there are eighteen private colleges whose enrollment annually is about 9,000.[52]

Training for young men and women as United States Maritime Service Cadets is conducted at the Maine Maritime Academy at Castine. The annual enrollment of this academy is approximately 650 students. Half of these students are from Maine. Summer training cruises are held aboard the training ship, "State of Maine."[53]

Located on Mackworth Island is the Governor Baxter State School for the Deaf. It was constructed in 1953. Originally, it was founded as the Portland School for the Deaf in 1876. As a specialized school, it provides comprehensive primary, elementary, and secondary education programs for approximately 180 hearing impaired children.[54]

Guidance and Counseling

Guidance at the state level in Maine is the responsibility of a single individual designated as the State Guidance Consultant. Guidance is a part of the Department of Education, Bureau of Instruction, and is found in the Division of Curriculum. However, responsibilities for guidance cut across other divisions so that vocational education, higher education, and regular K-12 education are all served by this single individual.

Emphasis in guidance and counseling was placed on vocational education with the passage of P.L. 94-482. This law made funds available for vocational guidance, specifically in the area of vocational education. It was estimated that $80 thousand of allocated funds were already in existence in the form of projects before the latest vocational legislation. However, many of these project funds will be freed for other uses shortly since many of these projects are in their third and final year of existence.

Requests for proposals were sent out across the state to establish a single vocational guidance resource center. Funds allocated for this purpose were approximately $30 thousand. Due to this funding, only one resource center will be funded in 1978. However, there is probably a need for more than one resource center. For instance, it was expressed that one for rural areas and one for urban areas would serve the state more adequately. The funds are not yet available because of the previous earmarking.

The present guidance program actually started in the 1950's, but is receiving more emphasis in the 1970's. Most high schools have guidance counselors as do most junior high schools and there are a few available at the elementary level.

Nearly all the schools are doing something in the guidance area. For instance, at the elementary level, some schools infuse career education into the curriculum by means of the classroom teacher. At the junior high school level some career guidance is done and assessment testing is also accomplished. At the senior high school level, with the assistance of their counselors, a variety of goals are chosen by students.

Since Maine is essentially a rural state, quality guidance counseling, as education, is sometimes difficult to deliver according to state personnel. In an attempt to provide quality guidance, counselors are expected to participate in a process of self-education to improve professional skills on a regular basis. They must meet professional formal education requirements. They are to function in such a way as to have contact with the State Guidance Consultant and actively participate in public relations so that their professional activities are understood by those persons served. They are expected to meet the certification requirements as well as to work within the limits of that certification.[55]

Maine is not a typical rural state. There are a number of locations within the state that are referred to as geographic isolates. For instance, some areas in the northern wooded regions of the state are not accessible except by road through parts of Canada. Other geographic isolation areas are the several islands that must be visited by boat. In addition, there are a number of the special population groups that must be served by the state. Maine has pockets of people who are bilingual, who speak both French and English and essentially identify with Canada. There are also a number of economically depressed areas in the state where the disadvantaged youth must be served. Across the state displaced homemakers need to be identified and assisted in developing their individual careers, in the opinion of state level personnel.

The Timeshare Company has developed a Guidance Information System (GIS) to assist counselors in helping students with career decisions. This is a computerized information system accessible via terminals. Terminals are available in south Portland and surrounding areas. In 1978-79 CETA funds will be used to expand this program, but they have not yet reached the remote areas of Maine.

To make students aware of career choices, Maine has emphasized strategy development in statewide guidance and counseling workshops. Some of these strategies included how to develop written materials that can be shared in the home environment dealing with career opportunities. In addition, purchased materials are made available in the schools so that students are informed about careers and job opportunities.

According to the State Guidance Consultant, Maine's guidance professionals do not recognize the distinctions between specialization of vocational guidance and counseling. Cleavages exist between vocational and what has been offered as guidance and counseling. The State Guidance Consultant has recommended that the counseling needs of individuals be met in the variety of approaches authorized in the law.

Three specific recommendations relating to Public Law 94-482 were made:

1. Vocational guidance should be an element or a part of the total state plan for guidance and counseling as described in Title III, Section 344 (b) of the Act.

2. Guidance needs of all students should be addressed, with specific attention to those a) enrolled in vocational education programs, b) enrolled in prevocational programs, and c) enrolled in general education and professional preparation programs.

3. The state plan for vocational education should reflect the unique purposes of vocational guidance as set forth in Section 134 in that the programs carried out under the plan be staffed by professionally trained guidance and counseling leadership, administrative and support personnel at state and local levels.

As set forth in Section 134 the term "guidance" is defined as a program of services provided under the leadership and supervision of or by professional counselors to assist children, youth, and adults in their educational, vocational, personal, social, and career oriented development. These services commonly include but are not limited to counseling information, placement,

appraisal, follow-up, and research. Maine's vocational guidance plans as set forth in the state's plan for guidance and counseling, are to: a) serve an integral part of the State's Plan for Vocational Education; b) be based on needs assessment of the target populations; c) include goals and objectives stating expected outcomes; d) identify strategies to achieve outcomes including the expected roles of professional counselors, teachers, paraprofessionals, and other personnel including the role of business and industry personnel in competencies and credential requirements; e) identify the competencies needed for the proposed role of personnel in carrying out the plan and outline--a preservice and inservice plan to provide competencies as needed; f) indicate strategies to meet the special needs of minorities, disadvantaged, handicapped, women and girls, juveniles, adult offenders, and the limited English speaking; g) include an evaluation design to determine the extent the objectives were reached; and h) integrate the concept of the vocational resource center (both in school and non-school settings) with established Education Information Centers as provided in Section 124, Sub Part 5 "Educational Information" of the Act.

Career Education

Career education in Maine is handled by a single Education Coordinator. The state is now using federal definitions of career education and looking to the national models as examples to be used in the state. In an effort to deal with regional inequities, the state is being divided into six regional areas so that competition to obtain career education funds can be reduced and funds can be equitably distributed.

Career education is supported totallly by federal funding through the Department of Educational and Cultural Resources, Bureau of Instruction, Division of Curriculum. The state plans to emphasize the training of existing staff people in the LEAs starting with the administrators. Infusion of career education can then be developed in curriculum and guidance with specific goals and objectives in mind. However, it is thought by the coordinator that before inservice can be attempted, career education concepts must be infused into state curriculum. To accomplish this, cooperation from curriculum specialists is needed. State level infusion of career education should then be followed with a coordinated effort within and across subject areas at the LEAs. Total coordination at the LEA is needed to prevent redundancy of various exposures within the curriculum. State intention is to fund only those career education programs that are truly comprehensive in nature and that coordinate activities both vertically and horizontally.

Evaluation in career education consists of collecting data on both process and product. Process will be evaluated in terms of activities done at the university level, the state level, and with the LEAs. Products will be evaluated in terms of career education's infusion into the curriculum and its effect on the students. An example of positive product effect would be the acquisition of employability skills by students.

Vocational/Technical Education Delivery System

The delivery of vocational education varies according to the state in which it occurs. The following paragraphs describe the historical development and the present vocational education delivery system in Maine. This description includes the organizational structure, and staffing and programming of vocational education in Maine.

History of Vocational/Technical Education

An area in which the state of Maine is unique is in vocational education. As early as 1823, it had established the first recognized school to prepare farmers and mechanics at the secondary level in the United States. The school was called Gardiner Lyceum named after its founder and principal benefactor, Robert Hollowell Gardiner, the grandson of Dr. Sylvester Gardiner, for whom the city of Gardiner, Maine was named.[56]

Gardiner Lyceum was a pioneer in many respects. It offered electives. It conducted winter short courses in agriculture. And it taught sciences to the exclusion of Latin and Greek. It adopted a form of student government and it received financial aid from the state to maintain an experimental farm. It was one of the first private schools established in Maine that did not have a religious affiliation. It was further significant because it was a pioneer school for farmers and mechanics that foreshadowed the land grant system which placed colleges of agriculture and technology in every state in this nation.[57]

Mr. Gardiner had called the school a "lyceum" to show that it was a school distinct from high school or college. The Maine legislature continued to fund Gardiner Lyceum until 1831. This school has been compared to the University of Virginia founded under Jefferson. Both schools emphasized the practical importance of science, the importance of science and education, and the relationship of science and agriculture.[58]

The first year of studies included reading, arithmetic, algebra, geometry, geography, scripture, history, and bookkeeping.

The second year included studies in rhetoric, chemistry, agriculture, chemistry, philosophy, trigonometry, navigation, natural theology, composition, and declamation. Students who continued for the third year took philosophy of natural history, conversations on political economy, spheric geometry and trigometry, the Federalist, philosophy of the mind, evidences of Christianity, composition, declamation, and measurement of places and distances. Part of the course was elective. The winter courses offered were on surveying, navigation, carpentry, civil architecture, and chemistry. Gardiner instituted a winter class especially for farmers that taught agricultural chemistry and the practical analysis of soils and the anatomy and diseases of domestic animals. The instructor for the later courses was Dr. Ezekial Holmes who took on the responsibilities as a permanent instructor of agriculture at Gardiner Lyceum at the age of twenty-three. Dr. Holmes is noted in the state of Maine as the father of Maine's agriculture. Difficulties with the trustees and the refusal of the Maine legislature of 1831 to grant further aid forced the doors of the Lyceum to close.[59]

In 1917, to cooperate with the Federal Board of Vocational Education in the administration of the Smith-Hughes Vocational Education Act, the Maine State Board of Vocational Education was created.[60] Its first state plan was approved on October 18, 1917.[61] The Board initially consisted of the Commissioner of Education, who served as chairperson, and two additional members appointed by the Governor. The Board was abolished in 1931 and its duties were assumed by the Vocational Education Board within the Department of Education. This new Board consisted of the Commissioners of Health, Welfare, Education, and Labor for which the Commissioner of Education retained chairmanship. This Board was also abolished in 1949 and its duties were transferred to the State Board of Education. When the state government was reorganized in 1971 through 1973, the Department of Educational and Cultural Services was formed and was divided into four bureaus including the Bureau of Vocational Education. At that time, the State Board of Education retained its responsibilities with regard to vocational education and with the Commissioner of Education and Cultural Services supervising the activities of the Bureau.[62]

It wasn't until 1946 that the council allocated money and established the first training programs at the postsecondary level. The justification for such programs was that World War II veterans were returning and needed to be provided an opportunity for vocational-technical training. At that time neither the existing schools or industry was able to cope with the needs of these veterans.[63]

These programs were housed at the Vickery Hill Building in Augusta since finances were limited and this location required

no extra cost. However, in 1950, the program was moved to its present location in South Portland. In 1947 public laws were enacted that established the authority of the Vocational Education Board to maintain and operate technical and vocational schools.

A study that was completed in 1959 by a research committee of the State Department of Education recommended that emphasis be placed on the creation of regional vocational centers at the secondary level. It also recommended that needed technical training should be offered at a post high school level. It further proposed that training be extended to grades thirteen and fourteen at the regional centers whenever the need existed.

In 1962, a second study was done by the School Survey Service entitled, "Vocational-Technical Education for the Space Age, a Plan for Maine." This document dealt heavily with post-secondary needs. It recommended that four, two-year post high school institutions, designated as Technical Education Centers, be planned, developed, and placed in operation as soon as it became economically feasible. It also recommended that the Technical Education Centers be responsible for the promotion, organization, and implementation of all educational programs of an extension nature for adult workers and supervisors in the areas of industry, agriculture, business, distributive education, and homemaking. These four planned centers were designed to provide vocational education for 750 to 1,000 students with satellite extension centers to serve the larger population areas. The Survey further brought forth the recommendation that plans be made and implemented for awarding the associate degree for those two-year programs of technical education which required the equivalent of at least twenty hours of general education in addition to technical courses. An organizational chart was presented for technical education centers. The chart placed the technical centers under the direction of the Chief of the Bureau of Vocational Education.

Due to the expanded enrollments it was also necessary to expand the availability of postsecondary institutions. Consequent legislation led to the present six Vocational Technical Institutes.[6]

In 1965, Chapter 440 was enacted by the 102 Maine Legislature and was entitled: "An Act Relating to the Establishment and Operation of Regional Technical Vocational Centers". These centers were to be operated in conjunction with comprehensive high schools. The Act provided that the proposed centers be approved by the State Board of Education on the basis of a plan provided by a local administrative unit with regard to educational needs, scope of program to be offered, location and

area to be served. Funds in the amount of $210 thousand were appropriated in the fiscal year 1966-67 for operational costs.[65]

Thus, it was that Maine's vocational education evolved. First conceived and implemented by Dr. Gardiner on a micro scale, only to be defeated by political manuevers, it was again established with the Smith-Hughes Act. Vocational education has expanded to its present status in Maine, encouraged and assisted by the significant Federal legislation experienced in the last twenty years.

Organizational Structure

In the State of Maine, the State Board of Education is responsible for all vocational education programs sponsored under P.L. 94-482 and the laws of the state regarding vocational education. However, the "departmental staff unit which has been delegated the responsibility to supervise the vocation-technical education delivery system" lies with the Bureau of Vocational Education.[66]

The bureau is authorized by law to:

> ...administer State vocational-technical institutes, regional technical vocational centers and schools of practical nursing; to provide vocational educational opportunities as an integral part of secondary and postsecondary public schools; to provide consultant services in connection with vocational education, including curriculum planning, in-service training and evaluation; to provide aid to local education agencies; to expand and to improve existing programs and implement new programs, including aid for teachers' salaries, teaching, instructional equipment and materials; and construction of vocational education facilities; to arrange with higher education institutions for the training of needed vocational education personnel, including financial assistance; to coordinate the planning and implementation of public school vocational education with other agencies and organizations concerned with manpower development, and to act for the State of Maine with respect to federal programs administered through the U.S. Office of Education.[67]

The bureau is headed by an associate commissioner who is appointed by the governor and acts as the State Director for Vocational Education. Assisting him are a number of different division heads and coordinators as shown in Figure 4.1.

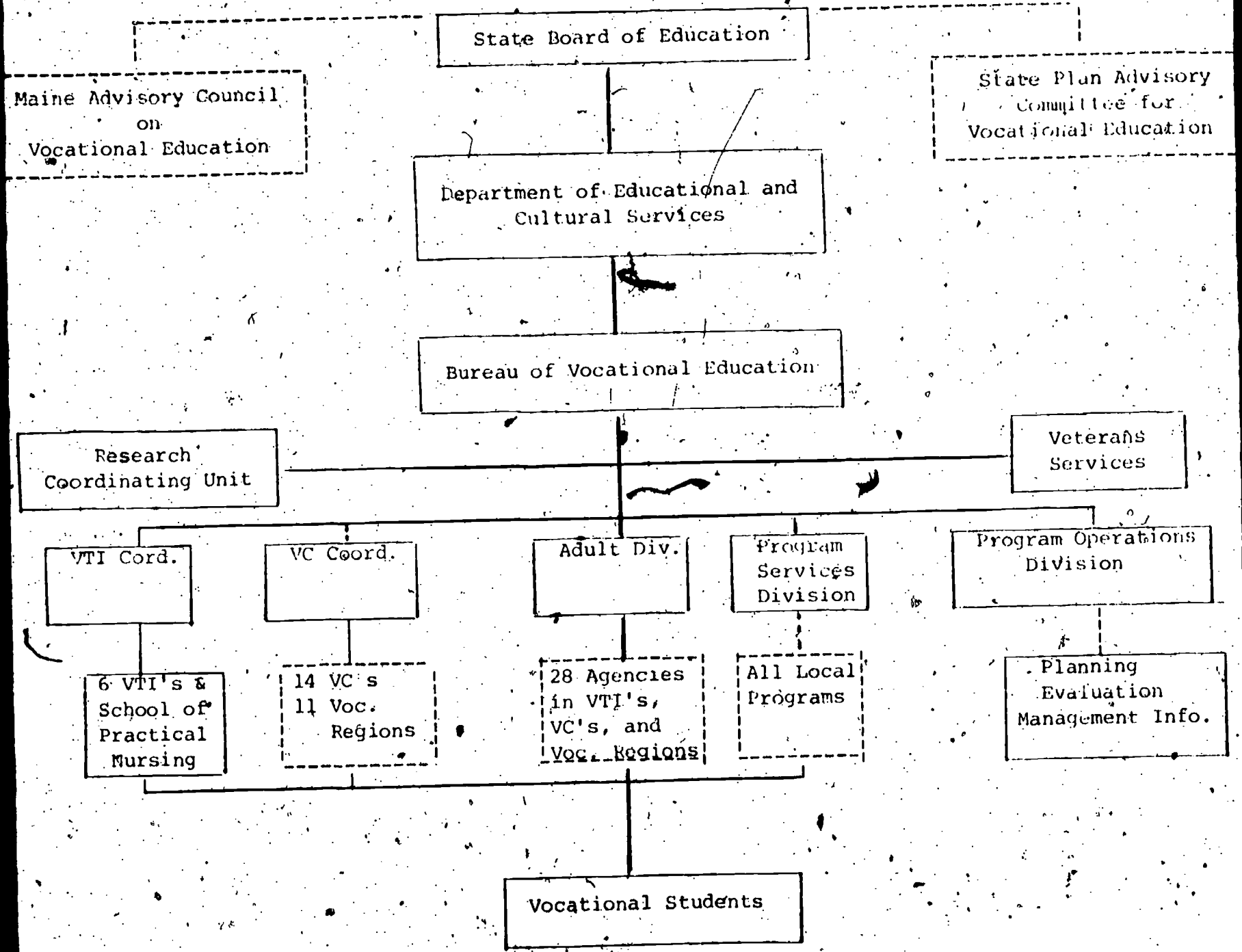

Figure 4.1 Organizational structure of the bureau of vocational education

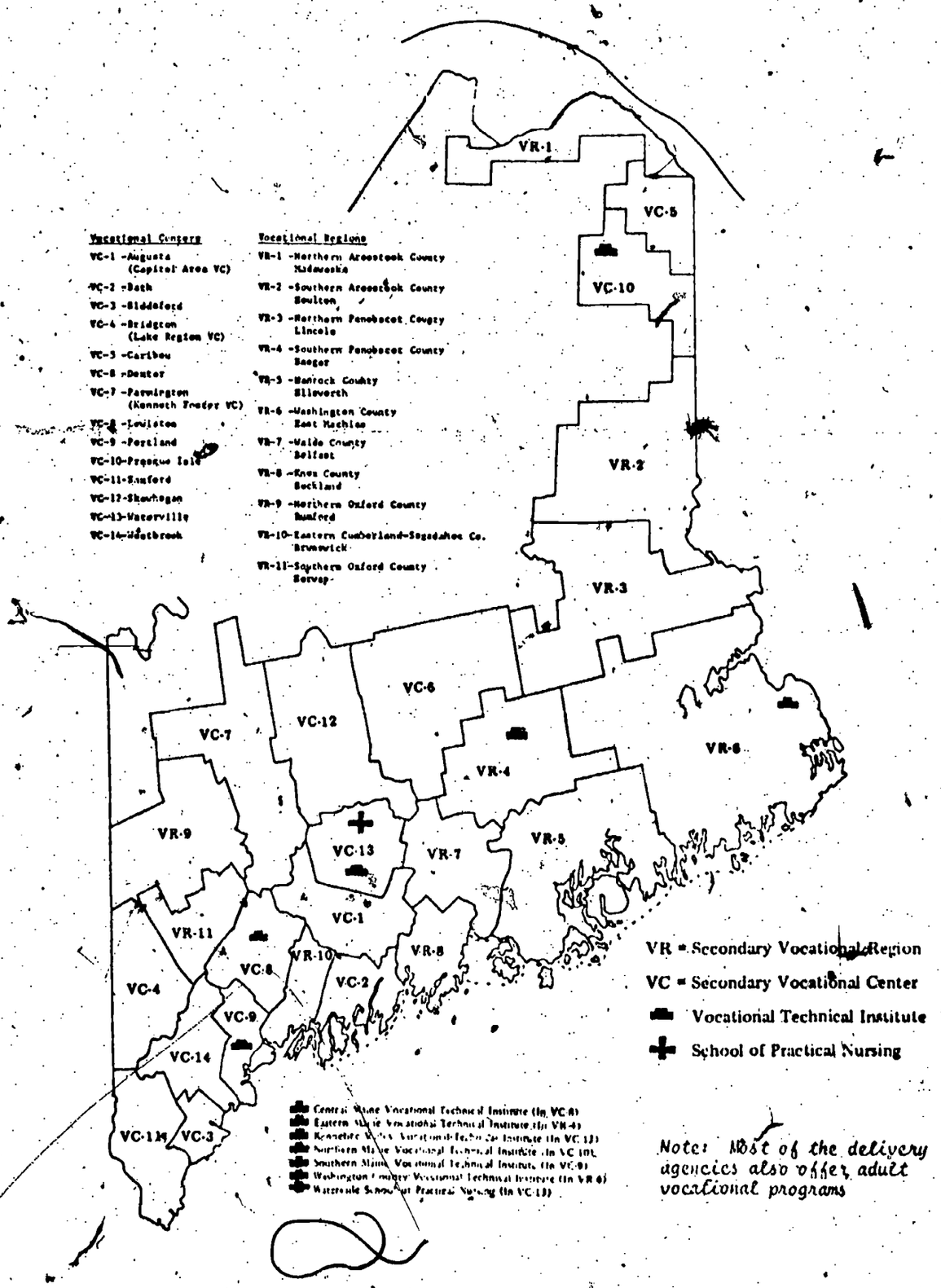

Figure 4.2 Map showing institutions offering vocational education programs in Maine.

Area and/or subject supervisors are under the Program Services Division while the Management Information System is part of the Planning, Evaluation, and Management Information Office.

Maine's vocational education delivery is divided in three levels, secondary, postsecondary, and adult. These are as follows:

Secondary vocational education programs are being carried out through the fourteen vocational centers (VC) (and their twenty-seven satellites) and eleven vocational regions (VR) as shown in Figure 4.2. These are operated by LEA's and cooperative boards accountable for vocational education and work within policies, procedures, and guidelines established by state and federal laws and State Board of Education.[68]

Postsecondary vocational offerings are managed through six state-operated vocational-technical institutes and one school of practical nursing. Distribution of these institutions is shown in Figure 4.2. On the other hand, adult vocational education is carried out by twenty-two regional technical vocational centers and six vocational-technical institutes that offer adult vocational education programs. Clusters of institutions with vocational-education programs are usually located in more dense population areas of the state in order to serve the greatest number of people.

Staffing and Certification

The delivery of vocational education requires proficiencies among its deliverers. This section provides information regarding staffing at the state and local levels and also addresses pre-service and in-service activities as these relate to professional development.

Since the state requirements are stated precisely in the "Maine State Standards for Certification of Educational Personnel"[69] (effective as of 1983) they are stated below in a complete quote as they appear in this document:

VOCATIONAL TRADE AND INDUSTRIAL TEACHER SPECIAL CERTIFICATE 1

AUTHORIZATION: To conduct non-academic classes in approved trade and industrial programs. (See category #1a under ALTERNATE CREDENTIALS)

REQUIREMENTS: Eligibility for this certificate will be established by the following method and evidenced by supporting affidavits.

1. Graduation from an approved secondary school; or possession of a state high school equivalency certificate.

2. Completion of a learning experience in the industrial area for which certification is sought as defined by one of the following statements.

   a. Completion of an accepted apprenticeship in the trade or occupation.

   b. Wage earning experience in the trade or occupation, or closely related one, of at least three years.

   c. At least sixty semester credit hours of education at one or more approved degree-granting institutions, at least twenty semester credit hours of which shall be in closely related technical or scientific subjects, which may include Mathematics and/or Drafting. Courses offered by industry or the armed forces may be evaluated under the direction of the Commissioner of Education and may be used to meet part or all of this requirement.

   d. Graduation from an approved vocational or technical institute after completion of at least a two-year program in an appropriate area of instruction.

3. A minimum of three years wage-earning experience at the journeyman level (in addition to the required learning experience) in the appropriate trade or occupation.

4. Completion of such short term pre-service training programs as may be required of the individual at the discretion of the Commissioner of Education.

TERM: 1. A Vocational Trade and Industrial Provisional Special Certificate issued to eligible applicants is valid for a two-year period. It may be renewed once, following two years of successful experience within the scope of the certificate and the partial completion of twelve semester credit hours of teacher-training courses approved for the individual under the supervision of the Commissioner of Education.

2. Upon completion of four years of successful experience within the scope of the certificate and completion of the individually approved twelve-hour teacher-training program it may be changed to a Five-Year Vocational Trade and Industrial Special Certificate.

3. A Five-Year Vocational Trade and Industrial Special certificate is renewable on the basis of successful experience, and the completion of not less than six semester credit hours of courses previously approved for the individual at the discretion of the Commissioner of Education; or the equivalent in clock hours of special courses designed for the purpose by, and taught under the general supervision of the State Department of Education.

1 The following category of teachers may continue to be certified under the regulations in effect at the time of initial certification: those who have held, under certificate, a full-year salaried teaching position within the ten years immediately preceding application.

Professional Development. Preparation of vocational teachers in Maine is accomplished in two ways. Potential instructors attend one of the universities or colleges in Maine and earn a bachelor's degree or complete a program in one of the post-secondary institutions and meet other requirements for teacher certification. If persons plan to teach at the high school level these colleges and universities provide desired educational curriculum for both preparation and continuance of vocational instructors in terms of teaching methodology and techniques.

In-service activities are conducted on the basis of identified needs. Needs are determined from state level surveys or from

recognized needs at the local level that are reported to the state agency. Generally state supervisors respond to these needs with in-service programs conducted in regions of the state where needs are indicated.

Since the passage of P.L. 94-482 emphasis has been placed on in-service activities pertaining to women, the handicapped, the disadvantaged and guidance and counseling efforts. (These are discussed more fully under the section headings of Guidance and Counseling and Special Needs Components and Provisions.)

Program

The sections that follow discuss the concept of vocational programs in general terms. Discussion also includes the topics of program types, and related enrollment figures, unique and exemplary programs, special need components and provisions and references are made to placement and follow-up of vocational students.

Program Types and Enrollments.[70] During the fiscal year 1977-78, Maine reported a total of 8,983 junior and senior high school students who were enrolled in skill development programs administered through the vocational centers and regions. The enrollment represented twenty-six and six tenths percent of the state's total junior-senior secondary population. In addition vocational consumer and homemaking programs, which are operated by local educational agencies and are administered outside the vocational centers and regions, had an enrollment of 4,654 and 8,318 respectively. Special programs served 432 handicapped students while regular skill development programs had an enrollment of 184 handicapped students. Enrollment in special programs for the disadvantaged totaled 1,490 secondary students for the same year.

Other than vocational consumer and homemaking programs, the three most popular programs among secondary students were auto mechanics (554), cooperative education (490) and carpentry (484). The least popular programs were truck driving (7), agricultural mechanics (17) and clothing and textile (26).

For postsecondary vocational programs, 3,145 students were served by the state. This represented two and nineteen hundreths percent of the state's population, ages eighteen to twenty-four. Approximately 789 postsecondary students participated in special programs and services for the disadvantaged while 1,443 secondary students received financial aid.

As to adult vocational programs, during fiscal year 1977, 3,000 individuals were served in preparatory training programs; 15,500 in supplemental training courses, and 1,000 in apprenticeships in related instructional programs. Five programs provided services to 600 disadvantaged adults and three programs benefited 220 inmates at correctional institutions.

Special Needs Components and Provisions. The desire for the federal government to have vocational education emphasize programs that would include services for special needs populations was included in the Education Amendments of 1976. Special needs populations include the handicapped, the disadvantaged, minority groups, individuals who have limited English-speaking ability, and women. The following paragraphs report on the efforts Maine has made to serve special needs population since passage of the law.

In January 1978, a temporary person was brought into the Division of Curriculum to deal specifically with vocational guidance efforts. Emphasis was placed on sex stereotyping. Also, in March of 1978 the Department of Educational and Cultural Services hired a permanant Title IX sex equity coordinator who deals with problems across all educational agencies in the state. Little had been done prior to this person's employment in the area of sex equity in education.

In April of this year a statewide conference was held dealing with problems of sex equity. Additionally two workshops were conducted for counselors at the administrative level in Maine. These workshops dealt with job development, placement, and follow-up. The purpose of these workshops was to assist counselors in setting up their own individual programs with the LEA's so that needs of student would be served. Site visits to individual schools as well as several grants for model sex equity programs have since been provided. These efforts have been made in response to federal legislation as well as through the recommendation made by the Maine State Advisory Council for Vocational Education. The Council asked that Maine commit itself to the actiye elimination of sex-role stereotyping of men and women in vocational educational programs.71

In addition to the sex equity coordinator, the Department of Educational and Cultural Services has employed an additional person to address sex fairness issues in vocational education. This person reports directly to the assistant to the Commissioner of Education rather than to the Bureau of Vocational Education staff. With funds provided from a Women's Educational Equity Act grant, this person in conjunction with the sex equity coordinator, is conducting a series of workshops across the state to acquaint school administrators, instructional staffs, and

laypersons on school boards and craft committees about the requirements of Title IX and sex equity concerns for vocational education.

The Department of Educational and Cultural Services, Department of Education under the authority of the Vocational Education Acts of 1976, sponsored a study conducted by the Department of Sociology and Anthropology at Bowdoin College. The report of the study is entitled Sex-Role Stereotyping and Participation in Vocational Education: Evidence from Maine Vocational Region Ten.[72] The Bureau of Vocational Education believes the findings of this study are probably true representations of what now exists across the state. Some of these findings are as follows:

1. The high school girls surveyed appear to be at least as oriented toward the world of work as their male peers regardless of their plans for marriage.

2. Girls are also unwilling to view vocational education as a male domain, despite the predominance of boys in vocational courses.

3. Girls (and boys) are unwilling to accept the idea of "women's and men's work."

4. Girls also expressed somewhat greater willingness than boys to enroll in "non-traditional" vocational courses and perceived greater parental support for doing so.

5. The major factor limiting the rate of participation of girls in vocational courses is their relatively greater integration into the academic programs and activities of the local schools.

6. The least integrated students are most likely to show interest in the vocational program.

7. The lack of access to successful role models to emulate and the perception of sex discrimination may serve to restrict the aspirations of girls who might otherwise be willing to enter non-traditional occupations.

8. There are also some hints that boys and girls perceive their male peers as especially non-supportive of non-traditional courses.

9. Responses to a questionnaire item lend credence to one of the fundamental theories of vocational selection and help explain sex differences in course selection. These theories distinguish between "person-oriented"

and "object-oriented" people and jobs and argue that there will generally be a fit between poeple and jobs. Some go on to assert that traditional sex role socialization leads girls to be more often person-oriented than are boys. . . it may be that girls are differentially attracted to courses leading to person-oriented jobs such as health occupations.

The above findings have certain implications for policy in vocational education in Maine. If the proportion of girls taking vocational courses should be increased, then one method of achieving that goal is to exploit sex-role stereotyping and introduce new courses designed specifically to appeal to the traditional occupational aspirations of women. The study goes on to say that girls are considerably more likely than boys to be successful and interested in the academic program. An attempt to draw more girls into vocational courses might involve sidetracking them from the highly valued academic curriculum. Vocational students were especially concerned that their regular high school teachers did not understand the challenge or vigor of the vocational courses they were taking. This implied that greater encouragement of visits by teachers to the courses or their locations may help bridge this gap. Also indicated was the reduction of the distance between the vocational and academic programs so as to increase the student pull for vocational courses. There was need for exposure to role models from the community such as male secretaries or nurses and female electricians and welders. It was thought that since students are pretty well committed to a choice for or against vocational education by the end of the tenth grade, then an introduction and expansion of units on occupations from the seventh through the ninth grades could provide the context for field trips by students to vocational courses and work sites, class visits by role models in a variety of occupations, and entering of student views on sex-role stereotypes. It was thought that these units might also go some distance between reducing the chasm between academic and vocational concerns in courses and increasing the appreciation of students for a wide range of work skills and vocations. Finally it was thought that new courses might be introduced that build on sex differences but do not reinforce sex-role stereotypes. To build up girls' greater academic proneness and their frequent interest in people-oriented jobs might be to introduce courses in a field such as management - a remunerative area where women are underrepresented.

Another special needs group is the handicapped. The Maine State Plan indicates its intention to expand the number and kinds of programs available to the handicapped both at the secondary and postsecondary levels. It is their intention to provide the least restrictive environment for handicapped students in vocational education wherever possible. This intended action is in response

to the Maine Advisory Council for Vocational Education which indicated in 1975 that there was not a sufficient number of handicapped students in postsecondary vocational education programs. However, data did indicate that approximately fifty-one percent of their secondary handicapped students were placed, but did not reflect how many of these students actually went on to postsecondary vocational education programs.

Presently handicapped students are identified through a pupil evaluation team. First they are referred and then they are evaluated. At this point judgments are made regarding their future programming. These judgments are finalized in an IEP and prescription for the handicapped student but are not as useful as they could be since vocational education instructors at the secondary level are not usually involved in that prescription.

The Bureau of Vocational Education recognizes that the handicapped are being served unequally within the state. In some cases this inequality is due to lack of funds or additudinal bias; in others there is a sincere attempt to determine the capabilities of students within the region. The Department of Educational and Cultural Services is presently developing standards for placement of handicapped students into programs. These standards will most probably be available sometime in January, 1979. The department is also considering the release of an RFP to develop a model program for handicapped persons. The model program would collect data so that program refinements could be made and the model program then could be extended to regional centers across the state.

The Bureau believes that student assessment provides an important base and contributing factor to the IEP and subsequent prescription for handicapped students. Some assessment data are supplied through CETA, Vocational Rehabilitation, Goodwill, and the National Association for Retarded Citizens (NARC). It is the Bureau's intention to continue to purchase assessment services but to coordinate these services with the above agencies so that overlapping does not occur. Generally speaking vocational education is considered to be a good choice of education for the handicapped. The State Plan reflects their intention to expand vocational programs so that twenty-six percent of the handicapped in most regions are served by 1982. They realize that vocational programs are not meant for all handicapped individuals. They further recognize that modified programs will have to be developed for the severely disabled while mildly handicapped may benefit from regular programs. Programs for the handicapped include competency-based curriculum to allow for development of skills. Support services are also provided in resource rooms with one-to-one tutoring of remediation coursework or pre-vocational skills.

A number of activities will assist vocational educators at the local level. It is helpful to local vocational education providers to have handicapped student's goals and objectives stated in the IEP. Data which identify handicapped within their categories and their rate of placement will also be helpful to local providers of vocational education since they will be able to evaluate their effectiveness in serving the handicapped. Further assistance to the vocational programs for the handicapped will be in-service training for vocational educators. Presently the state department has entered into a contract with the University of Southern Maine as in-service needs in this area have been identified. In-service is still being provided on a hit-and-miss schedule but it is hoped that in-service will be provided to vocational educators state-wide in a coordinated program. It is believed that re-education must take place between the two disciplines of vocational education and special education.

Maine has few problems concerning the instruction of persons with limited English-speaking ability. French-speaking people make up the majority of those who are bilingual in Maine. Of those who speak other languages and need assistance in their educational programs, services of a tutorial nature are supplied.

As to the disadvantaged, these individuals are assessed by outside agencies as well as by staff members in the Bureau of Vocational Education. The needs of the disadvantaged students are assessed by state consultants and decisions are made concerning their future education so that they might be better served. Whenever possible, disadvantaged students are served in regular vocational programs. These students are identified usually through scrutiny of data that provide information on attrition rates and poor performance of students.

Placement and Follow-up

During fiscal year 1978, development of a follow-up system was initiated. Initial forms were sent to students through the school and returned to the school after completion by the student. If no response was given to the form, a follow-up letter was sent to the non-respondents at the end of a two-week period. If there was no response to this letter, a phone call was made at the end of another two-week period. This process achieved a sixty percent response from the total number of student completers and leavers. During fiscal year 1979 a person was employed to design a new follow-up instrument and system. Due to knowledge gained at a summer workshop held at the National Center and provided by the technical assistance team, this instrument may indeed be unique across the country because it will gather data required by VEDS and also may have questions pursuant to areas in the affective domain.

Employer follow-up information on vocational graduates is being developed to take effect starting fiscal year 1979-80. The system will survey employers of completers. This fiscal year a trial run was done in two vocational centers and a technical institute. Results showed fifty-five percent rate of return from students of which eighty percent agreed to contact their employers. The employers registered a seventy-four percent overall return.

Follow-up anlaysis of the 1976-77 vocational completers showed that employment rate of secondary vocational program completers in the field for which students were trained or in other related fields ranged from seventeen percent to forty-three percent with a mean of thirty percent.[73] Programs with high placement rates were, distribution forty-three percent agricultural production forty percent, and health forty percent. Home economics had the lowest placement rate.

At the postsecondary level, placement rates in a related field or in the field for which students were trained ranged from fifty-two percent (non-farm agriculture) to eighty-three percent (health). The highest percentage (seventeen percent) of completers continuing education at a higher level was in office occupation.

Vocational/Technical Education Evaluation

This section presents the vocational evaluation system of Maine which includes organizational set-up, roles, and responsibilities. It also focuses on the state accomplishments and needs in evaluation as per requirements of the Educational Amendments of 1976 (P.L. 94-482).

History of Vocational/Technical Education Evaluation

The implementation of evaluation processes did not come early to Maine's vocational education system. Clearly, it was Maine's Advisory Council on Vocational Education that responded to the evaluation requirements under the Vocational Amendments of 1968.

In 1969-70 an evaluation of the Regional Technical Vocational Centers (RTVC's) was done by Education Services, Inc. of Gardiner, Maine for the Maine Advisory Council on Vocational Education. This evaluation included eleven operating regional centers that were examined by members of an evaluation team. Vocational Center directors completed questionnaires that provided detailed information about program facilities and staff. The visiting team contacted fifty graduates of these schools and also interviewed employers of graduates. A subsequent report contained recommendations for meeting vocational education needs in the 1970's.[74]

In 1969-70 another evaluation was accomplished by the Bureau of Vocational Education. In this evaluation a series of questions were asked at each of the RTVC's. Essentially, needed information dealt with an explanation of how flexibility was being built into each of the vocational programs so that a student could move into a vocational program without needing prerequisites; the methods that were being utilized to increase enrollments from sending schools; a brief outline of programs to serve the high school dropout; and a brief outline of programs to serve the disadvantaged student. A follow-up of graduates, plans dealing with transportation, upgrading of curriculum, and utilization of craft committees were also addressed. As a result of information obtained from this evaluation, decisions were made to approve the continuing operation of the regional technical vocational centers.[76]

In 1971-72 an evaluation was conducted by Hichbourn and Hichbourn, educational consultants, for the Bureau of Vocational Education. A document entitled "An Evaluation of the Center Concept in Nine Selected Regional Technical Vocational Centers"

was accomplished. The evaluation had two major objectives: 1) to determine the adequacy and efficiency of the programs, and 2) to observe and report the degree to which the Regional Technical Vocational Center concept seemed to be meeting students' needs in the areas being served. A number of conclusions were drawn from this evaluation that resulted in both general and specific recommendations for each center that was reviewed.[77]

Another evaluation was conducted in 1971-72 by Dr. Marx and Dr. Doran, researchers, for the Maine Advisory Council on Vocational Education. A document resulted entitled "A Quantitative Assessment of Programs in Auto Mechanics, Building Trades, Business Education, and Distributive Education for the present Thirteen Regional Technical Vocational Centers". The study was considered to have been very poorly done.[78]

In 1972-73 an evaluation was done by members of the Maine Advisory Council on Vocational Education themselves. The title of their report was "The Third Evaluation Report for the Council." The recommendations that were developed from opinions of various council members on how they viewed center operations to date were mentioned. Six specific recommendations were made and were reviewed and studied by the Bureau of Vocational Education.[79]

In 1972-73 another evaluation was done by the Bureau of Vocational Education. The procedure was an attempt to adopt a single set of criteria and procedures for evaluating vocational education programs, in order to reduce duplication. The document stated that the Bureau looked at RTVC's every two years and reported to the State Board; looked at evaluation reports prepared by the Maine Advisory Council on Vocational Education; and submitted a descriptive report each year to the USOE on all activities about vocational education. It was contended that specific criteria would be helpful. As a consequence, pilot materials developed by the AVA entitled "Instruments and Procedures for the Evaluation of Vocational/Technical Education Institutes and Programs" were reviewed. A consulting firm was employed to review these materials with the Bureau of Vocational Education, regional center personnel, including superintendents, regional center directors, and high school principals, and representatives from the New England Association of Schools and Colleges Commission on Occupational Education.

As a result of these planning meetings, it was determined that the following activities take place: 1) Each of five regional centers would perform a self-evaluation by May 21, 1973 using the pilot criteria; 2) Committees would visit each of five schools during the fall of 1973 to review the self-evaluation report on each program (Visiting committee-experts in

each occupation - members of State Board and State Advisory Council); 3) The Bureau would review the results with the State Board, State Advisory Council, and the New England Association of Schools and Colleges in an attempt to attain uniform acceptance of this pilot instrument.

> Upon completion of the self-evaluation, each school submitted to the Bureau a set of recap sheets covering each program under evaluation. These sheets indicated the self-evaluating rating of the criteria listed in a public criteria and summarized the major strengths, weaknesses, and plans for improvement by individual programs.[80]

On July 16, 1971, Bath, Biddeford, Bridgton, and Farmington were approved by the State Board of Education for continuing operations for two years as Regional Technical Vocational Centers. However, on September 21, 1972 it was recommended that the regional center at Skowhegan be approved for continuing operation for one year so that the Bureau of Vocation Education and School Administrative District 54, Skowhegan, could explore all of its methods of operation to better meet the needs of students within the region served by the center. This having been accomplished, the following recommendations were made: 1) that the regional centers located in Bath, Biddeford, Bridgton, Farmington, and Skowhegan be given tentative approval by the State Board of Education for continued operation as Regional Technical Vocational Centers pending a final report from the visition committee in the Fall of 1973; 2) that based on satisfactory final evaluation, the State Board of Education issue approval for operation of a five-year period subject to the biennial review by each center explaining the action it has taken on recommendations made in the evaluation report or other recommendations or directions as may be given by the State Board of Education and the Department of Education and Cultural Services; 3) that the State Board of Education agree to participate to the extent of its resources in the upcoming fall evaluation; and 4) that the State Board of Education consider supporting the concept of a uniform set of criteria and procedures for evaluating vocational education programs.[81]

In 1973-74 further evaluations of the seven regional centers were conducted. Pilot criteria were developed and used in an evaluation that was completed by an outside evaluator.[82]

It can be concluded that vocational education in Maine has experienced program evaluation and follow-up studies since the passage of the 1968 Amendments. However, it was the Education Amendments of 1976 that designated new efforts in evaluation as the responsibility of the State Board for

Vocational Education. This new responsibility presents the challenges of conformity and preciseness to identified categorical data requirements. Maine is gearing up to meet these challenges with program review and follow-up instruments.

The intention of the Bureau of Vocational Education in Maine is to meet these challenges and to present data that will conform to the Federal mandate in a spirit of cooperation and with preciseness and excellence.

State Vocational Education Agency Evaluation System

Goal 7 of Maine's Five-Year Plan for Vocational Education (1978-82) reads:

> To provide adequate evaluations at the local and state levels to help assure full compliance with state and Federal Law and policy and to serve as a guide to planning and management decisions.[83]

The foregoing goal echoes the desire and sentiments of state and local officials on the need for an effective vocational evaluation system not only for compliance purposes but also for better policy decisions and programs and for more effective use of limited material and fiscal resources. The state feels that "there should be a greater emphasis in this direction . . . to improve efficiency and effectiveness and provide better tools for planning, management and reporting".[84]

Three basic procedures are employed by the state in its total vocational education evaluation system. These are: regular data collection through its management information system, supervisory visits, and a comprehensive self-evaluation - program audit system using the "P" form instrument developed by the state.

The discussion that follows describes each of the components of the system, the roles and responsibilities of the offices that are involved in the process, and the strengths and weaknesses of the whole system.

Organizational Roles and Responsibilities

The major offices that are charged with the responsibility of performing the vocational education evaluation functions in the bureau lie with the Program Services Division and the Planning, Evaluation, and Management Information Office as shown in Figure 4.3.

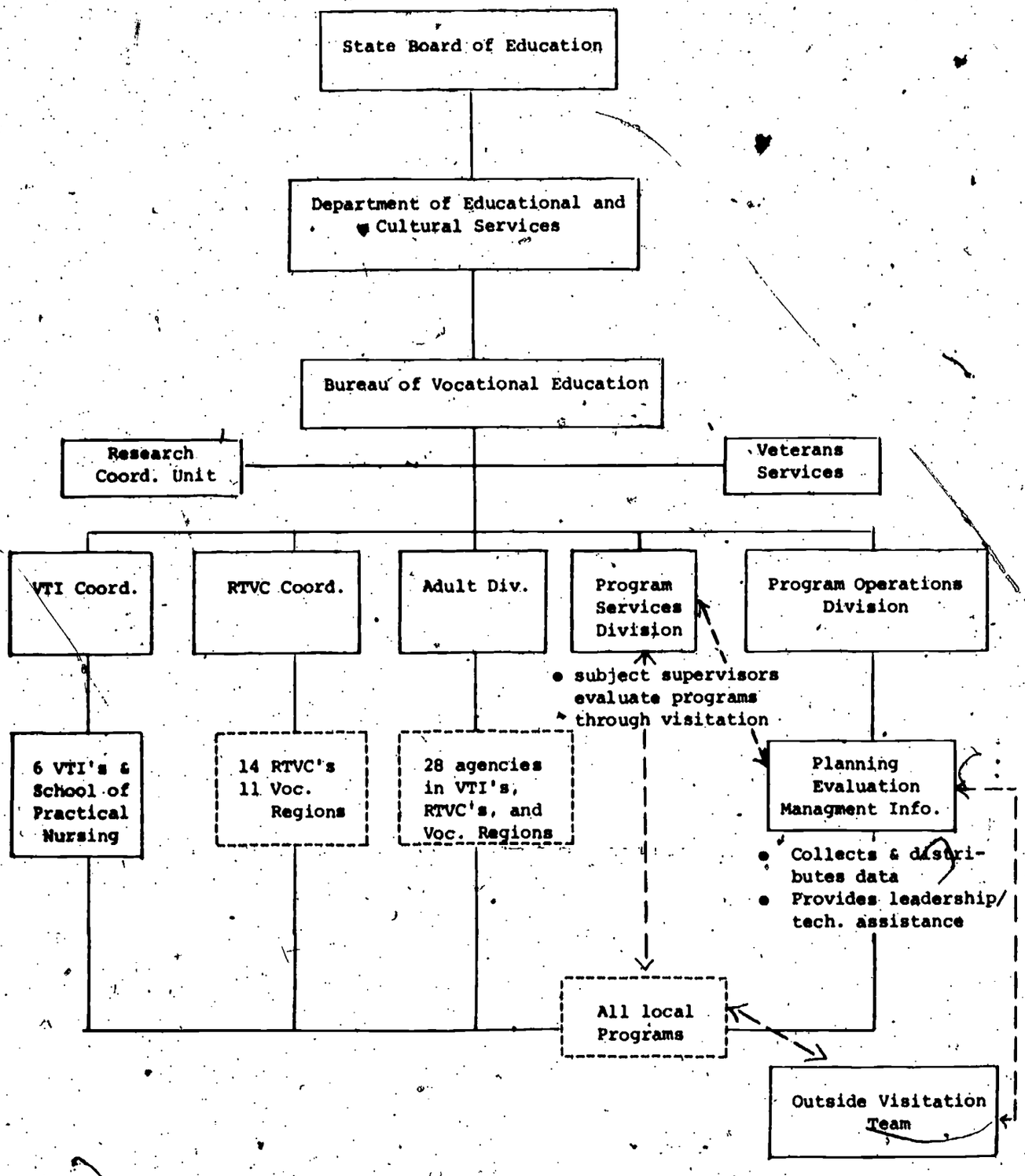

Figure 4.3 Organizational chart of the bureau of vocational education in Maine indicating vocational education evaluation functions

The Planning, Evaluation and Management Information Office performs three general functions in the total vocational evaluation system. First, it collects and distributes data (socio-economic, placement, enrollment, follow-up, etc.) to meet the requirements of Federal and State legislation. Second, it takes a leadership role in coordinating the total state vocational education evaluation system. Third, it provides technical assistance to local agencies in conducting evaluation which includes development of reliable and valid evaluation instruments.

The Program Services Division handles the supervisory visits. The supervisory visits are made on a "continuing basis to all approved educational institutions."[85] All non-college degree institutions are visited at least once a year to determine compliance to state and federal requirements.

The "P Form" Evaluation Procedure.[86] The "P Form" evaluation procedure is the heart of Maine's vocational education evaluation system. Its primary purpose is for "the approval of programs in the regional centers by the State Board of Education under statutorial requirements." The "other objectives being addressed . . . are better coordination of programs at various levels, more efficient sequencing of evaluation on a systematic basis, and the involvement of the centers in the whole evaluation process." The state has indicated a "system that could be meshed with and supplement accreditation procedures especially those of the New England Association of Colleges (NEAC) and Secondary Schools Commission on Vocational-Technical Institutions."

The "P" Form plan is a comprehensive self-evaluation-program audit system that includes two distinct methods: 1) a self-evaluation study developed by the Mid-coast Educational Development Center; and 2) a visitation by an outside team for the purposes of auditing the results of self-evaluation. The focus of self-evaluation is program evaluation. It does not deal with institutional evaluation per se.

There are four stages in the total process. These are:

Stage I - Decision to Evaluate:

> The actual decision to go ahead with a particular evaluation, the establishment of guidelines and time sequences, and initiation of steps to effect the evaluation plan.

Stage II - Self-Evaluation

> The self-evaluation study by the vocational center.

Stage III - Outside Visitation Team

The visit by a team of outside specialists and officials. This could either be organized through the state or New England Association of Colleges. The local school has input into the composition of the outside evaluation teams.

Stage IV - Reporting and Action

Reports of both Stages II and III to the agencies responsible for evaluation and action taken on the study and reports.

The state organized outside visitation team is composed of the following members:

Chairperson - appointed by agency.
Specialists - one for each program to be evaluated.
State Board of Education - one invitee determined by Board.
State Department of Educational and Cultural Services - one determined by Bureau of Vocational Education.
Center Director - as a team member and resource person for team.
Facilitator-Observer - as a team member and to assist the process of group dynamics.

A panel of agency officials commence to select the specialists for the team, one for each program to be evaluated. The list of team members is submitted to the Center Director and he/she has the right of refusal on any number(s) selected.

The total "P" Form process takes several months to complete. At present, it is done once every five years.

Capabilities and Limitations

The National Center staff feels that the vocational education evaluation system of Maine shows outstanding qualities which need to be recognized. Among other things, it has a well integrated network of data collection and dissemination which promotes efficient utilization of resources. It should also be noted that its system covers both secondary and postsecondary programs. While it has not fully utilized the potentials of the New England Association of Colleges and the Secondary Schools Commission on Vocational-Technical Institutions, it is moving in the right direction by taking the initiative in meshing

existing accrediting procedures with the "P" Form system to prevent overlapping of functions/responsibilities.

An important ingredient of the "P" Form system is strong involvement of local school officials in the evaluation process. This is very important if evaluation results are to be "plowed back" into the local schools as active inputs in local decision making, especially those which pertain to fund allocation and personnel development.

On the other hand, the vocational education evaluation system could stand improvement in the following areas:

1. Broaden the involvement of the outside evaluation team if other than the NEAC. At present, the composition does not include community representatives, teachers, and students. Also "The Center Director has a full control of selecting members of the self-evaluation committee."[86] This would contribute to the creation of doubts and suspicions regarding evaluation results. To increase the credibility of programs audit results it is wiser to include members outside the educational system.

2. The "P" Form takes up to seven months. The process is time-consuming and requires extra effort on the part of the school and people involved. To subject an institution to the process once every five years might backfire in terms of teacher and student cooperation.

3. Finally, while Maine has a well-defined "P" Form system, it should operationally define its total evaluation system in terms of specific roles and responsibilities of the different organizational boxes at the state level. This would clarify the role of the state personnel who are involved in the state evaluation process.

Problems, Alternative Solutions, Solutions, Results

The Maine vocational delivery system consist of twenty-five school systems providing vocational education. Each of fourteen of these is administered by a single high school with responsibility for serving all students in the district. The eleven additional are established and administered jointly by a number of schools in a region. These centers and regional vocational schools are evaluated on a five-year cycle which includes an extensive self-evaluation and a team review.

The project team visited the state several times to become acquainted with the evaluation system, to identify and discuss problems and to review the present data system. The team observed a team review of one of the regional vocational schools. Following are the major problems identified and the solutions adopted.

Problem 1: Alternative to Self-Evaluation-Team Accreditation

Explanation: State staff and local educational personnel have expressed concern over the amount of time required for the self-study which precedes the team review. It is estimated that a school may spend as much as seven months in preparing the self-study report. During a project staff visit to the area vocational school at Belfast, Maine, it was reported that about four months time was required to complete work on the self-study. While this was reported to be useful to the school it was thought that a five-year cycle was too often to do this in-depth analysis. Having heard this comment from a number of schools, the state staff accept this opinion.

In attempting to make the total evaluation effort as meaningful and productive as possible, the vocational department staff as well as the state advisory council staff have expressed an interest in exploring all available options besides repreating the self evaluation-team review cycle every five years.

Alternative 1: Continue self-study and team review on a five-year cycle.

Advantages:

- Staff and school are familiar with this system.
- Teachers and administrators see benefits to this procedure.
- This meets the federal requirements.

- Some changes in this process could be developed.

Disadvantages:

- There is danger of this becoming routine if repeated too often.
- This system requires a heavy time input by local administrators and teachers.
- The use of team visits is expensive for schools
- The New England Association of Schools and Colleges, which conducts some of the team visits, feels that ten years is a reasonable cycle.

Alternative 2: Establish a ten-year cycle for self-study and team review.

Advantages:

- This time schedule would be better accepted by schools.
- The New England Association could participate fully.

Disadvantages:

- This probably would not fully meet federal requirements.
- Schools need evaluation feedback more often than this method would provide.

Alternative 3: Use a five-year cycle but provide for some other evaluation activity during the alternative five years.

Advantages:

- This would meet federal requirements.
- This would provide evaluation feedback on a five-year cycle.
- This should be more interesting and challenging to local educators.
- This would allow for some testing of new ideas for evaluation.

Disadvantages:

- This would require a change in routines by staff, administrators, and teachers.
- With this system it would be necessary to provide additional in-service training.

Alternative 4: Change evaluation procedures completely.

Advantages:

- This would allow for implementation of new ideas and methods.
- Problems of the old system could be corrected.

Disadvantages:

- Good features of the present system would be eliminated.
- Extensive planning and development time would be required.
- Some retraining of teachers would be necessary.

Choice and Results:

In view of the feeling of local educators and the concern of state staff for productive use of time spent on evaluation and the "evaluation every five years" of the federal legislation, the state decided to adopt alternative 3. State Advisory Council and State Staff are now considering using an indepth, teacher personal interview follow-up of former students and employers as the alternative system. This would gather information in much greater depth than could be collected in an annual student follow-up.

Project staff were requested to propose procedures and sample questions to be used by teachers to interview former vocational students and employers. Such recommendations have been made and are now being reviewed in Maine. A committee made up of State Staff, SACVE members, local teachers and administration and a state board member will make the final decision as to how the alternative fifth year follow-up will operate. Project staff will be invited to participate in these committee meetings.

Briefly, the system proposed by the project staff would train teachers in interview techniques, provide an interview guide for collecting information from former vocational students and employers, and suggest ways of reporting and using the information.

Problem 2: Student Follow-up

Explanation: The state conducted a test follow-up in three schools during the 1977-78 school year. This follow-up was conducted by sending follow-up forms to students from the state through the local schools. Forms were returned to the local school and then transported to the state office for computer analysis. Follow-up letters and a phone call were used to increase the response rate. Results of the anlaysis and the original forms were sent back to the local school. This process resulted in a fifty-five percent return rate from program completers. Former students were asked to give approval for the staff to contact employers for additional information. Eighty percent of the responding students responded positively to this request. Employers were then sent a questionnaire to ascertain their impressions of the level of training of the employees who had participated in vocational training. A seventy-four percent response rate was realized through the original mailing, a reminder letter, and a phone call. The state must decide how to implement the follow-up system in all vocational programs with revisions based on the test year.

The state plans a full scale follow-up of all vocational students in the 1978-79 school year. A committee of state staff, local educators, State Board members, and State Advisory Council for Vocational Education members will review instruments and procedures and make recommendations. Project staff will be asked to work with the committee in an advisory capacity.

Alternative 1: Revise present instrument and procedures.

Advantages:

- Teachers and staff are familiar with present instrument.
- Computer program for analysis is developed.
- Weaknesses have been identified through tests and revisions made.

Disadvantages:

- No opportunity to try new approach.

Alternative 2: develop new instrument and procedures.

Advantages:

- o New ideas and procedures could be tested by this option.
- o Faults of present system would be eliminated through this method.

Disadvantages:

- o Additional time and expertise would be required.

Choice and Results:

At this point, project staff reviewed results and procedures and made comments and recommendations. In the review of the follow-up instruments, several suggestions were made which are aimed at assuring more accurate analysis of responses. Some changes in procedures as outlined below, were also suggested. As a general guide to revision and improvement of the evaluation system, the "Handbook on Follow-up of Vocational Students", developed by another project in the National Centers evaluation division was used. Specific suggestions were: 1) reduce the responses allowed on questions where multiple responses might be confusing to the analysis, 2) change wording of some possible responses to make them correspond more closely to the questions, 3) divide some items where more than one question was asked, and 4) change some procedures to require less instrument handling.

It was stressed to project staff that a special effort be made to check a sample of the non-respondents to see if they appear to be markedly different from those responding. It cannot be assumed that those not responding are similar to those responding. A small sample with complete response should be sufficient to answer the question or differences.

Newly adopted procedures will include the mailing of questionnaires from a central location and the return of the completed form to a central location. Computer analysis will be completed and the results and original instruments will be returned to the students' school. The letter attending the instruments will have the name of a local official of the school from which the student graduated.

The Maine student accounting system will be carefully monitored to see if the revised system is effective in providing information in two areas.

1. Are special needs students identified at time of enrollment in order to trace progress through the program, special services provided, and follow-up to determine outcomes?

2. Are the data sufficient to determine the extent to which programs have reached outcome objectives?

It is difficult, if not impossible, to identify students who had special needs when entering programs at the time follow-up is done. Follow-up results, in order to be meaningful, must be related to program processes. Only through matching outcomes to special services provided can vocational educators begin to sort out which services are most appropriate for which special need under specified conditions. Schools face such questions as shall we hire teaching aids or provide learning labs? Which is most effective in assisting disadvantaged students to succeed in vocational education? Through systematic observation of outcomes, the state can begin to answer these perplexing questions with the assistance of experienced researchers.

Another important function of the student follow-up segment of the student accounting system is providing data to determine the extent to which outcome objectives have been met. The establishment of these outcome objectives is discussed in another problem area. These outcome specifications, along with reporting requirements and other information which the state or local school perceives as being critical, will determine the data items contained in the follow-up survey. As a result of revisions, the present Maine system seems to meet these requirements. Future information needs or changing outcome objectives will require careful attention by those operating the follow-up system.

Problem 3: More Effective Use of Evaluation Information

Explanation: This problem, which is really more of a question, encompasses the total evaluation system and yet needs to be treated as a whole rather than as separate parts if continuity is to be established.

The types of information which are available in the Maine system are:

1. Student follow-up

   a. Employment, non-employment, further schooling information.

   b. Students' reaction to training and comparison with the work situation.

2. Employer follow-up

   a. Level of satisfaction with performance of former vocational students.

   b. Comparison of former student with recent non-vocational employees on several specific attributes.

3. Results of self-evaluation by local school and programs.

4. Recommendations of visiting teams for program improvement.

The use made of this information is the real determinant of the benefits of an evaluation system. Evaluation data and information can make a contribution to the decisions made at both the state and local level.

This problem as discussed in the state actually encompasses both the use to be made of the information and the form and procedures in which the evaluation findings may best be presented. Alternatives will be considered for three questions relating to this overall problem. First, how the information might be analyzed and packaged; second, how should the information be presented to schools? Third, what kinds of decisions can this information be used for?

Question 1: How should data be analyzed and packaged?

Alternative 1: Send each program and school data on its own students with no comparisons.

Advantages:

- Unfavorable comparisons between schools and programs would be avoided.
- This would be less threatening to teachers and administrators.

- Data handling would be kept to a minimum.
- Comparisons could be made on the basis of the schools or programs performance year-by-year.

Disadvantages:

- Schools and programs would not have compairson points with other schools or averages.

Alternative 2: Send each program and school data on its own students with state average comparisons.

Advantages:

- Comparison points would be provided.
- Schools and programs would not identified except to themselves.

Disadvantages:

- This procedure would require some additional data analysis.
- Because of differences in basic school structures state averages might be deceiving as a basis for comparison.

Alternative 3: Send each program and school data on its own students with state average and programs of equal ability to pay comparisons.

Advantages:

- This would provide an equitable basis for comparisons.
- This would give an analysis of relationship between the ability to pay and program quality.

Disadvantages:

- This would require extensive data treatment.
- Ability to pay might be difficult to determine.

Alternative 4: Calculate a product index or outcome index which combines results of achievement of several selected outcomes into one figure for each program or each school.

Advantages:

- o This would provide one figure which expresses program impact.
- o This identifies outcomes which the state or school has identified as important.
- o This places emphasis on outcomes rather than processes.

Disadvantages:

- o This would require extensive data manipulation.
- o There will be disagreement on the outcomes that are most important.
- o This analysis is not suitable for programs having different or unique outcome objectives.

Alternative 5: Establish objective outcomes expected of each program and school and check follow-up data against those standards.

Adantages:

- o This will indicate to teachers, students, parents, and community what vocational education is attempting to achieve.
- o This will indicate program weaknesses and areas that need assistance.
- o Comparisons mentioned in other alternatives can still be made with this analysis.
- o This system is applicable to different types of programs.

Disadvantages:

- o There likely will be disagreement on outcomes.
- o This might require changes in data collection and analysis methods.

Choice and Results:

This year the state will proceed on the basis of alternative 1. Follow-up data will be provided to schools which present number and percent of students who answered in the several categories; no comparisons will be provided. Project staff have provided the individual responsible for follow-up, a copy of the National Center publication "Guidelines and Practices for Follow-up Studies".

The project staff recommended that in the coming year, the state consider alternative four or five as a method of further analyzing student accounting data. The calculation of an Outcome Index (alternative 4) involves reaching a consensus on desirable outcomes, assigned a weight to each outcome, and developing a formula and computer program to do the calculation. This reduces all of the expected important outcomes to one figure and is a method of indicating the relative effectiveness of programs in achieving those outcomes considered to be important.

Alternative five would be the measuring of a program or school's performance against previously established outcome objectives. It is important that these objectives be stated in terms of measurable outcomes rather than processes or procedures. These objectives may be set by program and by school or statewide by program. The procedures followed in setting objectives would be a state decision but certainly broad representation including local educators would be essential. Such a system would serve as a guide in program review as is discussed in the Alabama chapter of this report.

Question 2. How should data be presented to schools?

Alternative 1: Provide all this information to the local schools and let the school take the action it deems advisable.

Advantages:

- o School will have all data on its programs.
- o Schools will have all team members' comments.

Disadvantages:

- o Schools may not have personnel or time to handle this amount of data and information.
- o School review team members might be reluctant to be critical.

- An overall picture might be more realistic than all individual comments.

Alternative 2: Package all of the data together in one report and conclude at state level action required of the local school.

Advantages:

- Schools would know what actions were necessary.
- This would avoid embarrassment to any one teacher or program.

Disadvantages:

- Schools might feel less involvement with this system.
- This might provide less data and information than schools would like to have.
- This puts too much responsibility on the state staff.

Alternative 3: State analyze and screen the data and make recommendations to the school.

Advantages:

- This would avoid having unrealistic or embarrassing statements go to the school.
- State could do some consolidation of recommendations.
- State could plan assistance based on recommendations.

Disadvantages:

- Schools might feel a need to see all comments.

Alternative 4: State analyze follow-up data (student and employer) and make results available to local school and visiting team. Recommendations of visiting team go directly from team to school.

Advantages:

- Follow-up data and information would be more useable to schools and teams.
- Teams could consider outcomes in making recommendations.

- School would receive and screen recommendations.

Disadvantages:

- Team members might be reluctant to make strong recommendations if they go directly to the school.
- Some recommendations might not be realistic.

Choice and Results:

The state has chosen alternative four for this year. A compilation of follow-up from students and employers will be made. This information will be used by the school and the visiting team. Teams will present major recommendations to the school at an exit interview and will provide a report to the school at a later date.

Question 3. How evaluation information might be used

Alternative 1: Use at state level

- Decisions relating to expansion, continuation, or termination of programs.
- Guide for efforts of subject matter specialist (supervisors) in assisting schools/programs to improve.
- Guide to determining fund allocation for supplemental services.
- Indication of inservice and preservice education needs.
- Indication if impact of vocational education.
- Determine effectiveness of state vocational delivery system.
- Determine effectiveness of services for special needs groups.

Alternative 2: Use at local level.

- Indicator of changes needed in school and program.
- Knowledge of impact of vocational education.
- Assist in decisions on fund allocation.
- Identify programs needing special assistance.

- To gain information on effectiveness in meeting needs of special needs individuals.

Obviously, both local and state decision makers should be using the results of evaluations as an imput into managing the vocational education program. Too often these results are not used partially because the manager is not aware of the potential benefits of this procedure and partially because evaluation findings are not packaged in the most useable form. If decision makers and evaluators are aware of the possible uses, both parties can direct their efforts toward the timeliness and usefulness of evaluation results and reports. It is also important to realize that inputs from many other sources will also be used in the decision making process.

Problem 4: Evaluation of State Vocational Delivery System

Explanation: All states are engaged in some type of evaluation of local programs. This consists mainly of answering the question "Are we doing things right?" Few states are concentrating on evaluation of the state program of vocational education and attempting to determine "Are we doing the right things?" The accountability report specified by the Congress at least to some extent asks this same question of the states.

Maine must ask itself the hard questions:

To what extent are we meeting the manpower needs of the state?

Are programs accessible and open to all who could profit from training?

Are we providing training for the most critically needed occupations?

Are we providing training in which there is adequate remuneration for training and expectations of advancement?

Are there opportunities for retraining and upgrading?

Is there a reasonable expectation of employment for every student enrolled in vocational training?

These and many other questions could make up the score sheet against which the state program could be judged.

Alternative 1: State use accountability report to judge its effectiveness.

Advantages:

- Could determine whether or not the state did what it said it was going to do.
- Requirements of Federal legislation would be met.
- Provides fiscal accountability at both State and Federal level.

Disadvantages:

- No proof that what was done was what should have been done.
- The accountability report deals more in fiscal matters and processes than it does in outcomes.

Alternative 2: State develop, by whatever means seems appropriate, a series of student outcome objectives to be answered by hard data.

Advantages:

- Emphasis is on outcomes rather than processes.
- Provides a guide for data collection and analysis.
- With broad representation, this can consolidate effort and support for achieving objectives.

Disadvantages:

- Changes in the data system may be required.
- State may not want to be accountable for student outcome objectives.
- This might cause programs to be overly selective in the students they admit.

Alternative 3: Depend upon the SACVE to evaluation state program.

Advantages:

- Requirements of Federal legislation will be met.

- o Involvement of many individuals outside education.
- o State will be encouraged to identify and work toward specific measurable objectives.

Disadvantages:

- o Advisory Council members may not be totally knowledgeable of vocational education.
- o Individual members of SACVE may view programs from biased positions.

Alternative 4: Bring in experts from outside the state to evaluate state vocational program.

Advantages:

- o These would be people who are knowlegeable about vocational education.
- o This would lend credence to evaluation.
- o The state will learn from experiences in other states.
- o An opportunity for the state to get ideas from other states.

Disadvantages:

- o This expensive and time consuming.
- o There are some differences in states which, if not considered, can produce inappropriate recommendations.
- o Visiting state teams may need training in evaluation.

Choice and Results:

At present, the Accountability Report will be used to evaluate the State's program. It is recommended that Maine consider the formation of a consortium of states including vocational staff and SACVE members to do the following:

1. Collectively develop questions to be answered.
2. Identify methods of obtaining data needed to answer questions.
3. Exchange personnel to review state level operations and make recommendations.

If this does not seem possible at this time, the state should consider doing this state operation evaluation with a team of state vocational and non-educational individuals.

Problem 5: Follow-through on recommendations of self-study and evaluation team.

Explanation: Probably the most important function of an effective evaluation team is not to evaluate but to make recommendations for improvement. The recommendations which result from a self-evaluation by local teachers and administrators are also very important. Schools need assistance, not only in identifying problems, but in solving them. A follow-through system on evaluation recommendations is essential if maximum benefit is to be realized from evaluation.

This follow-through consists of several important phases. First, the state should be in a position to provide assistance in implementing recommendations. Second, the state should require that critical program improvements be made if programs are to continue. Third, there should be feedback to the evaluation unit on how recommendations were dealt with. It is important that local and state staff clearly understand who has what responsibility in this effort to help schools and programs provide better vocational education.

Alternative 1: State supervisory staff be assigned responsibility for assisting with implementation of recommendations and reporting to state administration and evaluation.

Advantages:

- o These are the people having subject matter expertise.
- o These people are in schools most often and usually are closest to teachers.
- o Feedback to administration and evaluation gives an indication of effects and quality of evaluation.
- o Relationship between local schools and state staff will be strengthened.

Disadvantages:

- o Supervisors may not have expertise to assist with recommendations relating to administration, guidance, special needs groups, etc.
- o Supervisors may be fully occupied with other activities.

- Supervisors may be so close to programs and teachers that they cannot be objective.

Alternative 2: School be fully responsible for implementation of recommendations.

Advantages:

- Schools know changes and improvements are their responsibility.

Disadvantages:

- Schools may not have expertise to implement any recommendaitons.
- Schools may begin to feel isolated from state staff.
- The number of alternative methods of implementation may be limited in this procedure.

Alternative 3: Have local plan and application for programs contain information on previous program recommendations and their disposal.

Advantages:

- Schools will be more concerned about improvements.
- Feedback will be provided to evaluators.
- Decision makers will receive assistance in responding to proposals in local plan.
- Carefully considered recommendations should result.
- Greater program improvement should result.

Disadvantages:

- Additional paper work will be required.
- Some schools might feel this was interference in their programs.

Choices and Results:

Maine is considering all of these alternatives, particularly the ones placing major responsibility for assistance with the supervisory staff and including reports on improvements in the

state plan. It is important that the state make specific recommendations and actions rather than a general statement relating to program improvement.

Two additional actions would support program improvement. First, as state summaries of evaluation are made, a compilation of recommendations will show the improvements that are most commonly needed. The state could then allocate resources (dollars, staff expertise, or training) to the solution of these most common problems. Second, the vocational teacher education staff should be made aware of deficiencies identified in schools so that preservice and inservice programs could stress these points.

The state should take action which will assure feedback on both improvements made and recommendations not implemented with reasons for no action. This will make it possible for state administration and evaluation to judge impact and make adjustments in evaluation activities which are not effective.

Problem 6: Identification of outcomes other than placement for which vocational education should accept responsibility and take credit.

Explanation: Occupational placement has always been an important objective of vocational education. This will continue to be important both as a measure of effectiveness and as a guide for updating and improving programs. There are, however, other outcomes of vocational education. Programs and schools should be aware of these other results and attempt to increase the benefits that students receive. Vocational educators should also strive to identify ways of measuring other outcomes as an aid in evaluation and as a credit to programs.

This problem was especially important in discussions with the executive secretary of the State Advisory Council for Vocational Education. The position was that vocational education especially at the secondary level should not get trapped in considering the only worthwhile outcome to be placement on a job.

Alternative 1: A conference be organized to identify other outcomes which might be appropriate for vocational education in addition to placement.

Advantages:

- Input and ideas from a variety of people including educators, employers, parents, and students would be received.

- Some consensus on important outcomes could be reached.
- The importance of considering outcomes in program direction and evaluation will be emphasized.

Disadvantages:

- There are many different opinions and compromise will be required.
- Vocational education must decide whether or not this would be a beneficial move.

Alternative 2: Methods of measuring these outcomes be specified.

Advantages:

- A guide for the information and data system would be provided.
- Evaluation should be more objective.
- This would increase credence of vocational education impact claims.
- This would serve as a guide to program improvement needs.

Disadvantages:

- Adequate measures for many outcomes have not been developed.
- This will require extensive research which is just beginning.

Alternative 3: An outcome index be used to indicate the level of achievement of each program or school. This outcome index is discussed under Problem 3 in this section of the case study.

Choice and Results:

No action has been taken at this time, but recommendations are under consideration. The project staff have recommended that input from the National Center project "Examining Vocational Education Outcomes" be obtained before other action is taken.

Problem 7: Determining effectiveness of practices and programs for special needs subpopulations.

Explanation: This problem was discussed in the Alabama Chapter.

There are some aspects of the problem in Maine which may influence the choice of different solutions.

1. Many of the evaluation team visits will be done under the auspicies of the New England Association of Schools and Colleges. The interjection of appropriate questions into the review guides may pose more of a problem than a state conducted visit.

2. The types of special needs, the special services rendered, and the attitudes of the school and community may be quite different.

With these differences in mind, the alternatives and procedures described in the Alabama section would seem to be applicable.

Problem 8: Coordination of evaluation with accreditation by the New England Association of Schools and Colleges.

Explanation: A cooperative agreement has been worked out whereby the local school will use the Program Review "P" Form developed by the state for self-study and then will be reviewed by a team selected by and representing the New England Association.

Project staff had an opportunity to observe one of these visiting teams reviewing an area vocational school. Two problems were identified with this arrangement. First, team members and the Association seemed very reluctant to have other individuals observe or participate in the process. These "other" individuals were representatives of the State Vocational Department, and members of the State Board for Vocational Education and the State Advisory Council. Second, team members seemed unable to recognize as acceptable any arrangements for service to students other than the arrangements with which they are familiar. Since this was the first of several planned team visits to several schools, it is hoped that the Association can encourage more flexibility in its team members.

Alternative 1: Continue cooperation with New England Association and negotiate on changes.

Advantages:

- o This procedure will avoid duplication of effort that would be required if evaluation and accreditation were done separately.
- o Community acceptance of New England accreditation will benefit schools.
- o An outside view of vocational education will be assured.
- o Ties with total educational system will be strengthened.

Disadvantages:

- o New England Association seems to over emphasize processes and disregard outcomes.
- o Unique purposes and mission of Vocational Education could be ignored.
- o Some schools will not fit New England Association's requirements.

Alternative 2: Conduct evaluation apart from accreditation.

Advantages:

- o Evaluation system could be developed as the state sees fit.
- o Changes recommended by evaluators could be made more readily.
- o All schools could be included.

Disadvantages:

- o Some duplication of effort would result.
- o Schools would lose the status associated with accreditation.

Choice and Results:

The state is continuing to negotiate with representatives of the New England Association on modifications they feel should be made. Progress is reported in defining the role and responsibility of the ex officio members the state feels should be involved with the review teams.

Those regional centers whose supplementary services (guidance, library, etc.) are widely dispersed among feeder schools will not be accepted for accreditation by the association. This will necessitate a separate evaluation procedure for these schools. Project staff recommend that if this situation does develop, some comparison of effectiveness should be attempted between the two procedures.

Concluding Statement:

Maine is a relative small state with limited staff to perform functions of the vocational department including evaluation. Problems for which immediate solutions are being worked out are the implementation of a follow-up of students and employers and coordination with the New England Association. The installation of the alternative five-year evaluation system and solution of other problems identified in this report are long range objectives of the department.

Maine Chapter IV

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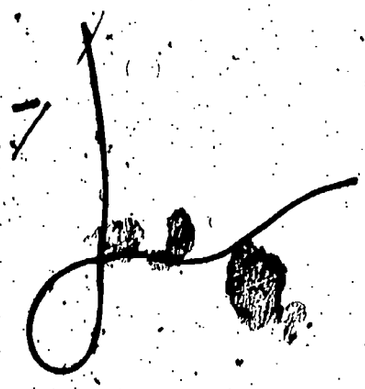

CHAPTER V

SUMMARY AND RECOMMENDATIONS

Approximately fifteen person days have been spent in each of four states by staff of the Technical Evaluation Assistance Project. Purposes of the visits were to 1) understand the vocational education delivery system and the vocational education evaluation system, 2) identify problems and improvements needed in the evaluation system, and 3) provide assistance in solving problems and implementing improvements. The team proposed to concentrate its efforts on the student follow-up system and evaluation of services and programs for special needs populations but not to the exclusion of other evaluation related problems and needs.

Evaluation was identified as the formally established procedure for determining program quality and identifying and assisting with recommended improvements. Evaluation was not defined to include normal monitoring or supervisory visits unless specifically for the purpose of evaluating programs or assisting with implementing recommendations made through evaluation procedures.

The states participating in the project (Alabama, California, Colorado, and Maine) were at various stages in their efforts to establish an evaluation system which would, first meet the requirements of the Education Amendments of 1976 and second meet the perceived needs of the state. The project was viewed by the project staff not as an effort to design and implement a system for evaluation, but rather as an attempt to improve or expand the system in existence in each of the states. The methods used to do this were 1) individual discussions during state visits, 2) state visit reports and information papers and 3) a case study. This case study, written in December, 1978, in addition to historical and contextual information, analyzes a number of problems in each states' evaluation system. This analysis focuses on alternative solutions to each problem, their advantages and disadvantages, the alternative(s) chosen or recommended and the results of implementation.

This chapter discusses evaluation of the technical assistance project, presents a number of evaluation problems as identified by the states and suggests some research and development questions. A statement on the second year of the project concludes this chapter.

Project Evaluation

This project should be evaluated on the basis of the extent to which the participating states have improved their evaluation system through the implementation of solutions to identified problems. The greatest contribution of the project team may be serving as a constant reminder that there is room for improvement in the system and by presentation of alternative methods of bringing about these changes. The less obtrusive the assistance can be, the more effective it is likely to be and the less aware the state will be of the assistance provided. This is the dilemma of providing help - to be most effective it must be least obvious - but to be appreciated it must be recognized. Finding the acceptable medium is the secret of continuing, successful technical assistance.

The attribution question is a serious complication in attempting to measure the impact of the technical assistance effort. Usually determining solutions to problems and deciding on improvements happens in something other than a structured, formal sequence which would be easy to analyze. Many times problems are brought up and discussed in impromtu sessions, where recommendations or alternatives are considered, but not recorded or analyzed in the organized manner in which they have been presented in this report. Consequently, those providing technical assistance must be prepared to enter into a free give and take of ideas in whatever conditions they may be able to catch the attention of those decision makers who can make a difference. While scheduled formal discussions are highly desirable and productive, any opportunity to gain insight into a problem or suggest an alternative to be considered should not be overlooked because conditions are not "ideal".

Because of the nature of the work some degree of recognition of the contribution of the technical assistance team is necessary. Accountability for the use of project resources is a vital realism. There are some ways for determining what contribution has been made, at least in part, by the project staff. The problem identified in this report were all recognized through mutual concern of both state staff and project staff - in other words they are real problems which need solutions. The alternative solutions are principally the contribution of the project staff with some review and input from states' evaluation staffs. The states made the choice of the alternative(s) to implement and the results will be observed mutually. Additional problems will arise as the project moves into its second year. Documentation of additional problems with alternatives will be provided to the states on a continuing basis. This project report and subsequent problem analysis should be the most effective measure to be used in

assessing the impact of this effort at technical assistance.

Since the technical assistance team does not do any evaluations, does not write any evaluation reports, does not mail out or record any follow-up instruments, does not make any state administrative decisions, the evaluation of this effort must be a more sensitive and subtle inquiry than simply looking at surface changes in procedures or policies. Some estimate of changes of a qualitative nature must be made and some analysis of an increase in evaluation impact should be the focus of those evaluating the effectiveness of this project.

Common Problems in Evaluation

Problems in evaluation of vocational education have been viewed from three points. This attempt at triangulation may be useful in spotting problems which may be common among states or other recognized groups. The problems treated in this report are those indicated through discussion by project staff in each of the participating states. From a review of the list of problems, it is obvious that some are shared by all the participating states while some are unique. (see Figure 5.1)

The state evaluation coordinators in the four participating states were polled to determine the four most common problems to form the basis for an evaluation workshop. The problems identified most frequently and which averaged the highest rankings in the four states were:

- Measuring student achievement.
- Evaluation of programs for special needs populations.
- Cost/effectiveness - cost/benefit analysis for vocational education programs.
- Relationships between planning and evaluation at the state level.

Problems	States			
	AL	CA	CO	ME
Determining effectiveness of services and programs for special needs populations	X	X	X	X
Communication and coordination in evaluation efforts	X	X	X	X
Data collection for evaluation	X	X	X	X
Follow-through with assistance to schools	X			X
Use of evaluation information			X	X
Increasing outside representation in evaluation	X		X	
Local self-evaluation			X	X
Selection of schools for evaluation		X	X	
Efficient use of resources for evaluation	X	X		
Postsecondary evaluation	X	X	X	
Recognizing alternative outcomes				X
Evaluation of state vocational programs				X
Developing program standards			X	
Determining effectiveness of evaluation		X		
Securing committment to evaluation		X		
Measuring student achievement			X	

Figure 5.1 Common and unique evaluation problems among the states.

Note. Problems checked indicate those treated in this report. This is not presented as an exhaustive list of problems or as an indication of the only problems faced by the state.

One other view of state evaluation problems came from informal discussions with state directors and other state staff on their perceptions of where evaluation assistance was needed. Problems considered to be most important to this group in descending order were:

1. Employer follow-up
2. Determination of effectiveness of special services for special populations
3. Cost/effectiveness - cost/benefit analysis
4. Preparation of the accountability report
5. Follow-up of special populations
6. Determination of needs of special populations
7. Measuring student achievement
8. Determining local needs
9. Use of evaluation findings
10. Coordination and cooperation between planning and evaluation

Concern for determining program effectiveness for special needs populations seems to permeate the thinking of individuals at all levels of vocational education. Another common problem area is the question of how to increase the impact of evaluation in the planning for vocational education. Whether these individual problems are a result of the emphasis of recent federal legislation or whether the law is a reflection of national thinking is unknown; however, the fact remains that there is major concern that evaluation be able to tell the state how effectively local programs are meeting student and community needs and how they can be improved.

In the view of project staff there are, in addition, two major areas which need improving or expanding in most of the evaluation systems observed in the participating states and others visited. These two needs are increased emphasis on outcomes in evaluation and concentration on determining effectiveness of the state vocational delivery system.

Most states are inclined to base evaluations of local programs more on the process of vocational education than on its products. While process is important as an attempt is made to suggest what changes need to be made in programs, the basis for any change must be to increase the number or quality of the output of the system. If the system is functioning effectively, that is, producing output in numbers and quality to be cost effective, changes in the process should be recommended with great caution. On the other hand, a "pretty" program, which is not producing, needs extensive changes. Product evaluation, based on achievement of predetermined outcomes, will indicate which programs should be inspected to determine needed improvements.

Evaluation of a state vocational education delivery system requires the establishment of needs and determination of the extent to which these needs are met. Occupational demand is a reasonable starting place to determine needs; however, state analysis should go beyond this. Student wishes, needs, ability, anticipated salaries, and minimum training demands of the job are just a few of the needs which should be considered when a state attempts to evaluate how well the total program of vocational education is serving the student and community wishes.

Research and Development Questions

The experience of providing technical assistance to state education agencies raises a major question in the minds of the project team. What are the underlying principles which influence the success of such a program, and how may these be employed to increase the impact of technical assistance? In reviewing the experiences of the past year, certain factors begin to emerge which indicate the conditions conducive to assuring effectiveness of assistance. The recipient of assistance must accept the fact that help is needed and that the person providing the help has the necessary technical expertise available. Both parties must have some mutually accepted goals and priorities although each may have some that are not shared. It appears to be very important that the recipient of the assistance be able to feel as well as convince others that benefits and contributions in the association are mutual. Investigation of how these and other factors act and interact upon relationships could be very productive research.

A second area of research is in the area of identifying the essential elements of an effective evaluation system. A series of essential elements have been compiled by the project team and reviewed by specialists at the National Center, some state directors of vocational education and evaluation specialists. This list needs to be refined and validated through research.

The next step will be to determine data and information necessary to measure the level of development of each of these elements. With this, a state could construct a profile of its evaluation system and determine its own strengths and weaknesses.

A list of these essential characteristics as stated at this time is given below.

An effective evaluation system should:

- o have broad involvement.
- o result in program improvement.
- o provide for assistance to programs and feedback on recommendations.
- o consider both process and product.
- o influence state decisions.
- o be supported by other systems within the agency.
- o be useful to other systems in the agency.
- o provide a state summary.
- o be flexible enough to accept a variety of outcomes.
- o consider both objective and subjective indicators of quality.
- o employ the right tools:

  Objectivity - Credibility

- o be efficient.
- o determine effectiveness at state and local level.

Another investigation which should prove fruitful in this setting is study of the change process as it operates within a state department of vocational education. The project team will be suggesting alternative solutions to identified problems, presumably evaluation coordinators will be pushing for improvements, and administrators will be considering these and other requests. Under these conditions some fairly definitive conclusions should emerge as to how best to influence the change process.

Year Two Technical Assistance

During the first year, project personnel have: (1) established working relationships with four states, (California, Maine, Colorado, and Alabama); (2) reviewed and analyzed each state's evaluation procedures; (3) identified immediate and long-range needs for evaluation system improvement; and (4) provided technical assistance with solving problems.

One problem which has been identified as being of great importance in all the participating states is assessing the needs and effectiveness of programs and services for special populations. Efforts in the second year of the project will concentrate on this major problem. Special needs subpopulations include individuals who are handicapped, disadvantaged, hindered by limited English speaking ability, women and members of minority groups. The project staff will assist the states to design and operate an evaluation system which will help local programs and the states in determining the extent to which the needs of special populations are being met. This analysis will include three major areas of concern: (1) determining accessibility of programs, (2) providing appropriate special services, and (3) measuring outcomes. Project staff will assist the states in bringing together information on these three aspects of program evaluation and improvement.

The assistance mentioned is designed to result in immediate improvement in the state's ability to assess its effectiveness and increase the impact of evaluation on program improvement. A method of analyzing the evaluation system and identifying weaknesses is needed. During the second year the project staff will begin to develop a procedure which will identify the essential characteristics of an effective evaluation system and methods of measuring the level of development of each characteristic as it relates to evaluation of programs and services for special populations. When completed this will provide a procedure whereby a state could construct a profile of its evaluation system and identify those parts needing improvement in order to have a better measure of effectiveness of programs designed to meet the special needs of individuals.