

DOCUMENT RESUME

ED 034 863

VT 009 839

AUTHOR Barlow, Melvin L.; Reinhart, Bruce
 TITLE Profiles of Trade and Technical Leaders: Comprehensive Report.
 INSTITUTION California Univ., Los Angeles. Div. of Vocational Education.
 SPONS AGENCY California State Dept. of Education, Sacramento. Bureau of Industrial Education.
 PUB DATE 69
 NOTE 357p.

EDRS PRICE MF-\$1.50 HC-\$17.95
 DESCRIPTORS *Administrative Problems, *Administrator Background, *Administrator Characteristics, Educational Problems, Questionnaires, State Surveys, Tables (Data), Technical Education, *Trade and Industrial Education
 IDENTIFIERS *California

ABSTRACT

To provide descriptive information to determine leader characteristics of trade and technical education leaders in California, a series of three questionnaires were used to collect data from over 250 persons and 30 interviews were conducted. Findings included: (1) The median age was 48.56 years, (2) Over 50 percent had a degree when they started to teach and slightly over 75 percent when they entered supervision and/or administration, (3) Median salary was \$15,344, (4) About 85 percent spent all their time in coordination, supervision, and/or administration, and (5) Meetings, report writing, and coordinating were the most often-reported activities. Fifteen major issues were identified and 10 solutions were rated by 239 leaders. Some of these issues and highest rated solutions were: (1) The status of vocational education can be improved by orienting counselors to its values, (2) Federal efforts can be more effective by increasing flexibility, (3) Inservice education can resolve shortages of qualified vocational education teachers, (5) Involvement in counseling programs will help relationships between academic and vocational education teachers. A summary of this report is available as VT 007 615. A similar study on teacher profiles is available as ED 019 457. (GR)

PROFILES OF TRADE AND TECHNICAL LEADERS: COMPREHENSIVE REPORT

1969

ED034863

by:

MELVIN L. BARLOW

Director, Division of Vocational Education, UCLA

BRUCE REINHART

Supervisor, Division of Vocational Education, UCLA

Division of Vocational Education
University of California, Los Angeles

IN COOPERATION WITH:

Bureau of Industrial Education
California State Department of Education

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE
PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION
POSITION OR POLICY.

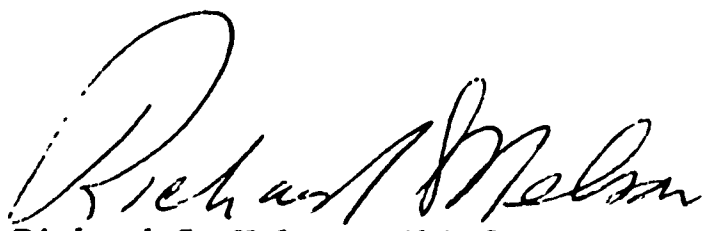
FOREWORD

The Profiles Study of trade and technical leaders extends the study of trade and technical educators. Profiles of Trade and Technical Leaders can now be placed alongside Profiles of Trade and Technical Teachers which was previously prepared by the Division of Vocational Education at UCLA in cooperation with the Bureau of Industrial Education. Together these studies are putting together a description of trade and technical educators which have never before been available.

This research has been needed for a long time. It provides facts to document descriptions of trade and technical leadership. It describes how trade and technical leaders spend their time and what they think about major issues. It identifies the factors which influence their thoughts and actions. It describes their professional advancement.

These data will be used wherever appropriate in California and throughout the nation to further the cause of trade and technical education. They help answer many questions which are being raised today and provide direction for meeting the needs of tomorrow.

I am grateful to all of the leaders who have given their assistance to this research project.


Richard S. Nelson, Chief
Bureau of Industrial Education
California Department of Education

CONTENTS

	Page
FORWARD	iii
CONTENTS	v
LIST OF TABLES	vii
INTRODUCTION	3
Population	3
Research Methods	4
Two Reports	5
I. CAREERS	11
Titles	12
Institutional Employment	13
Community Setting	15
Responsibility	16
Time Spent in Administration	17
Subject Areas for Which Leaders Have Responsibility	17
Teaching Experience	18
Teaching Background	19
Personal Characteristics	20
Income	22
Education	24
Work Experience	33
Credentials	35
Summary	59
II. WORK ANALYSIS	67
Overall Profile	68
Institutional Difference	71
Differences in Authority	93
Summary	96
III. ORGANIZATIONAL AFFILIATIONS	105
Overall Memberships	106
Professional Organizations	112
Exclusive Organizations	113
"Joiners" and "Non-joiners"	113
Summary	118

CONTENTS (continued)

	Page
IV. MAJOR ISSUES	127
Education and Social Status	128
Role of the Federal Government	140
Quality Vocational Staff	157
Teacher Relationships	164
Leader Relationships	176
Student Learning	185
Institutional Character	195
Diversity and Comprehensiveness	203
Vocational Guidance	212
Challenge of the New Technology	222
Poverty	232
Continuing Occupational Education	239
Pre-service Trade and Technical Teacher Training	250
In-service Teacher Training	259
Significant Differences by Teaching Background	268
Significant Differences by Institutional Employment	276
Summary	288
V. LEADERS TODAY AND TOMORROW	296
Subgroup Characteristics	297
Contending Interest Group	298
Work-Oriented - School Oriented	300
Membership in Organizations	302
Major Issues and Major Emphases	304
Mission and Role	330
APPENDIX	
Basic Description Questionnaire	336
Work Analysis Forms	346
Major Issues Questionnaire	351

LIST OF TABLES

Table	Page
1-1 Official Titles	13
1-2 Type of Institutional Employment	14
1-3 Type of Community	15
1-4 Type of Responsibility	16
1-5 Amount of Time Spent in Administration	17
1-6 Type of Subject Area Responsibilities	18
1-7 Years of Full-Time Teaching Experience	19
1-8 Type of Teaching Background	20
1-9 Ages at Three Periods in Educational Career	21
1-10 Annual Full-Time Salary	22
1-11 How Many Months Does Your Contract Cover?	23
1-12 Additional Income From Educational Sources	23
1-13 Additional Income From Non-Educational Sources	24
1-14 Educational Advancement	26
1-15 Types of Degrees Awarded to Leaders	27
1-16 Leaders With Bachelor, Master or Doctoral Degrees By Age	28
1-17 Leaders With Bachelor, Master or Doctoral Degrees By Type of Institution	30
1-18 Leaders With Bachelor, Master or Doctoral Degrees By Teaching Background	32
1-19 Years of Work Experience Prior to Teaching	34
1-20 Median Number of Credentials by Type of Teaching Background	36
1-21 Type of Credential by Teaching Background	37-39

LIST OF TABLES (continued)

Table	Page
1-22 Median Number of Credentials by Type of Institutional Employment	42
1-23 Type of Credential by Institutional Employment	44-47
1-24 Median Number of Credentials by Current Educational Level	48
1-25 Type of Credential by Current Level of Education	49-51
1-26 Median Number of Credentials by Years of Work Experience	53
1-27 Type of Credential by Work Experience	54-57
2-1 Percentage of Time Spent in Contacts with Persons and in Individual Effort	69
2-2 Percentage of Time Devoted to Major Responsibilities	70
2-3 Percentage of Time Spent in Contacts with Persons and in Individual Effort by Type of Institutional Employment	72
2-4 Percentage of Time Spent in Contacts with Persons and in Individual Effort for State Department Leaders	74
2-5 Percentage of Time Devoted to Major Responsibilities for State Department Leaders	75
2-6 Percentage of Time Spent in Contact with Persons and in Individual Effort for County Office Leaders	77
2-7 Percentage of Time Devoted to Major Responsibilities for County Office Leaders	79
2-8 Percentage of Time Spent in Contacts with Persons and in Individual Effort for High School Leaders	80
2-9 Percentage of Time Devoted to Major Responsibilities for High School Leaders	81
2-10 Percentage of Time Spent in Contacts with Persons and in Individual Effort for Junior College Leaders	82

LIST OF TABLES (continued)

Table	Page
2-11 Percentage of Time Devoted to Major Responsibilities for Junior College Leaders	84
2-12 Percentage of Time Devoted to Major Responsibilities for Junior College District Office Leaders	85
2-13 Percentage of Time Spent in Contacts with Persons and in Individual Effort for Junior College District Office Leaders	86
2-14 Percentage of Time Spent in Contacts with Persons and in Individual Effort for Adult School Leaders	88
2-15 Percentage of Time Devoted to Major Responsibilities for Adult School Leaders	90
2-16 Percentage of Time Spent in Contacts with Persons and in Individual Effort for Correctional Leaders	91
2-17 Percentage of Time Devoted to Major Responsibilities for Correctional Leaders	92
2-18 Percentage of Time Spent in Contacts with Persons and in Individual Effort for Leaders with Authority to Direct and Control	94
2-19 Percentage of Time Spent in Contacts with Persons and in Individual Effort for Leaders with Authority to Recommend	95
2-20 Percentage of Time Devoted to Major Responsibilities for Leaders with Authority to Direct and Control	97
2-21 Percentage of Time Devoted to Major Responsibilities for Leaders with Authority to Recommend	98
3-1 Number of Memberships per Leader in National, State and Local Organization	107
3-2 Median Number of Organizational Memberships per Trade and Technical Teacher and Leader	109
3-4 Distribution of Memberships in State Organizations	110

LIST OF TABLES (continued)

Table	Page
3-5 Distribution of Leaders with One or More Memberships per Type of Local Organization	111
3-6 Distribution of Three Types of Joiners	113
3-7 Number of Memberships per Leaders by Type of Teaching Background	115
3-8 Number of Memberships per Leader by Type of Institutional Employment	116
3-9 Number of Memberships per Leader by Levels of Education.	117
3-10 Number of Memberships per Leader by Years of Work Experience	119
3-11 Number of Memberships per Leader by Type of Religious Affiliation	120
3-12 Number of Memberships per Leader by Number of Credentials per Leader	121
3-13 Number of Memberships per Leader by Annual Full-Time Salary	122
4-1A Suggestions Concerning Status and Prestige Problems by Teaching Background	130-131
4-1B Suggestions Concerning Status and Prestige Problems by Type of Institution	132-135
4-2A Suggestions Concerning the Role of Federal Government by Teaching Background	142-143
4-2B Suggestions Concerning the Role of Federal Government by Type of Institution	144-145
4-3A Suggestions Concerning the Problem of Isolation of Vocational Education by Teaching Background	152-153
4-3B Suggestions Concerning the Problem of Isolation of Vocational Education by Type of Institution	154-155
4-4A Suggestions for Quality Vocational Staff by Teaching Background	158-159

LIST OF TABLES (continued)

Table	Page
4-4B Suggestions for Obtaining Qualified Teachers by Type of Institution	160-161
4-5A Suggestions for Improving Teacher Relationships by Teaching Background	166-167
4-5B Suggestions for Improving Teacher Relationships by Type of Institution	168-171
4-6A Suggestions for Improving Leader Relationships by Teaching Background	178-179
4-6B Suggestions for Improving Leader Relationships by Type of Institution	180-181
4-7A Suggestions for Recognition of Student Learning by Teaching Background	188-189
4-7B Suggestions for Recognizing Student Learning by Type of Institution	190-193
4-8A Suggestions Concerning the Institutional Character of Vocational Education by Teaching Background . .	198-199
4-8B Suggestions Concerning the Institutional Character of Vocational Education by Type of Institution . .	200-201
4-9A Suggestions Concerning Diversity and Comprehensiveness of Vocational Education by Teaching Background . .	206-207
4-9B Suggestions Concerning Diversity and Comprehensiveness of Vocational Education by Type of Institution . .	208-209
4-10A Suggestions for Improving Vocational Guidance by Teaching Background	214-215
4-10B Suggestions for Improving Vocational Guidance by Type of Institution	216-217
4-11A Suggestions Concerning the New Technology of Vocational Education by Teaching Background	224-225
4-11B Suggestions for Responding to the Challenge of the New Technology by Type of Institution	226-227

LIST OF TABLES (continued)

Table	Page
4-12A Suggestions for Poverty Problems by Teaching Background	234-235
4-12B Suggestions for Poverty Problems by Type of Institution	236-237
4-13A Suggestions for Continuing Occupational Education by Teaching Background	242-243
4-13B Suggestions Concerning Continuing Occupational Education by Type of Institution	244-247
4-14A Suggestions for Pre-Service Teacher Education by Teaching Background	252-253
4-14B Suggestions Concerning Pre-Service Teacher Education by Type of Institution	254-255
4-15A Suggestions for In-Service Teacher Training by Teaching Background	262-263
4-15B Suggestions Concerning In-Service Teacher Education by Type of Institution	264-265
4-16 Items with Significant Differences Between Leaders with Trade and Technical Teaching Backgrounds and Leaders with Other Teaching Backgrounds	270-273
4-17 Comparison of Significant Institutional Group Scores with Overall Scores	278-284

I N T R O D U C T I O N

INTRODUCTION

Few depth studies of the characteristics of vocational educators have been made. During the years of 1966 - 1968, however, a study of trade and technical teachers credentialed to teach full-time in California was conducted at UCLA under the sponsorship of the Bureau of Industrial Education of the California State Department of Education.¹

During 1967 - 1968 the Bureau continued to sponsor the study of trade and technical educators by expanding the research to full-time leaders of trade and technical education in California. The term "leader" in this study is generously used to describe persons with a variety of titles such as coordinator, director, supervisor, dean, consultant, etc.

Population

Names of persons to be included in the study were supplied from the Bureau of Industrial Education. Names of leaders in correctional institutions were supplied by the Department of Corrections. The first survey questionnaire used in the study, the Basic Description Questionnaire (BDQ), was designed to identify those persons who supervised, coordinated, director or acted as consultant for trade and technical

¹The three reports published on the Profiles Study of trade and technical teachers are entitled (1) Profiles of Trade and Technical Teachers: Summary Report--1967, (2) Profiles of Trade and Technical Teachers: Comprehensive Report--1968, and (3) Profiles of Trade and Technical Teachers: Revised Summary Report--1968. The Comprehensive Report provided a very detailed analysis not included in the Summary Report. The Revised Summary Report included a larger population than the original summary.

programs more than fifty percent of their time. The BDQ was sent to 389 persons thought to be in the population. Three hundred and fifty-eight persons returned the questionnaire but 72 of the returns were deleted from the study because they did not meet the parameters of the study. Two hundred and eighty-six valid returns were used to comprise the data from the BDQ.

The population was not limited to educators with backgrounds in trade and technical education. Persons who provide the leadership for trade and technical education in California have a variety of backgrounds in general education, industrial arts, trade and technical education and other vocational areas. In brief, all persons who "call the shots" in trade and technical education below the level of general administrative officials were included in the study.

Research Methods

Three questionnaires and thirty interviews were utilized in the course of the research. The BDQ was utilized to collect descriptive information about the characteristics of the leader population, to explore the relationships of numerous variables and to identify the population.

The data from the BDQ are based on 286 returns. If the 31 persons who did not return the questionnaire are assumed to be in the population these comprised a 90 percent return.

The Work Analysis Forms (WAF), an instrument developed by the Ohio State Leadership Studies in the Bureau of Business Research, was

used to provide a modified form of job analysis.² The WAF is designed to identify various aspects of administrative performance by recording estimates of the time that the subject spends in various kinds of work.

The WAF was sent to all 286 respondents to the BDQ. The data from the WAF were collected from 224 returns (79 percent).

Fifteen major issues were identified for consideration by trade and technical leaders and incorporated in a questionnaire entitled the Major Issues Questionnaire (MIQ). Nine issues were identified by Grant Venn in his book, Man, Education and Work.³ Some of these same issues and six additional issues were identified by thirty leaders interviewed throughout California. Suggestions for the solution of these issues were solicited from the thirty interviewees (randomly selected from the list of 286 respondents to the BDQ) and ten suggestions for the solution of each major issue were offered to the entire sample in the MIQ. The leaders were asked to score the importance of each suggestion on a five point scale of helpfulness.

The data from the MIQ are based on a return of 239 returns (84 percent).

Two Reports

Two reports of the Profiles Study of Trade and Technical Leaders have been published by the Division of Vocational Education, University

²For a description and analysis of the Work Analysis Forms see Ralph M. Stogdill and Carroll L. Shartle, Methods in the Study of Administrative Leadership (Columbus: The Ohio State University, Bureau of Business Research, 1955), Monograph No. 30, pp. 44-53.

³Grant Venn, Man, Education and Work (Washington, D.C.: American Council on Education, 1964), Ch. 7.

of California at Los Angeles. The Summary Report is limited to the general "basic" descriptions of leader characteristics, overall descriptions of the work analysis findings and overall scores on fifteen major issues. However, it also provides summaries of findings that go beyond the data provided in the Summary Report.

This Comprehensive Report, on the other hand, provides all of the relevant data examined in the Profiles Study and examines the relationship of numerous variables (e.g., teaching background, type of institution, career patterns, type of authority, etc.) to the overall population and particular subgroups.

Chapter I provides a general description of the overall population but also identifies career routes to positions of leadership in trade and technical education as well as institutional variations in leadership characteristics. Thus, Chapter I documents and describes the existence of distinguishable subgroups within the ranks of California's trade and technical leaders.

Chapter II is devoted to an analysis of data from the Work Analysis Forms through which the participants in the Profiles Study estimated the time they spend in different types of activities and responsibilities.⁴

⁴The Work Analysis Forms, an instrument developed by the Ohio State Leadership Studies in the Bureau of Business Research, was used to analyze the different types of activities and responsibilities of trade and technical leaders in California. A copy of the WAF is included in the Appendix. For a description of the instrument see Ralph M. Stogdill and Carroll L. Shartle, Methods in the Study of Administrative Leadership (Columbus: The Ohio State University, Bureau of Business Research).

The data analysis provides profiles of the overall population and of various subgroups differentiated by type of institution, type of authority and scope of subject area responsibility. Although there are numerous common features to the descriptions of trade and technical leadership roles the data of this chapter lends support to the contention that considerable variation in leadership roles exist.

The large number of organizational memberships of trade and technical leaders is examined in Chapter III. This chapter characterizes the memberships at the national, state and local levels and gives credence to the general observation that vocational educators with "successful," upward mobile (orderly) career patterns give greater support to organizations.

Ratings of suggestions for the solution of fifteen major issues in trade and technical education are analyzed and discussed in Chapter IV. In general, the rating scores provide an overview of the thinking of California's leaders on these major issues, but comparisons of these rating scores by teaching background and institutional employment document distinctive differences in the thinking of subgroups within the leadership population.

Since each chapter includes a summary of findings the final chapter goes beyond reporting to interpretations, evaluations and projections. Here views are expressed about such phenomena as change and adaptation, contending interest groups, varying career and work patterns, and points of view about major issues.

CHAPTER I
CAREERS

CHAPTER I

CAREERS

"A career," states Harold L. Wilensky, "is a succession of related jobs, arranged in a hierarchy of prestige, through which persons move in an ordered (more or less predictable) sequence,"¹ Because of numerous ex post facto inquiries in this study we are able to provide some of the detail which describes the career patterns of the trade and technical leaders in California. For example, responses from the Basic Description Questionnaire (BDQ) provide us with information about the ages and educational levels of trade and technical leaders at specific points in their careers. Other responses from the BDQ about work experience, teaching experience and credentials describe the routes through which these leaders have come to reach their present positions.

It is obvious that those who coordinate, supervise and/or administrate trade and technical programs in California are not a homogenous group. The training and backgrounds of those who have influence, direction and control of trade and technical education in this state differ markedly. Many of them have extensive experience in trade and technical education through work experience and teaching experience in trade and technical fields and through special training programs

¹Harold L. Wilensky, "Orderly Careers and Social Participation: The Impact of Work History on Social Integration in the Middle Mass," American Sociological Review, Vol 26, No. 4 (1961), pp. 521-39.

in these areas. Other leaders in this group have no work experience, no teaching experience and no special education in a trade and technical area. For example, a dean of instruction in a small junior college has responsibility and authority for both vocational and academic instruction although he may be recruited from the academic world.

Although there are common patterns of career flow into positions of leadership in trade and technical education the route is no longer rigidly laid out. The shortage of trained and credentialed leadership in vocational education may dictate the conditions of replacement. Sometime, simply being on the spot when the "escalator" moves will project a man into such a leadership position. Informal associations with key persons and their sponsorship frequently enters into the selection of trade and technical leaders.

It is not our intention here to analyze these patterns or to pass judgement on them, but to accept them as a partial explanation for the variety which exists in the descriptive data of this study. It is our intention, however, to identify some of the variables which are discriminating in our description of trade and technical leaders.

Titles

Leaders in trade and technical education have a wide variety of titles. Titles vary with the type of institution and with individual institutional preferences. For example, the term "dean" is seldom used in any institution but the junior college. The terms "director," "coordinator" and "supervisor" are much more common but

their functions often vary considerably between institutions. The title "coordinator," in some institutions, is attached to a position which ranks at a higher level than "supervisor" or "director," although this is not the usual situation. Some efforts have been made to standardize titles, but these efforts have not effected much change.

Table 1-1 identifies the most common titles of the trade and technical leaders in the sample. The largest percentage (27.97 percent) are called "coordinators." The percentages titled "director," "supervisor" and "dean" each comprise about one-sixth of the population. The remaining titles each identify only small groups of leaders.

TABLE 1-1
OFFICIAL TITLES

Title	Frequency	Percent
Coordinator	80	27.97
Director	49	17.13
Dean	45	15.73
Supervisor	45	15.73
Consultant	12	4.20
Principal*	10	3.50
Specialist	10	3.50
Other	35	12.24
Totals	286	100.00

*Those with the title of "principal" in this study are administrators of vocational schools. Principals in charge of comprehensive or general education institutions were not included in the study.

Institutional Employment

Leaders of trade and technical education in California are employed in a diverse array of institutions. (See Table 1-2.)

Because of the extensive development of junior colleges in California, leaders in these institutions comprise 47.92 percent of the sample. Leaders in high school districts, together with their adult schools, constitute the second largest group with 22.08 percent. The increasing number of leaders employed by county offices represents 10.42 percent of the sample and correctional institutions employ another 9.17 percent.

The type of institution that employs trade and technical leaders is a discriminating factor when education, work experience, acquisition of credentials, work analysis and major issues are studied. For this reason the relationships between institutional employment and these other factors are frequently reported in the remainder of this study.

TABLE 1-2

TYPE OF INSTITUTIONAL EMPLOYMENT

Type of Institution	Frequency	Percent
Correctional institution	22	9.17
County office	25	10.42
Local		
Adult school	9	3.75
High school	44	18.33
Junior college	115	47.92
State Department of Education	16	6.67
Other	9	3.75
	<hr/>	<hr/>
Totals	240	100.01

Community Setting

Most of the leaders in trade and technical education work in large cities. Table 1-3 indicates that 61.54 percent of the sample work in schools or districts with a community population of 50,000 or more. The table also indicates that more leaders work in metropolitan areas (46.51 percent) than in independent towns or cities (31.17 percent). Approximately one-fifth (19.23 percent) of the leaders do not work in schools or school districts (e.g., county offices and state departments).

TABLE 1-3

TYPE OF COMMUNITY

	Frequency	Percent
Does not apply	55	19.23
Independent town or city		
less than 2,500	2	.70
2,500 - 9,999	9	3.15
10,000 - 49,999	31	10.84
50,000 - 99,999	20	6.99
100,000 - 499,999	20	6.99
500,000 or more	10	3.50
Metropolitan		
2,500 - 9,999	3	1.05
10,000 - 49,999	4	1.40
50,000 - 99,999	20	6.99
100,000 - 499,999	35	12.24
500,000 or more	71	24.83
No answer	6	2.10
	<hr/>	<hr/>
Totals	286	100.01

Leaders in correctional institutions have their own distinctive type of community. Most of the correctional institutions are in small, isolated communities.

Responsibility

Most of the leaders in the study (86.84 percent) have "across the board" responsibility (two or more vocational areas). (See Table 1-4.) One-half of these leaders report that they have the authority to direct and control programs and the other half only have the authority to recommend changes.

One-half of the leaders are not in the position to direct and control programs (50.42 percent). Many of these persons are employed in institutions such as the county offices or the State Department of Education which do not operate educational programs for the public. Others are in the lower levels of administration and receive the major direction of their programs from leaders at higher levels.

TABLE 1-4

TYPE OF RESPONSIBILITY

	Frequency	Percent
Responsibility for two or more vocational areas with authority to direct and control programs.	99	43.42
Responsibility for two or more vocational areas with authority to recommend changes.	99	43.42
Responsibility for one vocational area with authority to direct and control programs.	9	3.95
Responsibility for one vocational area with authority to recommend changes.	16	7.02
No answer	5	2.19
Totals	228	100.00

Time Spent in Administration

Most of those who have responsibility for trade and technical education spend 100 percent of their time in administration. Approximately 14 percent of the sample (13.99 percent) divide their time between administration and teaching. (See Table 1-5.)

Although there are numerous people who spend less than 50 percent of their time in coordination, supervision and/or administration, these persons were not included in the parameters of this research. If they spend less than 50 percent of their time in these functions, they were considered to be within the ranks of the teaching staff.

TABLE 1-5

AMOUNT OF TIME SPENT IN ADMINISTRATION

Percentage of Time	Frequency	Percent
100	243	84.96
75 - 99	22	7.70
50 - 74	18	6.29
No answer	3	1.05
	—	—
Totals	286	100.00

Subject Areas for which Leaders Have Responsibility

The subject areas most frequently related to their leadership responsibilities are identified in Table 1-6. The largest percentage (73.78 percent) report their relationship to metals programs. The percentage reporting programs in electricity/electronics is almost as large (73.08 percent) and the percentages reporting programs in automotive trades (69.23 percent), drafting (67.48 percent) and building trades (59.44 percent) are also large.

These subject areas and the occupations within them are constantly changing as the world of work changes. A major responsibility of the trade and technical leader is to keep a vast array of programs related to the on-going changes of the world of work.

TABLE 1-6

TYPE OF SUBJECT AREA RESPONSIBILITIES

Subject Area	Frequency	Percent
Metal (sheet metal, machine shop, welding)	211	73.78
Electricity/electronics	209	73.08
Automotive	198	69.23
Drafting	193	67.48
Building	170	59.44
Health (para-medical, nursing)	136	47.55
Graphic arts	133	46.50
Food	129	45.10
Public service (fire and police science)	125	43.71
Data processing	102	35.66
Aircraft	97	33.92
Apparel	72	25.17
Cosmetology	69	24.13
Other	85	29.72

Teaching Experience

All but a small percentage (3.50 percent) of the leaders have full-time teaching experience prior to entering administration. A description of the teaching experience from the sample is provided in Table 1-7. Trade and technical leaders have a median of 7.82 years of teaching experience. More than one-third (35.67 percent) have ten years of teaching experience or more.

At the present time the state credentials require full-time teaching experience for coordination, supervision and administrative credentials and in the future it will be difficult to obtain leadership positions in trade and technical education without these credentials. However, all types of institutions do not make credentials mandatory (e.g., correctional institutions, county departments of education and state departments of education).

TABLE 1-7

YEARS OF FULL-TIME TEACHING EXPERIENCE

Years	Frequency	Percent
None	10	3.50
1 - 4	47	16.43
5 - 9	118	41.26*
10 - 14	61	21.33
15 - 19	25	8.74
20 - 24	14	4.90
25 - 29	2	.70
No answer	9	3.14
	—	—
Totals	286	100.00

*The median is 7.82 years and the mean is 8.65 years.

Teaching Background

The teaching background of the leaders of trade and technical education in California is an important aspect of this study. This variable proved to be one of the most discriminating variables and is the basis for many of the analyses made below.

Table 1-8 indicates that those who have teaching backgrounds in trade and technical subjects represent 55.59 percent of the sample.

The second largest group (16.43 percent) are general educators and the third largest group (14.69 percent) are leaders with backgrounds in industrial arts. One out of ten (10.14 percent) have teaching backgrounds in other vocational areas such as business education and agriculture.

TABLE 1-8

TYPE OF TEACHING BACKGROUND

Teaching Background	Frequency	Percent
General Education	47	16.43
Industrial Arts	42	14.69
Trade and Technical	159	55.59
Other Vocational	29	10.14
Other Non-vocational	5	1.75
No answer	4	1.40
	—	—
Totals	286	100.00

Personal Characteristics

Most of the leaders are white (90.91 percent), Protestant (75.53 percent), married (94.06 percent), males (95.80 percent) in their late forties (median of 48.56 years). Table 1-9 indicates that they begin teaching in their late twenties (median of 28.15 years) and enter administration ten years later (median of 38.64 years). Their late entry into teaching is due to the fact that many trade and technical leaders enter the world of work before they enter teaching.

TABLE 1-9
AGES AT THREE PERIODS IN EDUCATIONAL CAREER

Years	Age at Start of Teaching		Age at Start of Administration		Current Age	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
20 - 24	60	20.98	4	1.40		
25 - 29	114	39.86*	16	5.59		
30 - 34	59	20.63	59	20.63	10	3.50
35 - 39	29	10.14	80	27.97*	27	9.44
40 - 44	12	4.20	63	22.03	54	18.88
45 - 49	4	1.75	39	13.64	63	22.03*
50 - 54			14	4.90	60	20.98
55 - 59			1	.35	37	12.94
60 - 64			1	.35	27	9.44
65 or more					3	1.05
No answer	7	2.45	9	3.15	5	1.75
Totals	286	100.01	286	100.01	286	100.02

*The median age is 28.15 years at the start of teaching, 38.64 years at the start of administration and 48.56 years at the current time.

Income

The median salary of the trade and technical leaders is \$15,344, but the range begins at \$10,000 and extends beyond \$25,000. Table 1-10 indicates that six out of ten leaders (59.43 percent) earn \$15,000 or more.

The leaders report that their contractual periods for these salaries vary from nine to twelve months. (See Table 1-11.) We assume that the twelve-month contracts include the customary one-month vacation period and that eleven and twelve-month contracts are essentially the same. If this is the case, 72.37 percent of the leaders are on yearly contracts.

TABLE 1-10
ANNUAL FULL-TIME SALARY

	Frequency	Percent
\$10,000 - 10,999	1	.35
\$11,000 - 11,999	8	2.80
\$12,000 - 12,999	22	7.69
\$13,000 - 13,999	35	12.24
\$14,000 - 14,999	39	13.64
\$15,000 - 15,999	47	16.43*
\$16,000 - 16,999	24	8.39
\$17,000 - 17,999	24	8.39
\$18,000 - 18,999	29	10.14
\$19,000 - 19,999	15	5.24
\$20,000 - 20,999	15	5.24
\$21,000 - 21,999	5	1.75
\$22,000 - 22,999	5	1.75
\$23,000 - 23,999	1	.35
\$24,000 - 24,999	1	.35
\$25,000 and over	4	1.40
No answer	11	3.85
	<hr/>	<hr/>
Totals	286	100.00

*The median salary is \$15,344.

TABLE 1-11

HOW MANY MONTHS DOES YOUR CONTRACT COVER?

Number of Months	Frequency	Percent
Nine	6	2.10
Ten	64	22.38
Eleven	43	15.03
Twelve	164	57.34
No answer	9	3.15
	—	—
Totals	286	100.00

About one-fifth of the leaders (19.58 percent) report additional income from educational sources as indicated in Table 1-12. More than one-half (57.69 percent) state that they do not receive additional funds from educational sources.

TABLE 1-12

ADDITIONAL INCOME FROM EDUCATIONAL SOURCES

	Frequency	Percent
None	165	57.69
\$1,000 - 1,999	27	9.44
\$2,000 - 2,999	20	6.99
\$3,000 - 3,999	4	1.40
\$4,000 - 4,999	1	.35
\$5,000 and over	4	1.40
No answer	65	22.73
	—	—
Totals	286	100.00

About one-fourth (25.53 percent) of the leaders report income from non-educational sources. Those who report no additional non-educational income (58.39 percent) are about the same percentage that report no additional educational income.

The unusually high percentage of "no answers" on Tables 1-12 (22.73 percent) and 1-13 (16.08 percent) compared with the low percentage of "no answers" on Table 1-10 (3.85 percent) indicates a reluctance to reveal additional income data. We suspect that the reluctance to answer these questions stems from the restrictions placed on additional employment by employers of trade and technical leaders and that actual additional income is higher than indicated in the study.

TABLE 1-13

ADDITIONAL INCOME FROM NON-EDUCATIONAL SOURCES

	Frequency	Percent
None	167	58.39
\$1,000 - 1,999	20	6.99
\$2,000 - 2,999	19	6.64
\$3,000 - 3,999	7	2.45
\$4,000 - 4,999	7	2.45
\$5,000 - 5,999	8	2.80
\$6,000 - 6,999	1	.35
\$7,000 - 7,999	3	1.05
\$8,000 and over	8	2.80
No answer	46	16.08
	—	—
Totals	286	100.00

Education

Education as a means of advancement is deeply rooted in the social history of the United States. The democratic revolution that founded this country attempted to repair inequities by offering education to the masses without regard to position or wealth. This new society, born of a literal belief in the equality of mankind, promised to make education the chief means of self-improvement for all of its members.

The effectiveness of education as an agent of social mobility has been questioned by a number of serious observers of the American educational system, but it is evident that education has paralleled the advancement of those persons who have become leaders of trade and technical education in California. An increase in the level of formal education can be seen in Table 1-14 as the leaders in the sample advanced in their profession. For example, only 59.08 percent of the leaders had bachelor, master or doctoral degrees when they started teaching, but three-quarters (75.17 percent) had these degrees when they entered administration. Better than eight out of ten (81.82 percent) currently have one of these degrees. Furthermore, 13.29 percent are currently enrolled in programs which award these degrees and better than one-third (34.97 percent) are anticipating enrollment in such programs.

Of course, the inverse of this progression can be seen when the educational levels below the bachelor degree are compared. For example, 37.75 percent of the leaders had not reached the bachelor level when they started teaching, but this was reduced to about one-fifth (20.99 percent) at the time they entered administration and further reduced to 14.34 percent at the time of the survey.

A study of the types of degrees which have been awarded to leaders in vocational education (See Table 1-15.) indicates a strong attraction for professional (applied) degrees, although academic degrees are also well represented. The bachelor of education, bachelor of science and bachelor of vocational education degrees are held by

TABLE 1-14

EDUCATIONAL ADVANCEMENT

EDUCATIONAL LEVEL	Prior to teaching		Prior to Administration		Current Status		Enrolled		Anticipated	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
High School	43	15.03	9	3.15	4	1.40				
Junior college courses	18	6.29	6	2.10	3	1.05	2	.70	2	.70
Junior college degree	15	5.24	6	2.10	3	1.05				
Registered nurse	1	.35	1	.35						
College or university courses (extension)										
College or university courses (non-extension)	31	10.84	38	13.29	31	10.84	6	2.10	37	12.94
Bachelor degree	114	39.86	72	25.17	39	13.64	6	2.10	13	4.55
Master degree	52	18.18	131	45.80	159	55.59	8	2.80	19	6.64
Doctor degree	4	1.40	12	4.20	36	12.59	24	8.39	68	23.78
None							222	77.62	110	38.46
No Answer	8	2.80	11	3.85	11	3.85	5	1.75	9	3.15
Totals	286	99.99	286	100.01	286	100.01	286	100.01	286	100.01

39.51 percent of the leaders and the bachelor of arts is held by 37.41 percent. The master of education and master of science degrees are held by 28.32 percent and the master of arts is held by 39.16 percent. It is also obvious that the doctor of education degree is more common than the doctor of philosophy (8.15 versus 3.85). Although it is admittedly difficult to judge the educational objectives by the type of degree, the applied interest of the leaders in trade and technical education appears to be strongly represented.

TABLE 1-15

TYPES OF DEGREES AWARDED TO LEADERS

Type of Degree	Frequency	Percent
None	29	10.14
Associate of Arts	50	17.48
Associate of Science	2	.70
Bachelor of Arts	107	37.41
Bachelor of Education	9	3.15
Bachelor of Science	58	20.28
Bachelor of Vocational Education	46	16.08
Master of Arts	112	39.16
Master of Education	53	18.53
Master of Science	28	9.79
Doctor of Education	25	8.74
Doctor of Philosophy	9	3.15
Other	11	3.85

Education and age. Younger administrators are entering vocational education with more education than their older colleagues and they are working toward more degrees. This finding is strongly substantiated in Table 1-16 where the only major exception to this trend is found in the 55 - 59 age group.

TABLE 1-16

LEADERS WITH BACHELOR, MASTER OR DOCTORAL DEGREES BY AGE

Age	Prior to Teaching		Prior to Administration		Current Status		Enrolled		Anticipated	
	Frequency	Percent of Age Group	Frequency	Percent of Age Group	Frequency	Percent of Age Group	Frequency	Percent of Age Group	Frequency	Percent of Age Group
28										
30 - 34 (10)*	9	90.00	9	90.00	9	90.00	3	30.00	8	80.00
35 - 39 (27)	22	81.48	24	88.90	25	92.59	9	33.33	19	70.37
40 - 44 (54)	36	66.67	45	83.33	45	83.33	13	24.07	29	53.70
45 - 49 (63)	36	57.14	48	76.19	52	82.54	5	7.94	22	34.92
50 - 54 (60)	26	43.33	43	71.67	48	80.00	7	11.67	16	26.67
55 - 59 (27)	25	67.57	27	72.97	32	86.49	0	0	3	8.11
60 and over (30)	13	43.33	16	53.33	19	63.33	0	0	2	6.67

*The number of leaders in each age group is enclosed in parentheses.

This educational profile of administrators parallels the profile of trade and technical teachers. In the previous study of teachers, the strong trend toward more formal education for younger vocational teachers is well documented.² Since much of the recruitment for leadership positions in vocational education is from the teaching ranks, an increasingly higher level of formal education will undoubtedly describe the trade and technical leaders of the future.

Education and institutional employment. The percentage of leaders with a bachelor, master or doctoral degree vary with institutional employment. Table 1-17 indicates that leaders in county offices have the highest percentages with academic degrees when they enter teaching (92.00 percent), when they enter administration (96.00 percent) and at the present time (100.00 percent). They also have the highest percentage presently enrolled in degree programs (20.00 percent) and one of the highest percentages anticipating future enrollment (40.00 percent).

State Department leaders, on the other hand, have the lowest percentages with degrees when they enter teaching (37.50 percent), when they enter administration (62.50 percent) and at the present time (62.50 percent). Although they report the highest percentage (56.25 percent) anticipating enrollment in degree programs, only 12.50 percent report that they are currently enrolled.

²Melvin L. Barlow and Bruce Reinhart, Profiles of Trade and Technical Teachers: Comprehensive Report (Los Angeles: Division of Vocational Education, University of California, 1968) Chapter III.

TABLE 1-17

LEADERS WITH BACHELOR, MASTER OR DOCTORAL DEGREES BY TYPE OF INSTITUTION

Institution	Prior to Teaching		Prior to Administration		Current Status		Enrolled		Anticipated	
	Frequency	Percent of Institutional Group	Frequency	Percent of Institutional Group	Frequency	Percent of Institutional Group	Frequency	Percent of Institutional Group	Frequency	Percent of Institutional Group
Adult school (9)*	5	55.56	8	88.89	8	88.89	0	0	3	33.33
Correctional (22)	13	59.09	13	59.09	16	72.73	1	4.55	6	27.27
County office (25)	23	92.00	24	96.00	25	100.00	5	20.00	10	40.00
High school (44)	35	79.55	40	90.91	41	93.18	8	18.18	17	38.64
Junior college (115)	63	54.78	85	73.91	96	83.48	18	15.65	41	35.65
State Department (16)	6	37.50	10	62.50	10	62.50	2	12.50	9	56.25
Other (9)	3	33.33	5	55.56	6	66.67	3	33.33	3	33.33

*The number of leaders in each type of institution is enclosed in parentheses.

A significant contrast between leaders in correctional institutions and public school institutions is also revealed by the data in Table 1-17. The incentive structure of the public school systems (junior colleges, high schools and adult schools) evidently accounts for the higher current educational status of these leaders and the greater tendency to upgrade their educational level.³ Currently 72.73 percent of the correctional leaders have at least a bachelor degree while 93.18 percent of the high school leaders, 88.89 percent of the adult school leaders and 83.48 percent of the junior college leaders have at least a bachelor degree. The percentage of correctional leaders has increased 13.64 percent from the time they began to teach. However, adult school leaders have increased 33.33 percent and junior college leaders have increased 28.70 percent. Although high school leaders have increased at the same rate (13.63) as correctional leaders, 79.55 percent had at least a bachelor degree when they began to teach. Furthermore, only 4.55 percent of the correctional leaders report that they are currently enrolled in degree programs and only 27.27 percent indicate that they anticipate enrollment.

Education and teaching background. The level of formal education also differs by the teaching background of trade and technical leaders. (See Table 1-18.) All of the leaders with backgrounds in general education began teaching with at least a bachelor degree.

³In the previously cited teacher study by Barlow and Reinhart, correctional teachers were also found to lag behind public school teachers in upgrading their education after they began to teach. Ibid., pp. 20-22.

TABLE 1-18
LEADERS WITH BACHELOR, MASTER OR DOCTORAL DEGREES BY TEACHING BACKGROUND

Teaching Background	Prior to Teaching		Prior to Administration		Current Status		Enrolled		Anticipated	
	Frequency	Percent of Teaching Group	Frequency	Percent of Teaching Group	Frequency	Percent of Teaching Group	Frequency	Percent of Teaching Group	Frequency	Percent of Teaching Group
General education (47)*	47	100.00	47	100.00	47	100.00	7	14.89	15	31.91
Industrial arts (42)	38	90.48	40	95.24	40	95.24	7	16.67	16	38.10
Trade and technical (159)	54	33.96	94	59.12	112	70.44	21	13.21	58	36.48
Other vocational (29)	24	82.76	27	93.10	28	96.55	2	6.90	7	24.14

*The number of leaders in each background group is enclosed in parentheses.

About nine out of ten (90.48 percent) with industrial arts backgrounds and eight out of ten (82.76 percent) with other types of vocational backgrounds also began teaching with at least a bachelor degree. But, the percentage for leaders with trade and technical backgrounds is only 33.96 percent.

It is well known that teaching is a second career for trade and technical teachers. The previous study indicates that these teachers have a median of 13.9 years of work experience before they begin to teach.⁴ Because competencies in general education, industrial arts and other vocational areas can be acquired within the structure of the educational institutions, leaders with these kinds of backgrounds have much more formal education. The time spent in acquiring occupational experience for leaders with trade and technical backgrounds supplants the time that would have been spent in acquiring degrees. There is considerable upgrading of educational level, however, for these leaders after they begin to teach.

Work Experience

Trade and technical leaders also have extensive work experience in areas related to vocational education. Table 1-19 provides a description of this work experience. It indicates that better than fifty percent (51.40 percent) have more than ten years of work experience when they begin to teach. The median is 10.31 years.

⁴Ibid., pp. 43-44.

TABLE 1-19

YEARS OF WORK EXPERIENCE PRIOR TO TEACHING

Years	Frequency	Percent
None	25	8.74
1 - 4	34	11.89
5 - 9	66	23.08
10 - 14	90	31.47*
15 - 19	33	11.54
20 and over	24	8.39
No answer	14	4.90
	286	100.01
Totals		

*The median is 10.31 years and the mean is 10.05 years.

The previous study of trade and technical teachers indicates a median of 13.9 years of work experience.⁵ The lower median for administrators undoubtedly reflects the fact that all leaders of trade and technical education do not have work experience in a vocational subject area. We further suspect that the upward mobile leaders spend less time in the world of work before they begin to teach.

It should be noted that work experience is not limited to trade and technical areas. Teaching backgrounds in agriculture (2.45 percent), business (6.29 percent), health (1.40 percent), industrial arts (14.69 percent) and other vocational areas (1.75 percent) are also represented.

⁵Ibid., p. 43.

Credentials

The career of a trade and technical leader can be partially described by the number and type of credentials he acquires. For example, if an administrator has advanced through a traditional trade and technical career route (i.e., he begins in the world of work, moves into teaching and then obtains supervisory and/or administrative positions), he usually acquires more credentials than the educator who begins with a college education, enters teaching and then advances into supervisory and/or administrative positions. The leader who has come through the traditional trade and technical career route generally obtains limited, special purpose credentials. On the other hand, the leader who begins his career in college rather than in the world of work obtains more credentials which are comprehensive and general.

A number of variables are discriminating when the number and type of credentials obtained by the leaders are compared. An analysis of some of these variables appears below.

Credentials by teaching background. The number and type of credentials obtained by the leaders vary by teaching background. Since credentials define the functions and limitations of educators, they are indicies of an educator's professional history. Table 1-20 indicates that leaders with industrial arts backgrounds obtain the largest number of credentials (median of 5.00) and leaders with general education backgrounds obtain the fewest number of credentials (median of 3.53). Leaders with teaching backgrounds in trade and technical areas obtain more credentials (median of 4.18) than leaders with teaching backgrounds

in other vocational areas (median of 3.96). The reason for these differences is largely due to the differences in the types of credentials obtained by these groups of leaders.

TABLE 1-20

MEDIAN NUMBER OF CREDENTIALS BY TYPE
OF TEACHING BACKGROUND

Teaching Background	Sample Size	Median
General Education	47	3.53
Industrial Arts	42	5.00
Trade and Technical	159	4.18
Other Vocational	29	3.96

Leaders with a teaching background in general education avoid limited, special purpose credentials and obtain credentials which are comprehensive. (See Table 1-21.) About ninety percent (89.36 percent) obtain a general secondary teaching credential and about forty percent (40.43 percent) obtain a general elementary teaching credential. This same pattern is also true for administrative credentials. Almost one-half (48.94 percent) have either a general or a standard administrative credential; over one-half (55.32 percent) have a secondary administrative credential and about one-fifth (19.15 percent) have an elementary administrative credential. Very few of these leaders obtain limited, special purpose credentials for teaching, coordination, supervision, administration or special services.

Leaders with teaching backgrounds in trade and technical education vary markedly from this pattern. A large proportion of these leaders obtain limited, special purpose, vocational teaching credentials.

TABLE 1-21

TYPE OF CREDENTIAL BY TEACHING BACKGROUND

Type of Credential	Overall		General Education		Trade and Technical		Industrial Arts		Other Vocational	
	N	%	N	%	N	%	N	%	N	%
Basic Teaching	11	3.85	1	2.13	7	4.40	2	4.76	1	3.45
Adult Education	55	19.23	19	40.43	17	10.69	12	28.57	4	13.79
General Elementary	171	59.79	42	89.36	67	42.14	35	83.33	22	75.86
General Secondary										
Industrial Arts and Occupational Subjects	24	8.39	--	---	7	4.40	14	33.33	2	6.90
Special Secondary in Industrial Arts	58	20.28	--	---	35	22.01	22	52.38	--	---
Special Secondary in Nursing Education	1	.35	--	---	--	---	--	---	1	3.45
Special Secondary Limited in Industrial Arts	17	5.94	--	---	12	7.55	5	11.90	--	---
Special Secondary Limited Part-time in Industrial Arts Education	6	2.10	--	---	6	3.77	--	---	--	---
Special Secondary Vocational - Class A	155	54.20	3	6.38	133	83.65	11	26.19	6	20.69
Special Secondary Vocational - Class B	13	4.55	1	2.13	10	6.29	--	---	--	---
Special Secondary Vocational - Class D	8	2.80	2	4.26	5	3.14	--	---	1	3.45
Standard Designated Subjects (Full-time)	37	12.94	2	4.26	14	8.80	17	40.48	2	6.90
Standard Designated Subjects (Part-time)	1	.35	--	---	--	---	1	2.38	--	---
Standard Teaching with Specialization in Elementary										
Standard Teaching with Specialization in Junior College	18	6.29	3	6.38	5	3.14	4	9.52	4	13.79

TABLE 1-21 -- Continued

Type of Credential	Overall		General Education		Trade and Technical		Industrial Arts		Other Vocational	
	N	%	N	%	N	%	N	%	N	%
Standard Teaching with Special- ization in Secondary Other	7 18	2.45 6.29	-- 4	--- 8.51	4 3	2.52 1.89	1 1	2.38 2.38	1 8	3.45 27.59
Special Services Health and Development Pupil Personnel Services Standard Designated Services with a Specialization in Health Standard Designated Services with a Specialization in Pupil Per- sonnel Services Other	2 18 1 2 1	.70 6.29 .35 .70 .35	-- 5 -- -- 1	--- 10.64 --- --- 2.13	1 8 -- 1 --	.63 5.03 --- --- ---	-- 3 1 1 --	--- 7.14 2.38 2.38 ---	1 2 -- -- --	3.45 6.90 --- --- ---
Coordination Authorization Special Secondary Vocational - Class C Other	40 37	13.99 12.94	-- 1	--- 2.13	30 34	18.87 21.38	4 2	9.52 4.76	4 --	13.79 ---
Supervision Authorization Special Subjects Supervision - Class A Special Subjects Supervision - Class B	30 70 17	10.49 24.48 5.94	3 2 --	6.38 4.26 ---	23 56 14	14.47 35.22 8.80	1 9 1	2.38 21.43 2.38	2 2 1	6.90 6.90 3.45

TABLE 1-21 -- Continued

Type of Credential	Overall		General Education		Trade and Industrial Technical		Arts		Other Vocational	
	N	%	N	%	N	%	N	%	N	%
Standard Supervision	40	13.99	2	4.26	28	17.61	5	11.90	5	17.24
Other	2	.70	--	---	1	.63	1	2.38	--	---
Administration	26	9.09	9	19.15	7	4.40	7	16.67	1	3.45
Elementary Administration	65	22.73	22	46.81	20	12.58	15	35.71	5	17.24
General Administration	116	40.56	26	55.32	43	27.04	28	66.67	17	58.62
Secondary Administration	68	23.78	1	2.13	58	36.48	6	14.29	2	6.90
Trade and Industrial Education	4	1.40	1	2.13	1	.63	1	2.38	1	3.45
Standard Administration	2	.70	1	2.13	--	---	1	2.38	--	---
Other										

The Special Secondary Vocational - Class A credential is held by 83.65 percent; the Standard Designated Subjects - Full-time credential, which recently superceded the older Class A credential, is held by 8.80 percent and the Special Secondary in Industrial Arts credential is held by 22.01 percent. Their coordination credentials are either a credential limited to vocational education (21.38 percent) or an authorization for coordination appended to a teaching credential (18.87 percent). Similarly, they obtain more limited, special subjects, supervisory credentials (35.22 percent for Class A and 8.80 percent for Class B) and authorizations appended to teaching credentials (14.47 percent) than the general purpose standard supervisory credential (17.61 percent). The high percentage (36.48 percent) that obtain administrative credentials limited to vocational education reveals the same pattern.

Leaders with backgrounds in industrial arts, who obtain the largest number of credentials of any group, obtain both general and special purpose credentials. About eighty-five percent (85.71 percent) obtain either a general or a standard secondary teaching credential; thirty percent (28.57 percent) obtain a general elementary teaching credential and ten percent (9.52 percent) obtain a standard jun or college teaching credential. But many also obtain special purpose teaching credentials such as the Special Secondary in Industrial Arts (52.38 percent), the Standard Designated Subjects - Full-time (40.48 percent), the Special Secondary Vocational - Class A (26.19 percent) and the Industrial Arts and Occupational Subjects credential (33.33 percent). Almost forty percent (38.09 percent) have either a general

or a standard administrative credential; two-thirds (66.67 percent) have a secondary administrative credential and one-sixth (16.67 percent) have an elementary administrative credential. However, many of these leaders also obtain limited, special purpose, supervisory and administrative credentials.

Leaders with teaching backgrounds in other types of vocational subjects have a similar credential pattern as the industrial arts group. For example, 79.31 percent obtain either a general or a standard secondary teaching credential; 58.62 percent obtain a secondary administrative credential; 20.69 percent receive either a general or a standard administrative credential and 17.24 percent obtain a standard supervisory credential. However, they also obtain special purpose credentials. One-fifth (20.69 percent) obtain the Special Secondary Vocational - Class A teaching credential and over one-fourth (27.59 percent) obtain other types of teaching credentials.

Credentials by institutional employment. The acquisition of credentials also varies by the type of institutional employment of the leaders. Table 1-22 reports the median number of credentials obtained by leaders employed in different institutions and Table 1-23 indicates the type of credentials obtained by these groups. Judging from these data, it is evident that different types of institutions make different demands upon its leaders for credentials, especially teaching credentials.

Correctional institutions are known to place less emphasis upon credentials than public schools and Table 1-22 verifies that fact. It indicates that correctional leaders obtain the least number of credentials

(median of 3.00) of any institutional group. These leaders also tend to obtain more special purpose credentials than general purpose credentials. For example, Table 1-23 indicates that only 40.91 percent obtain the General Secondary teaching credential but 50.00 percent obtain the Special Secondary Vocational - Class A teaching credential. Twice as many correctional leaders obtain a supervisory credential limited to vocational education (27.27 percent for Class A, 4.55 percent for Class B and 9.09 percent for authorization for supervision appended to the teaching credential) than a standard supervisory credential (18.18 percent).

TABLE 1-22

MEDIAN NUMBER OF CREDENTIALS BY TYPE
OF INSTITUTIONAL EMPLOYMENT

Type of Institutional Employment	Sample Size	Median
Adult Education	9	5.13
Correctional	22	3.00
County	25	4.50
High School	44	5.00
Junior College	115	3.76
State Department	16	4.00

The greatest emphasis on special purpose credentials is found in the State Department. Although 50.00 percent have the General Secondary teaching credential, 75.00 percent have the Special Secondary Vocational - Class A teaching credential. One-fourth (25.00 percent) have the Special Secondary in Industrial Arts credential and 18.75 percent have the Standard Designated Subjects - Full-time credential. There is a similar pattern for supervisory credentials.

In the public schools, leaders in junior colleges obtain fewer credentials (median of 3.76) than high school leaders (median of 5.00). As would be expected, junior college leaders have a more equal distribution of general purpose and special purpose credentials than other institutional groups. For example, 55.65 percent have the General Secondary teaching credential and 56.52 percent have the Special Secondary Vocational - Class A teaching credential. Most of the high school leaders (88.63 percent) have either a general or a standard secondary teaching credential. However, many of these leaders also have special purpose teaching credentials (22.73 percent have the Industrial Arts and Occupational Subjects, 31.82 percent have the Special Secondary in Industrial Arts, 36.36 percent have the Special Secondary Vocational - Class A and 18.18 percent have the Standard Designated Subjects - Full-time). It is difficult to generalize from the small sample of adult school leaders, but their distribution appears to be similar to other secondary school leaders.

In general, the county leaders resemble the leaders employed in high schools. Their distribution of general purpose and special purpose credentials is similar. Over eighty percent (82.00 percent) have either a general or a standard secondary teaching credential. Their special purpose teaching credentials are the Special Secondary Vocational - Class A (40.00 percent), the Standard Designated Subjects - Full-time (24.00 percent), the Special Secondary in Industrial Arts (24.00 percent) and the Industrial Arts and Occupational Subjects credential (24.00 percent).

TABLE 1-23

TYPE OF CREDENTIAL BY INSTITUTIONAL EMPLOYMENT

Type of Credential	Overall		Adult School		Correctional	
	N	%	N	%	N	%
Basic Teaching						
Adult Education	11	3.85	1	11.11	1	4.55
General Elementary	55	19.23	3	33.33	2	9.09
General Secondary	171	59.79	8	88.89	9	40.91
Industrial Arts and Occupational Subjects	24	8.39	--	---	1	4.55
Special Secondary in Industrial Arts	58	20.28	3	33.33	1	4.55
Special Secondary in Nursing Education	1	.35	--	---	--	---
Special Secondary Limited in Industrial Arts	17	5.94	--	---	--	---
Special Secondary Limited Part-time in Industrial Arts Education	6	2.10	1	11.11	--	---
Special Secondary Vocational - Class A	155	54.20	6	66.67	11	50.00
Special Secondary Vocational - Class B	13	4.55	--	---	1	4.55
Special Secondary Vocational - Class D	8	2.80	--	---	--	---
Standard Designated Subjects (Full-time)	37	12.94	--	---	1	4.55
Standard Designated Subjects (Part-time)	1	.35	--	---	--	---
Standard Teaching with Specialization in Elementary			--	---	--	---
Standard Teaching with Specialization in Junior College	18	6.29	--	---	--	---
Standard Teaching with Specialization in Secondary	7	2.45	--	---	--	---
Other	18	6.29	--	---	2	9.09
Special Services						
Health and Development	2	.70	1	11.11	--	---
Pupil Personnel Services	18	6.29	1	11.11	--	---
Standard Designated Services with a Specialization in Health	1	.35	--	---	--	---
Standard Designated Services with a Specialization in Pupil Personnel Services	2	.70	--	---	--	---
Other	1	.35	--	---	1	4.55

TABLE 1-23 -- Continued

County		High School		Junior College		State	
N	%	N	%	N	%	N	%
--	---	2	4.55	3	2.61	--	---
7	28.00	14	31.82	18	15.65	2	12.50
18	72.00	38	86.36	64	55.65	8	50.00
6	24.00	10	22.73	3	2.61	--	---
6	24.00	14	31.82	19	16.52	4	25.00
--	---	--	---	1	.87	--	---
2	8.00	3	6.82	6	5.22	--	---
--	---	1	2.27	3	2.61	--	---
10	40.00	16	36.36	65	56.52	12	75.00
1	4.00	3	6.82	5	4.35	1	6.25
1	4.00	1	2.27	5	4.35	--	---
6	24.00	8	18.18	13	11.30	3	18.75
1	4.00	--	---	--	---	--	---
--	---	--	---	--	---	--	---
3	12.00	1	2.27	13	11.30	1	6.25
2	8.00	1	2.27	1	.87	--	---
1	4.00	5	11.36	6	5.22	--	---
--	---	1	2.27	--	---	--	---
1	4.00	6	13.64	7	6.09	1	6.25
--	---	--	---	1	.87	--	---
--	---	1	2.27	--	---	--	---
--	---	--	---	--	---	--	---

TABLE 1-23 -- Continued

Type of Credential	Overall		Adult School		Correctional	
	N	%	N	%	N	%
Coordination						
Authorization	40	13.99	1	11.11	1	4.55
Special Secondary Vocational - Class C	37	12.94	2	22.22	2	9.09
Other			--	---	--	---
Supervision						
Authorization	30	10.49	--	---	2	9.09
Special Subjects Supervision - Class A	70	24.48	2	22.22	6	27.27
Special Subjects Supervision - Class B	17	5.94	--	---	1	4.55
Standard Supervision	40	13.99	1	11.11	4	18.18
Other	2	.70	--	---	--	---
Administration						
Elementary Administration	26	9.09	--	---	1	4.55
General Administration	65	22.73	2	22.22	3	13.64
Secondary Administration	116	20.56	6	66.67	9	40.91
Secondary Administration in Trade and Industrial Educa- tion	68	23.78	3	33.33	2	9.09
Standard Administration	4	1.40	--	---	--	---
Other	2	.70	1	11.11	--	---

TABLE 1-23 -- Continued

County		High School		Junior College		State	
N	%	N	%	N	%	N	%
4	16.00	3	6.82	18	15.65	4	25.00
1	4.00	6	13.64	17	14.78	--	---
--	---	--	---	--	---	--	---
2	8.00	3	6.82	15	13.04	2	12.50
7	28.00	13	29.55	22	19.13	4	25.00
--	---	--	---	8	6.96	2	12.50
3	12.00	7	15.91	17	14.78	3	18.75
1	4.00	--	---	1	.87	--	---
4	16.00	10	22.73	5	4.35	1	6.25
7	28.00	16	36.36	21	18.26	3	18.75
12	48.00	27	61.36	38	33.04	5	31.25
5	20.00	10	22.73	30	26.09	3	18.75
1	4.00	1	2.27	2	1.74	--	---
--	---	--	---	1	.87	--	---

Credentials by current educational level. The pattern of credential acquisition also varies by the current level of formal education of the leaders. In Table 1-24 the median number of credentials increases as the educational level of the leaders increases, with the exception of leaders with doctoral degrees. One explanation for the increase in the number of credentials is that when the level of formal education of a leader is more limited, he does not have sufficient education to obtain as many credentials, especially supervisory and administrative credentials. It is assumed that the leaders with doctoral degrees tend to obtain comprehensive, general purpose credentials which substitute for more numerous special purpose credentials.

TABLE 1-24

MEDIAN NUMBER OF CREDENTIALS
BY CURRENT EDUCATIONAL LEVEL

Educational Level	Sample Size	Median
Less than bachelor degree	41	2.97
Bachelor degree	39	3.23
Master degree	159	4.60
Doctor degree	36	3.67

In general, those who acquire more formal education also tend to obtain more general purpose credentials and those who acquire less formal education tend to obtain more special purpose credentials. For example, Table 1-25 indicates that the percentage of leaders with general elementary and general secondary teaching credentials increases markedly as the level of formal education increases. The percentage with general secondary teaching credentials increases from 12.82 percent

TABLE 1-25

TYPE OF CREDENTIAL BY CURRENT LEVEL OF EDUCATION

Type of Credential	Overall		Less than Bachelor		Bachelor		Master		Doctor	
	N	%	N	%	N	%	N	%	N	%
Basic Teaching	11	3.85	3	7.32	1	2.56	5	3.14	--	---
Adult Education	55	19.23	--	---	1	2.56	35	22.01	16	44.44
General Elementary	171	59.79	--	---	5	12.82	124	77.99	34	94.44
General Secondary										
Industrial Arts and Occupational Subjects	24	8.39	--	---	1	2.56	19	11.95	2	5.56
Special Secondary in Industrial Arts	58	20.28	2	4.88	5	12.82	45	28.30	5	13.89
Special Secondary in Nursing Education	1	.35	--	---	--	---	1	.63	--	---
Special Secondary Limited in Industrial Arts	17	5.94	1	2.44	1	2.56	13	8.18	1	2.78
Special Secondary Limited Part-time in Industrial Arts Education	6	2.10	--	---	2	5.13	4	2.52	--	---
Special Secondary Vocational - Class A	155	54.20	38	92.68	31	79.49	71	44.65	8	22.22
Special Secondary Vocational - Class B	13	4.55	--	---	5	12.82	6	3.77	2	5.56
Special Secondary Vocational - Class D	8	2.80	3	7.32	--	---	5	3.14	--	---
Standard Designated Subjects (Full-time)	37	12.94	4	9.76	4	10.26	27	16.98	1	2.78
Standard Designated Subjects (Part-time)	1	.35	--	---	--	---	1	.63	--	---
Standard Teaching with Specialization in Elementary	--	---	--	---	--	---	--	---	--	---
Standard Teaching with Specialization in Junior College	18	6.29	--	---	--	---	14	8.80	4	11.11
Standard Teaching with Specialization in Secondary	7	2.45	--	---	--	---	7	4.40	--	---
Other	18	6.29	--	---	--	---	16	10.06	2	5.56

TABLE 1-25 -- Continued

Type of Credential	Overall		Less than Bachelor		Bachelor		Master		Doctor	
	N	%	N	%	N	%	N	%	N	%
Special Services	2	.70	--	----	--	----	2	1.26	--	----
Health and Development	18	6.29	--	----	1	2.56	12	7.55	3	8.33
Pupil Personnel Services	1	.35	--	----	--	----	1	.63	--	----
Standard Designated Services with a Specialization in Health	2	.70	--	----	--	----	2	1.26	--	----
Standard Designated Services with a Specialization in Pupil Per- sonnel Services	1	.35	--	----	--	----	1	.63	--	----
Other	40	13.99	14	34.15	6	15.38	16	10.06	2	5.56
Coordination	37	12.94	11	26.83	4	10.26	19	11.95	1	2.78
Authorization	--	----	--	----	--	----	--	----	--	----
Special Secondary Vocational - Class C	30	10.49	6	14.63	8	20.51	14	8.80	1	2.78
Other	70	24.48	13	31.71	9	23.08	38	23.90	5	13.89
Supervision	17	5.94	5	12.20	6	15.38	2	1.26	2	5.56
Authorization	40	13.99	7	17.07	8	20.51	22	13.84	1	2.78
Special Subjects Supervision - Class A	2	.70	--	----	--	----	2	1.26	--	----
Special Subjects Supervision - Class B	26	9.09	--	----	--	----	20	12.58	5	13.89
Standard Supervision	65	22.73	--	----	1	2.56	43	27.04	19	52.78
Other	116	40.56	--	----	3	7.69	85	53.46	21	58.33
Administration										
Elementary Administration										
General Administration										
Secondary Administration										

2

TABLE 1-25 -- Continued

Type of Credential	Overall		Less than Bachelor		Bachelor		Master		Doctor	
	N	%	N	%	N	%	N	%	N	%
Secondary Administration in	68	23.78	1	2.44	10	25.64	49	30.82	5	13.89
Trade and Industrial	4	1.40	1	2.44	--	---	1	.63	2	5.56
Education	2	.70	--	---	--	---	1	.63	1	2.78
Standard Administration										
Other										

for those with bachelor degrees to 94.44 percent for those with doctoral degrees. The percentage with general elementary teaching credentials increases from 2.56 percent for those with bachelor degrees to 44.44 percent for those with doctoral degrees. The same dramatic increase can be seen for the general and secondary administrative credentials. The percentage with general administrative credentials increases from 2.56 percent for those with bachelor degrees to 52.78 percent for those with doctoral degrees. The percentage with secondary administrative credentials increases similarly from 7.69 percent to 58.33 percent.

The special purpose credentials have the opposite relationship. For example, the percentage of leaders with the Special Secondary Vocational - Class A teaching credential decreases from 92.68 percent for those with less than a bachelor degree to 22.22 percent for those with a doctoral degree. The percentage with an authorization for coordination appended to their teaching credential decreases from 34.15 percent for those with less than a bachelor degree to 5.56 percent for those with a doctoral degree. There is a similar pattern for the leaders with a Special Secondary Vocational - Class C credential for coordination (a decrease from 26.83 percent for those with less than a bachelor degree to 2.73 percent for those with a doctoral degree), an authorization for supervision appended to their teaching credential (a decrease from 20.51 percent for those with a bachelor degree to 2.78 percent for those with a doctoral degree) and a Special Subjects Supervision - Class A credential (a decrease from 31.71 percent for those with less

than a bachelor degree to 3.89 percent for those with doctoral degrees.

Credentials by work experience. The number of years of work experience is another discriminating variable. Table 1-26 indicates that the median number of credentials increases as the number of years of work experience increases up to 15 years. From this point, the number of years of work experience is inversely related to the number of credentials.

TABLE 1-26

MEDIAN NUMBER OF CREDENTIALS BY YEARS
OF WORK EXPERIENCE

Years of Work Experience	Sample Size	Median
0 years	77	3.10
1 - 4	108	3.36
5 - 9	284	4.36
10 - 14	403	4.48
15 - 19	537	3.94
20 or more	80	3.40

As previously stated, work experience is necessary to obtain trade and technical credentials. It would seem likely that those with less work experience would tend to have non-vocational teaching backgrounds and would obtain comprehensive, general purpose credentials; and those with more work experience would tend to have vocational teaching backgrounds and would obtain limited, special purpose credentials. This pattern is verified in Table 1-27. In general, increases in work experience are inversely related to the percentages of leaders with comprehensive, general purpose credentials and directly related to the percentages of leaders with limited, special purpose credentials.

TABLE 1-27

TYPE OF CREDENTIAL BY WORK EXPERIENCE

Type of Credential	Overall		0 Years		1 - 4	
	N	%	N	%	N	%
Basic Teaching						
Adult Education	11	3.85	1	4.00	--	---
General Elementary	55	19.23	10	40.00	11	32.35
General Secondary	171	59.79	21	84.00	28	82.35
Industrial Arts and Occupational Subjects	24	8.39	--	---	3	8.82
Special Secondary in Industrial Arts	58	20.28	1	4.00	6	17.65
Special Secondary in Nursing Education	1	.35	--	---	--	---
Special Secondary Limited in Industrial Arts	17	5.94	--	---	--	---
Special Secondary Limited Part-time in Industrial Arts Education	6	2.10	--	---	--	---
Special Secondary Vocational - Class A	155	54.20	2	8.00	--	---
Special Secondary Vocational - Class B	13	4.55	--	---	1	2.94
Special Secondary Vocational - Class D	8	2.80	--	---	--	---
Standard Designated Subjects (Full-time)	37	12.94	--	---	5	14.71
Standard Designated Subjects (Part-time)	1	.35	--	---	1	2.94
Standard Teaching with Specialization in Elementary	--	---	--	---	--	---
Standard Teaching with Specialization in Junior College	18	6.29	--	---	3	8.82
Standard Teaching with Specialization in Secondary	7	2.45	--	---	2	5.88
Other	18	6.29	3	12.00	2	5.88
Special Services						
Health and Development	2	.70	--	---	--	---
Pupil Personnel Services	18	6.29	1	4.00	--	---
Standard Designated Services with a Specialization in Health	1	.35	--	---	--	---
Standard Designated Services with a Specialization in Pupil Personnel Services	2	.70	--	---	--	---
Other	1	.35	--	---	1	2.94

TABLE 1-27 -- Continued

5 - 9		10 - 14		15 - 19		20 and over	
N	%	N	%	N	%	N	%
3	4.55	4	4.44	3	9.09	--	---
11	16.67	15	16.67	4	12.12	2	8.33
41	62.12	52	57.78	13	39.39	8	33.33
9	13.64	7	7.78	2	6.06	--	---
20	30.30	19	21.11	4	12.12	4	16.67
--	---	1	1.11	--	---	--	---
3	4.55	11	12.22	1	3.03	1	4.17
--	---	6	6.67	--	---	--	---
41	62.12	64	71.11	24	72.73	18	75.00
1	1.52	5	5.56	1	3.03	4	16.67
2	3.03	1	1.11	4	12.12	1	4.17
14	21.21	9	10.00	3	9.09	4	16.67
--	---	--	---	--	---	--	---
--	---	--	---	--	---	--	---
5	7.58	5	5.56	2	6.06	2	8.33
--	---	2	2.22	--	---	--	---
4	6.06	2	2.22	5	15.15	1	4.17
--	---	1	1.11	1	3.03	--	---
6	9.09	6	6.67	4	12.12	1	4.17
1	1.52	--	---	--	---	--	---
1	1.52	1	1.11	--	---	--	---
--	---	--	---	--	---	--	---

TABLE 1-27 -- Continued

Type of Credential	Overall		0 Years		1 - 4	
	N	%	N	%	N	%
Coordination						
Authorization	40	13.99	1	4.00	--	---
Special Secondary Vocational - Class C	37	12.94	2	8.00	--	---
Other	--	---	--	---	--	---
Supervision						
Authorization	30	10.49	2	8.00	--	---
Special Subjects Supervision - Class A	70	24.48	2	8.00	2	5.88
Special Subjects Supervision - Class B	17	5.94	--	---	1	2.94
Standard Supervision	40	13.99	--	---	3	8.82
Other	2	.70	--	---	1	2.94
Administration						
Elementary Administration	26	9.09	5	20.00	5	14.71
General Administration	65	22.73	11	44.00	13	38.24
Secondary Administration	116	40.56	14	56.00	19	55.88
Secondary Administration in Trade and Industrial Education	68	23.78	--	---	1	2.94
Standard Administration	4	1.40	--	---	--	---
Other	2	.70	1	4.00	--	---

TABLE 1-27 -- Continued

5 - 9		10 - 14		15 - 19		20 and over	
N	%	N	%	N	%	N	%
13	19.70	15	16.67	4	12.12	4	16.67
7	10.61	17	18.89	6	18.18	4	16.67
--	---	--	---	--	---	--	---
8	12.12	11	12.22	4	12.12	4	16.67
17	25.76	29	32.22	12	36.36	6	25.00
2	3.03	10	11.11	4	12.12	--	---
5	7.58	21	23.33	6	18.18	2	8.33
--	---	1	1.11	--	---	--	---
7	10.61	5	5.56	1	3.03	1	4.17
13	19.70	16	17.78	6	18.18	1	4.17
30	45.45	36	40.00	9	27.27	5	20.83
17	25.76	31	34.44	9	27.27	7	29.17
2	3.03	--	---	2	6.06	--	---
1	1.52	--	---	--	---	--	---

For example, Table 1-27 indicates that the percentage of leaders with general secondary and general elementary teaching credentials decreases markedly as the number of years of work experience increases. The percentage with general secondary teaching credentials decreases from 84.00 percent for those with no work experience to 33.33 percent for those with 20 or more years of work experience. The percentage with general elementary teaching credentials decreases from 40.00 percent for those with no work experience to 8.33 percent for those with 20 or more years.

The same pattern is evident with administrative credentials. The percentage of leaders with general administrative credentials decreases from 44.00 percent for those with no work experience to 4.17 percent for those with 20 or more years. The percentage with secondary administrative credentials decreases similarly from 56.00 percent to 20.83 percent.

However, the percentage of leaders with limited, special purpose credentials increases as the number of years of work experience increases. This is especially apparent for the Special Secondary Vocational - Class A teaching credential. The percentage of leaders with this credential increases from 62.12 percent for those with five to nine years of work experience to 75.00 percent for those with 20 or more years. Other special purpose credentials for vocational educators in teaching, coordination, supervision and administration reveal a similar pattern.

Summary

Numerous generalizations, characterizations and relationships can be discerned from the data in this chapter. Although some of the data is descriptive of the total population in the study, most of it describes the various subgroups within the population.

The following descriptions can be made about trade and technical leaders in California:

Most of the leaders are white, Protestant, married males in their late forties. They begin teaching in their late twenties, enter administration in their late thirties and have a median age of 48.56 years.

About six out of ten (61.54 percent) are employed by schools or districts with 50,000 or more citizens. More leaders work in metropolitan areas (46.51 percent) than in independent towns and cities (31.17 percent).

Almost half of the leaders (47.92 percent) work for junior college districts, 18.33 percent work for high school districts and 9.17 percent work for correctional institutions. The remainder work in county offices and the State Department of Education.

They are most frequently titled "coordinators" (27.97 percent), but "director" (17.13 percent), "supervisor" (15.73 percent) and "dean" (15.73 percent) are also common.

More than eight out of ten (84.96 percent) spend 100 percent of their time in coordination, supervision and/or administration.

Most of them (86.84 percent) have "across the board" responsibility. Half have the authority to direct and control programs and half have the responsibility to recommend changes only.

The trade and technical subject areas most frequently associated with their work are programs in metals (73.78 percent), electricity/electronics (73.08 percent), automotive trades (69.23 percent), drafting (67.48 percent) and the building trades (59.44 percent).

They have a median of 7.82 years of teaching experience. However, the range extends from no teaching experience to 30 years.

They have a median of 10.31 years of work experience in subject areas related to vocational education, but the range extends from no work experience to almost 40 years.

They invest large amounts of energy to increase their level of formal education while employed as educators. For example, 59.08 percent have a bachelor, master or doctoral degree when they start to teach. When they enter supervision and/or administration, 75.17 percent have an academic degree. Over eighty percent (81.82 percent) currently have one.

Younger administrators are entering vocational education with more education than their older colleagues and they are working toward more degrees.

They have a median salary of \$15,344. The range extends from \$10,000 to about \$30,000. Approximately three-fourths (72.37 percent) are on yearly contracts. About one-fifth (19.58 percent) report additional income from other educational sources and about one-fourth (25.53 percent) report income from non-educational sources.

The most common career route to a position of leadership in trade and technical education is to begin in the world of work as a craftsman or technician, move into the world of education as a trade and technical teacher and then advance to a supervisory and/or administrative position. The identification of the teaching backgrounds of the leaders illustrate this. More than half (55.59 percent) of the

population in the study have trade and technical teaching backgrounds. The leaders who follow this traditional route tend to have more work experience and less formal education (especially when they begin to teach) and they obtain more limited, special purpose credentials and fewer comprehensive, general purpose credentials.

The second most common career pattern is that of the general educators. This group (16.43 percent of the sample) usually has little or no work experience in trade and technical subject areas, has taught academic rather than trade and technical subjects, has the most formal education and obtains the least number of credentials. Their credentials are almost always comprehensive and general.

The industrial arts group is the third most common type in the sample (14.69 percent). They have less work experience than the traditional trade and technical group, have taught industrial arts courses, have considerable formal education and obtain the largest number of credentials of any group. Their credentials are a mixture of general purpose and special purpose credentials.

One-tenth (10.14 percent) of the sample are leaders with teaching backgrounds in other types of vocational subjects (e.g., business education, agriculture, etc.). They have work experience in vocational subject areas, maintain a high level of formal education and obtain a mixture of general purpose and special purpose credentials. However, they acquire fewer credentials than the industrial arts or trade and technical group.

The different types of institutions which employ the leaders are also discriminating variables. Apparently this is due to the different recruitment patterns and incentive structures of the institutions. This is most obvious when the level of formal education of the leaders and the types of credentials acquired by them are studied. Correctional leaders usually obtain special purpose credentials. They have the least number of credentials of any group and they have one of the lowest percentages of leaders with academic degrees. Not only do most state department leaders have special purpose credentials, but they also have the largest contrast between the numbers of special purpose and general purpose credentials. They have the lowest percentage with academic degrees. Junior college leaders, the largest institutional subgroup, have an equal distribution of special purpose and general purpose credentials and their percentage with academic degrees represents the middle range. High school leaders obtain the largest number of general purpose credentials of any group and they have the second highest percentage with academic degrees. Every county leader in the sample has at least a bachelor degree. These leaders also tend to obtain more general purpose credentials than special purpose credentials.

It was also discovered that the number of credentials obtained by the leaders increases as the level of formal education increases (with the exception of those with doctoral degrees) and increases as the years of work experience increases (up to 15 years).

The types of credentials (general purpose versus special purpose) are also related to the level of formal education and the years

of work experience. In general, the level of formal education is directly related to the number of general purpose credentials and inversely related to the number of special purpose credentials. Work experience is directly related to the number of general purpose credentials. In other words, education and work experience have opposing relationships in patterns of credential acquisition.

CHAPTER II
WORK ANALYSIS

CHAPTER II

WORK ANALYSIS

The Work Analysis Forms, an instrument developed by the Ohio State Leadership Studies in the Bureau of Business Research, was used to analyze the different types of activities and responsibilities of trade and technical leaders.¹ (See Appendix.) In the current study variables such as the type of institutions which employs the leaders, the type of authority inherent in the office and the scope of subject area responsibility are found to have a direct effect upon the profiles of activities and responsibilities. This chapter presents these profiles in addition to the overall profile of the leaders.

The Work Analysis Forms is designed to identify the different aspects of administrative performance from estimates of time the subject spends in various kinds of work. Because estimates are used rather than actual measurements of time and because work roles vary periodically for numerous reasons, both reliability and validity of the instruments are difficult to measure.² Therefore, small differences in scores should not be overemphasized and interpretations should be made cautiously. In this report an attempt has been made to emphasize the persistent patterns of behavior, wherever they become apparent.

¹Ralph M. Stogdill and Carroll L. Shartle, Methods in the Study of Administrative Leadership (Columbus: The Ohio State University, Bureau of Business Research, 1955), Monograph No. 80, pp. 44-53.

²See Ralph M. Stogdill and Carroll L. Shartle, "Work Analysis Forms Manual" (Columbus: The Ohio State University, Bureau of Business Research).

Overall Profile

The data reveal some definite characteristics of the administrative performance of trade and technical leaders. For example, the percentage of time (61.99 percent) spent in personal contacts dominates the percentage of time (35.55 percent) spent in individual effort.³ (See Table 2-1.) Approximately thirty percent of the time spent in personal contacts is spent in meetings and conferences, either with colleagues (20.93 percent) or with outside groups (8.54 percent). Contacts with subordinates, either about their work or their personal problems, require the second largest percentage of time (21.76 percent).

Approximately thirty percent (31.62 percent) of the time spent in individual effort is spent writing or examining reports, proposals, orders and memoranda. Observing, inspecting and examining trade and technical programs is the second most time consuming activity (16.96 percent). Reading and answering mail is also one of the more significant activities in this category (13.43 percent).

Most of the items listed under major responsibilities require five to ten percent of the leaders' time. (See Table 2-2.) Coordination (15.29 percent) and planning (11.00 percent) receive the highest percentages. The dependence upon the special knowledge of vocational leaders evidently makes it necessary for them to spend more time coordinating, integrating and planning activities.

³The total time spent in personal contacts and in individual effort should theoretically add to 100.00 percent. The reason for the discrepancy is that some of the respondent's returns did not total 100.00 percent.

TABLE 2-1

PERCENTAGE OF TIME SPENT IN CONTACTS WITH PERSONS
AND IN INDIVIDUAL EFFORT

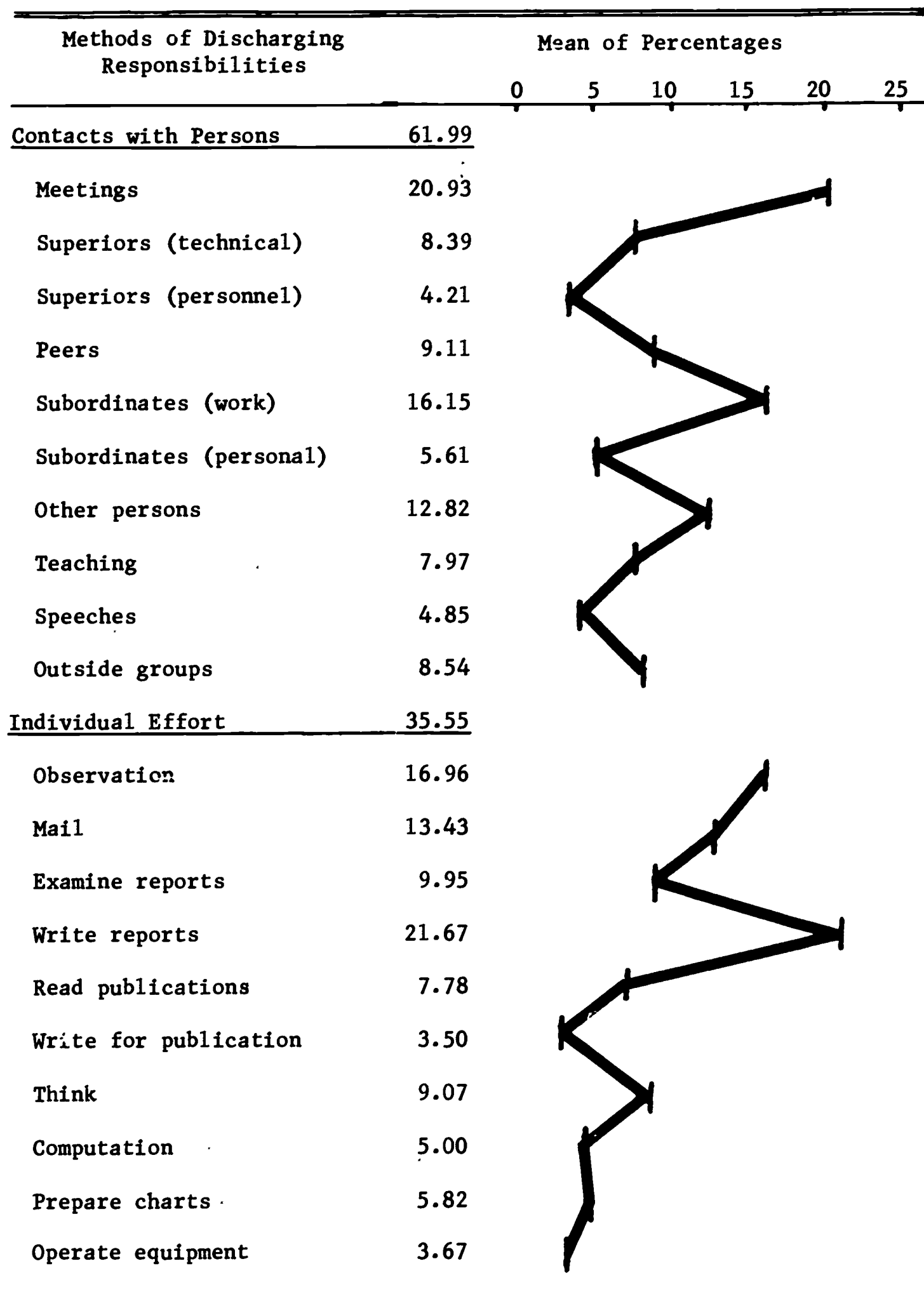
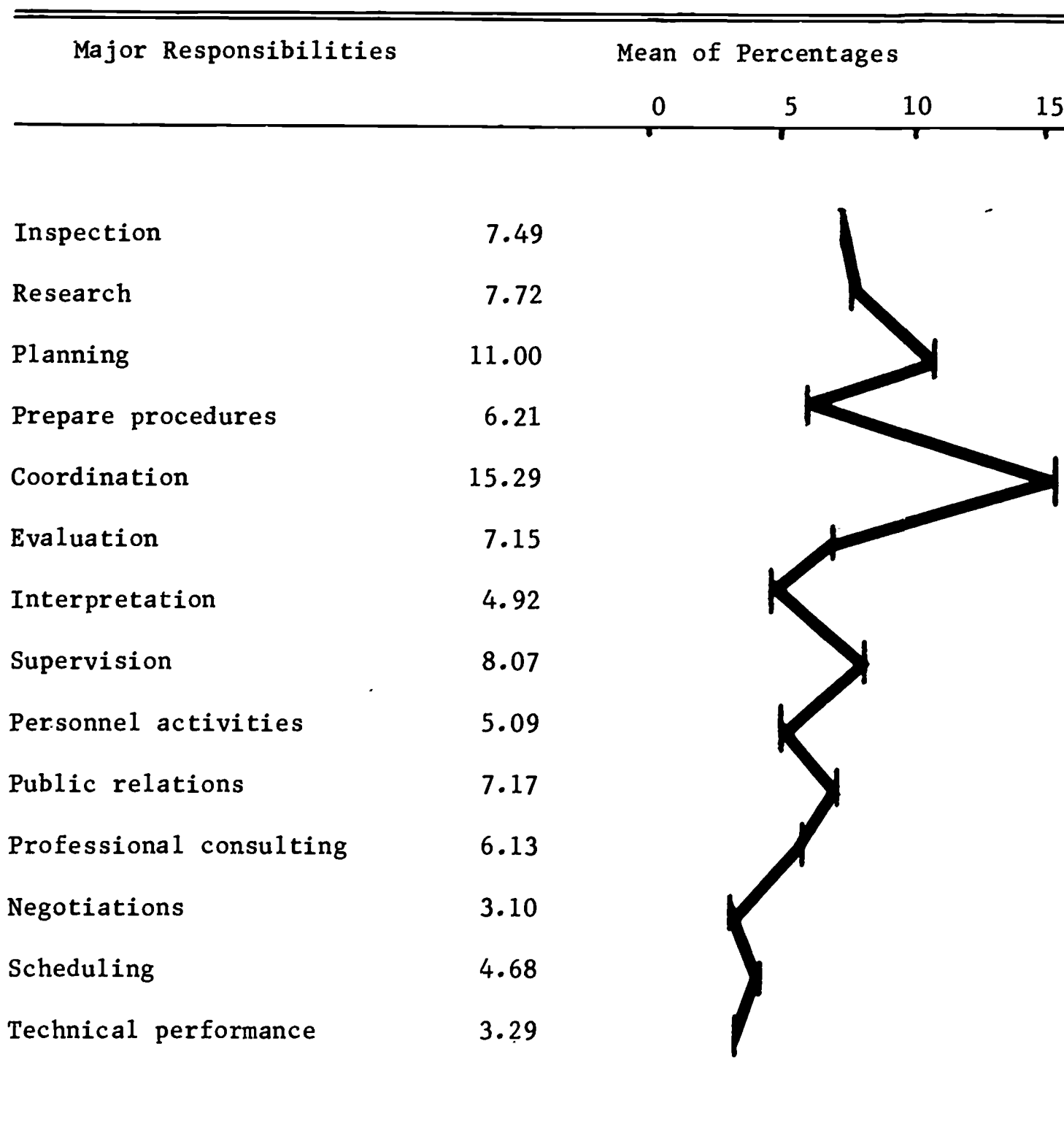


TABLE 2-2
 PERCENTAGE OF TIME DEVOTED TO MAJOR RESPONSIBILITIES



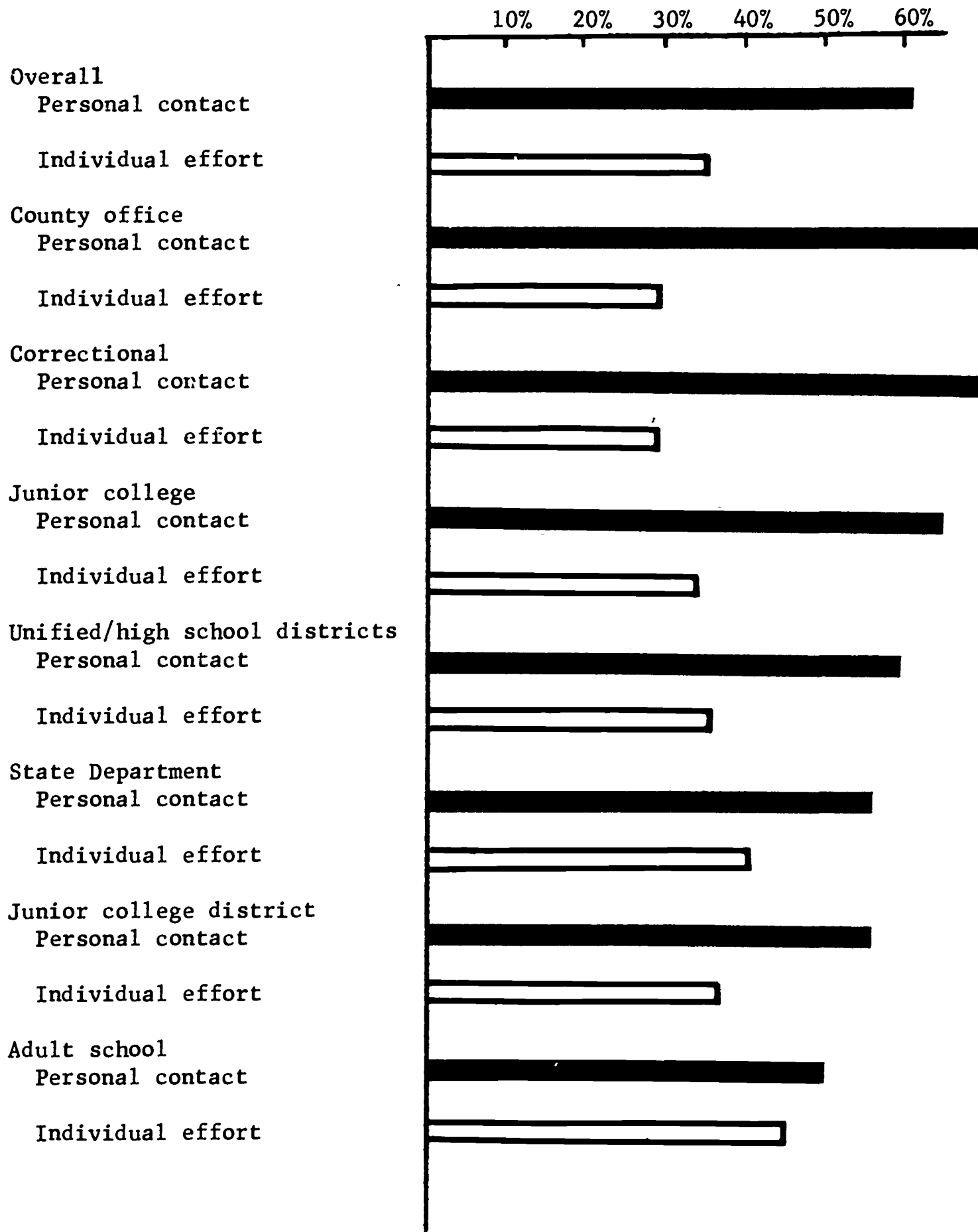
Institutional Differences

It is commonly assumed that vocational leaders in trade and technical education are a particular "breed" who invest their time in similar roles throughout California. The data from the Work Analysis Forms support this generalization to a limited extent. For example, attending meetings and writing reports rank high on the profiles of every subgroup in the study. On the other hand, the percentages of time spent in personal contacts and in individual effort indicates marked differences in leadership roles depending upon the type of institution which employs the leader. (See Table 2-3.) For example, leaders in county offices have a 70 - 30 percent division of time (69.75 percent for personal contacts and 30.25 percent for individual effort) while leaders in adult schools have a 50 - 50 percent division (52.22 percent for personal contacts and 47.78 percent for individual effort).

Although it is not the purpose of this report to make a detailed probe into the reasons for institutional differences, some of the reasons are very apparent and can be mentioned. For example, some institutions have direct control over instructional programs while others, such as the state and county departments of education, do not. Therefore, the percentages of time for consultation and coordination will vary. Also, some institutions require more time for writing reports while others require more time for examining reports. These and other reasons discussed below partially explain the differences in time expenditure for the institutional subgroups of leaders. In brief, the

TABLE 2-3

PERCENTAGE OF TIME SPENT IN CONTACTS WITH PERSONS AND IN INDIVIDUAL EFFORT BY TYPE OF INSTITUTIONAL EMPLOYMENT



type of institution which employs a trade and technical leader strongly influences the way he spends his time.

State Department. Trade and technical leaders employed in the State Department of Education have one of the most distinctive profiles. Although they spend less time in total personal contacts (56.67 percent) than the overall population, they spend twice as much time with "other persons" (24.44 percent). (See Table 2-4.) The percentages of time spent with outside groups (10.44 percent) and teaching (16.44 percent) are also above the overall means. This implies that these leaders spend more time out of the office than the overall population. Personal contacts which keep them in the office, such as time spent with superiors (7.22 percent), peers (8.67 percent) and subordinates (10.89 percent), are each below the overall means.

Since local district reports are submitted to the State Department, these leaders spend much more of their time examining reports (15.22 percent) than the overall population. They spend less time writing reports (13.56 percent), but more time writing for publications (9.44 percent). However, like the overall population, the largest percentage of time spent in individual effort is for observation, inspection and examination (17.22 percent).

If expenditure of time is an indication of the major responsibilities of a leader, professional consultation is the primary responsibility of state department leaders. Table 2-5 indicates that these leaders devote twice as much time (14.44 percent) as the overall population to professional consultation. The gathering and collection

TABLE 2-4

PERCENTAGE OF TIME SPENT IN CONTACTS WITH PERSONS AND
IN INDIVIDUAL EFFORT FOR STATE DEPARTMENT LEADERS

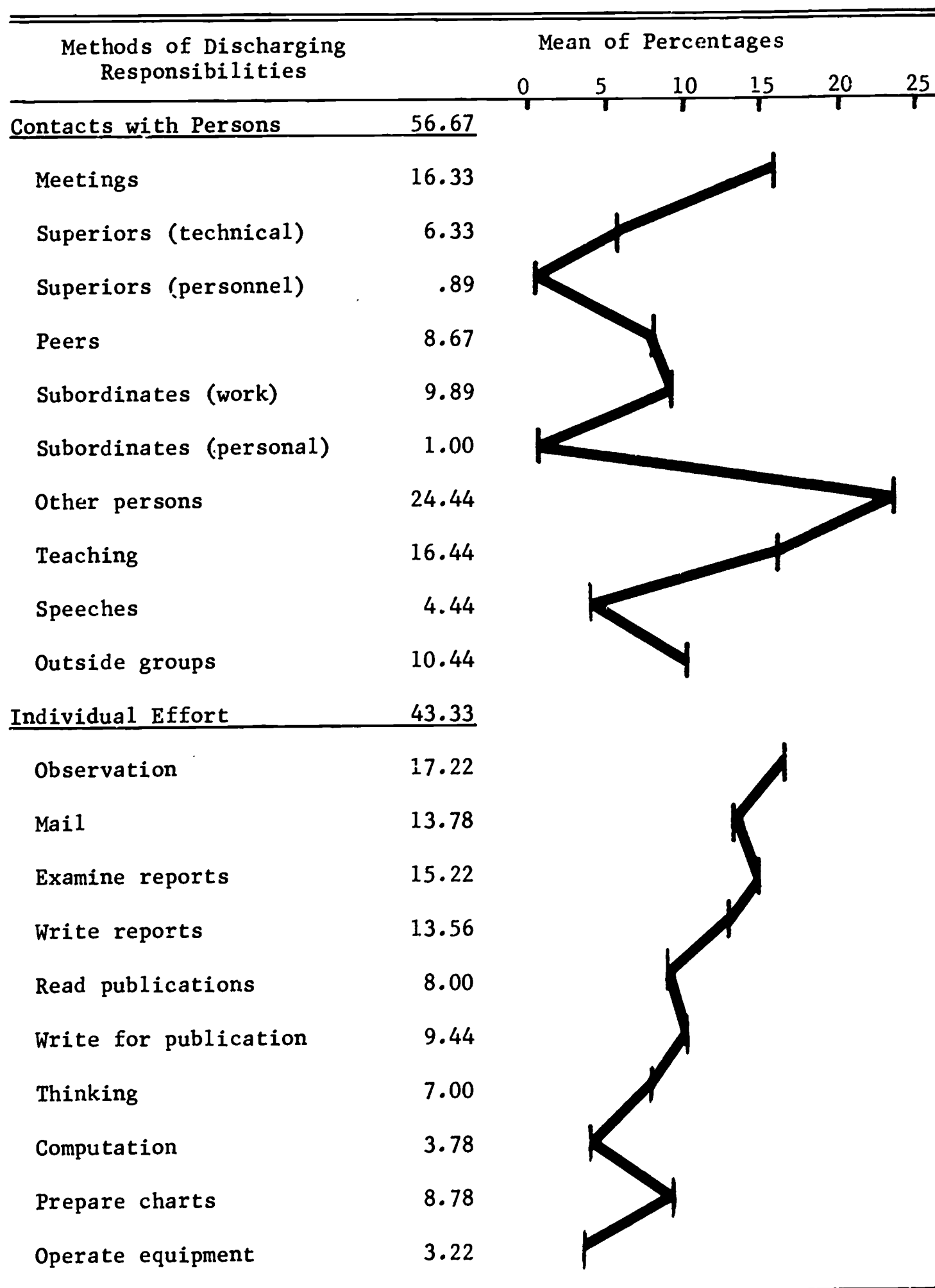
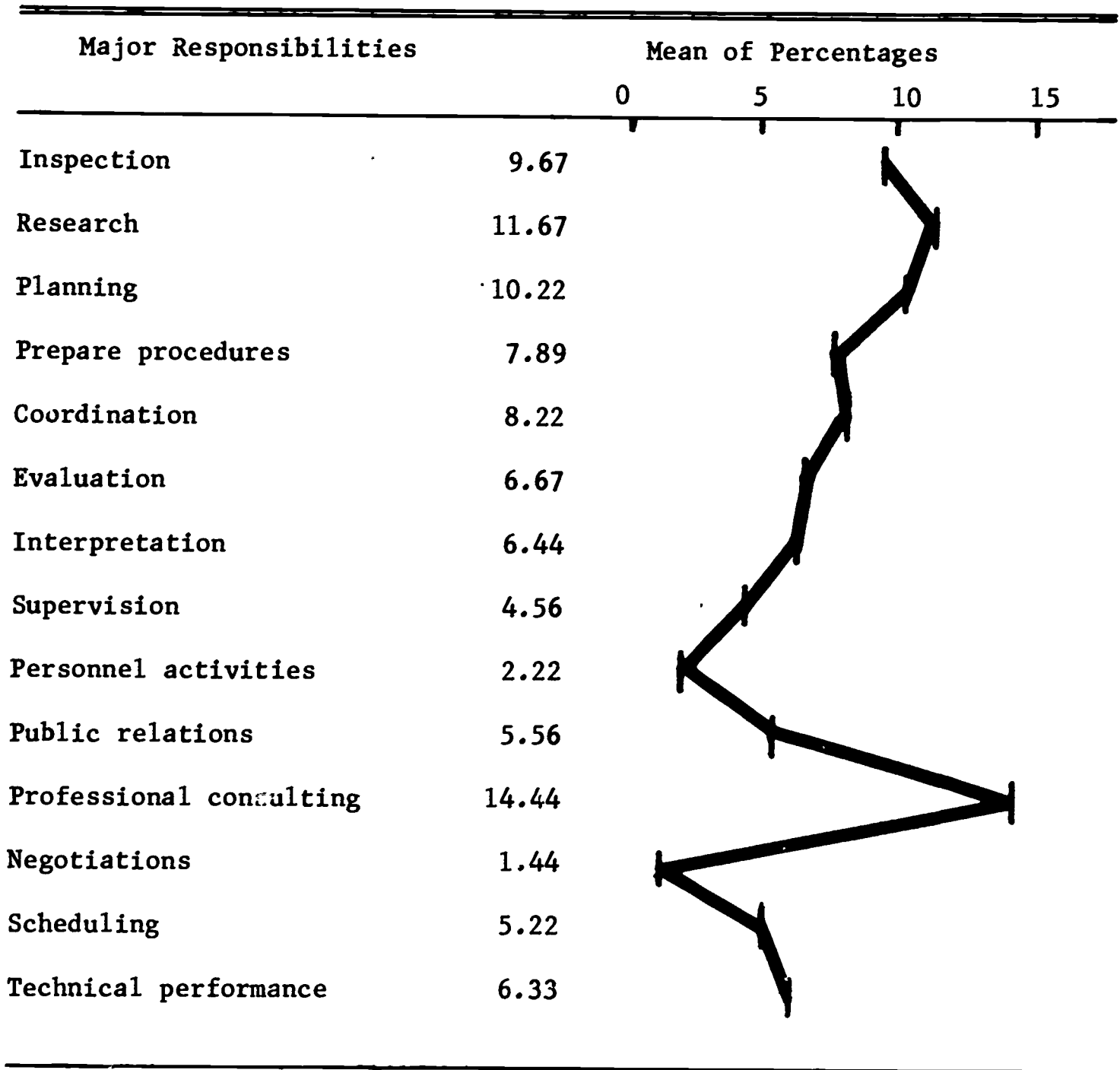


TABLE 2-5

PERCENTAGE OF TIME DEVOTED TO MAJOR RESPONSIBILITIES
FOR STATE DEPARTMENT LEADERS



of data through investigation and research ranks second in time consumption (11.67 percent) and planning ranks third (10.22 percent). Since the direction and control of local programs is ordinarily not a function of the State Department, the percentages of time for supervisory and personnel activities are much lower (4.56 percent and 2.22 percent respectively).

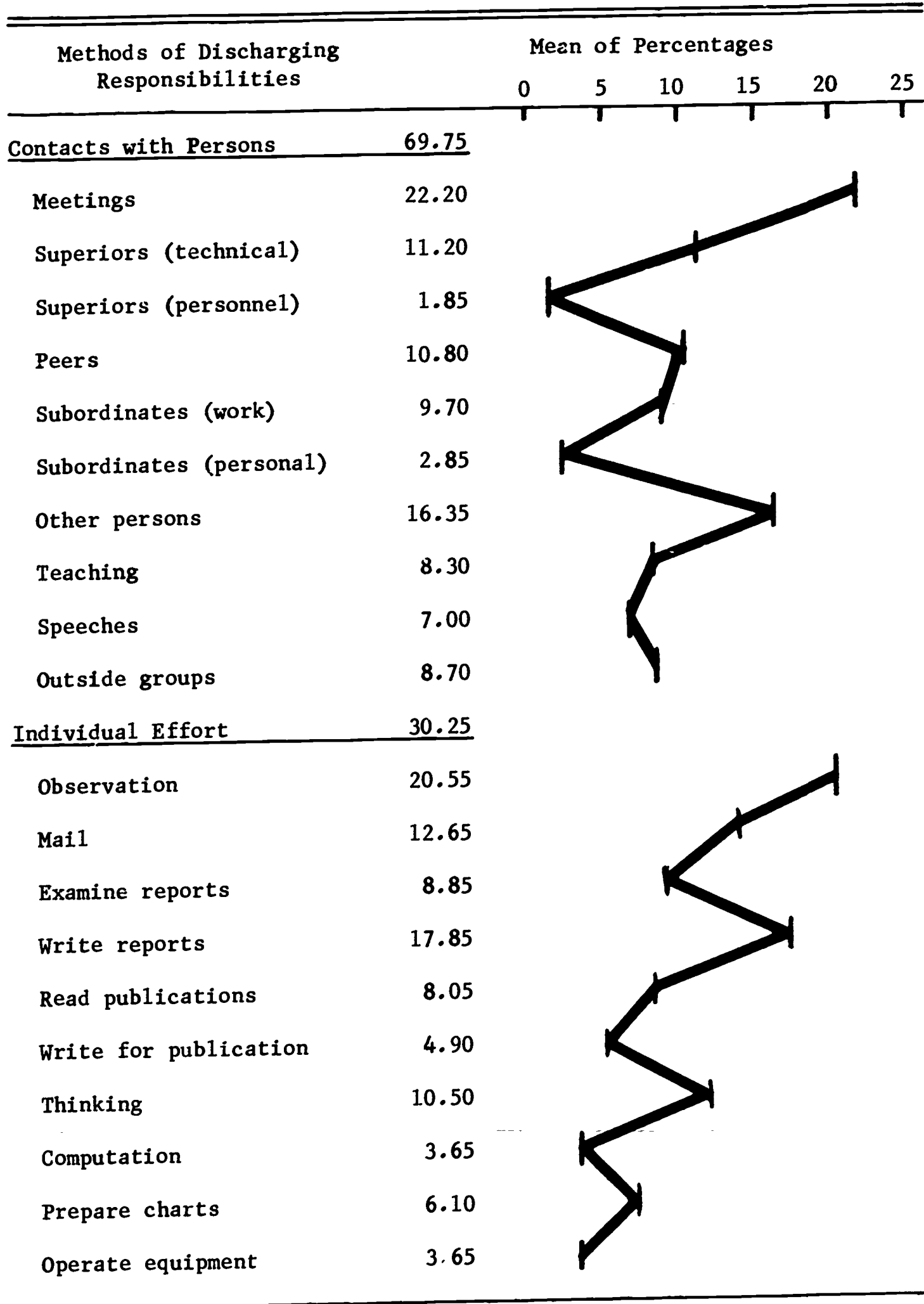
It should also be noted that some state department leaders, such as those who work with fire science and police science programs, supervise instructional programs in the local school districts. Therefore, the unusually high scores for teaching (16.44 percent), preparing charts for instructional purposes (8.78 percent) and applying technical skills (6.33 percent) are not surprising.

County office. An overview of the work analysis profile for the county staff indicates that they are also distinctively different. For example, they report the highest percentage of time (69.75 percent) spent in personal contacts of any subgroup. (See Table 2-6.) They spend more time with peers (10.80 percent) and other persons (16.35 percent) than the overall population; and they spend more time making speeches (7.00 percent). These higher percentages, as well as the smaller percentage for contacts with subordinates (12.55 percent), reflect their out-of-office activities with school districts in the county.

About one-fifth of their time (20.55 percent) spent in individual effort is allotted to observation, inspection and examination.

TABLE 2-6

PERCENTAGE OF TIME SPENT IN CONTACTS WITH PERSONS AND
IN INDIVIDUAL EFFORT FOR COUNTY OFFICE LEADERS



Again, this is a reflection of their responsibilities with the school districts. Reading and writing for professional publications (12.95 percent) and thinking and reflecting (10.50 percent) also have slightly higher percentages than the overall population.

The largest percentage of time spent for a major responsibility (22.65 percent) is spent for the coordination and integration of activities and operations. (See Table 2-7.) Professional consultation, which requires more than twice as much time for county leaders (13.30 percent) as the overall population, is the second most time consuming responsibility. (County leaders also frequently have the title of consultant.) Since these leaders are not directly responsible for instructional programs, they spend less time supervising technical operations (5.15 percent) and working with personnel (2.25 percent).

High school and unified district. Trade and technical leaders employed in high school or unified districts have a profile which is similar to the overall profile. (See Tables 2-8 and 2-9.) They spend less time in personal contacts (58.32 percent) than the overall sample and more time in individual effort (37.29 percent); but the differences are small. Furthermore, their distribution of time for activities within the categories of personal contacts and individual effort also differs very little. However, they tend to spend more time with superiors (15.86 percent) and more time writing reports (26.27 percent).

Junior college. The profile of the junior college leaders is amazingly similar to that of the overall population. Most of their scores in Table 2-10 do not vary more than a percentage point. This is

TABLE 2-7

PERCENTAGE OF TIME DEVOTED TO MAJOR RESPONSIBILITIES
FOR COUNTY OFFICE LEADERS

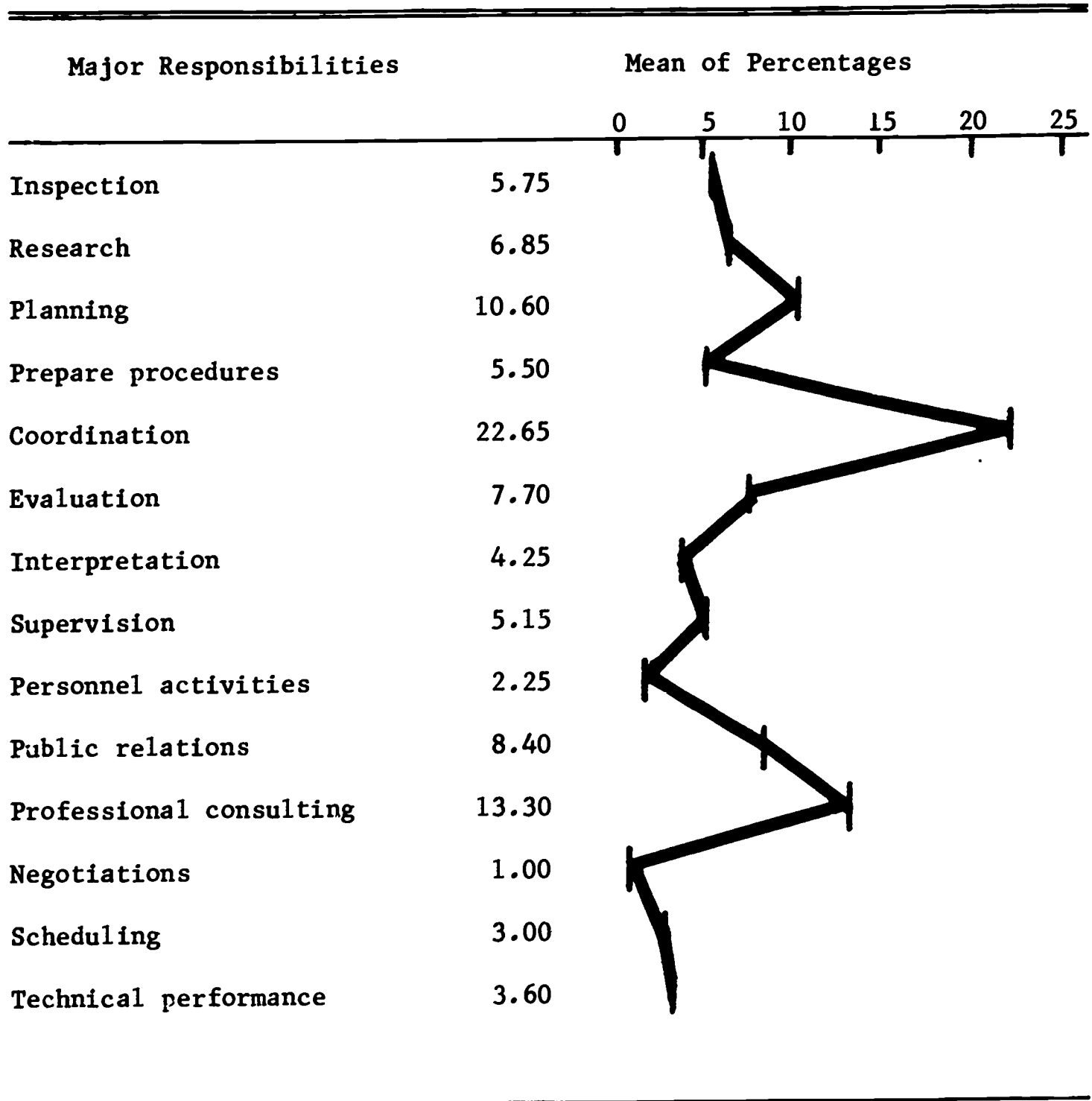


TABLE 2-8

PERCENTAGE OF TIME SPENT IN CONTACT WITH PERSONS AND
IN INDIVIDUAL EFFORT FOR HIGH SCHOOL LEADERS

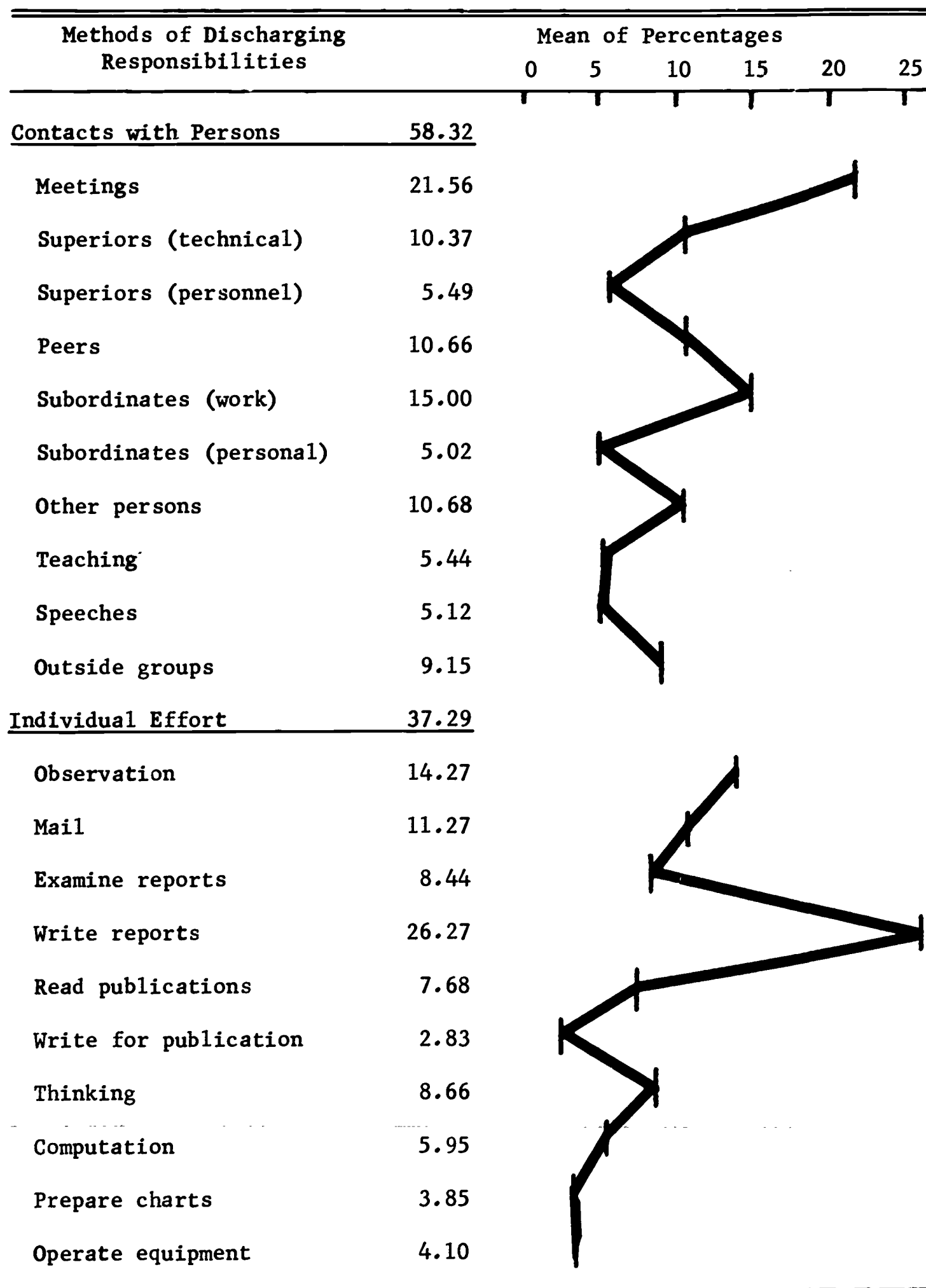


TABLE 2-9

PERCENTAGE OF TIME DEVOTED TO MAJOR RESPONSIBILITIES
FOR HIGH SCHOOL LEADERS

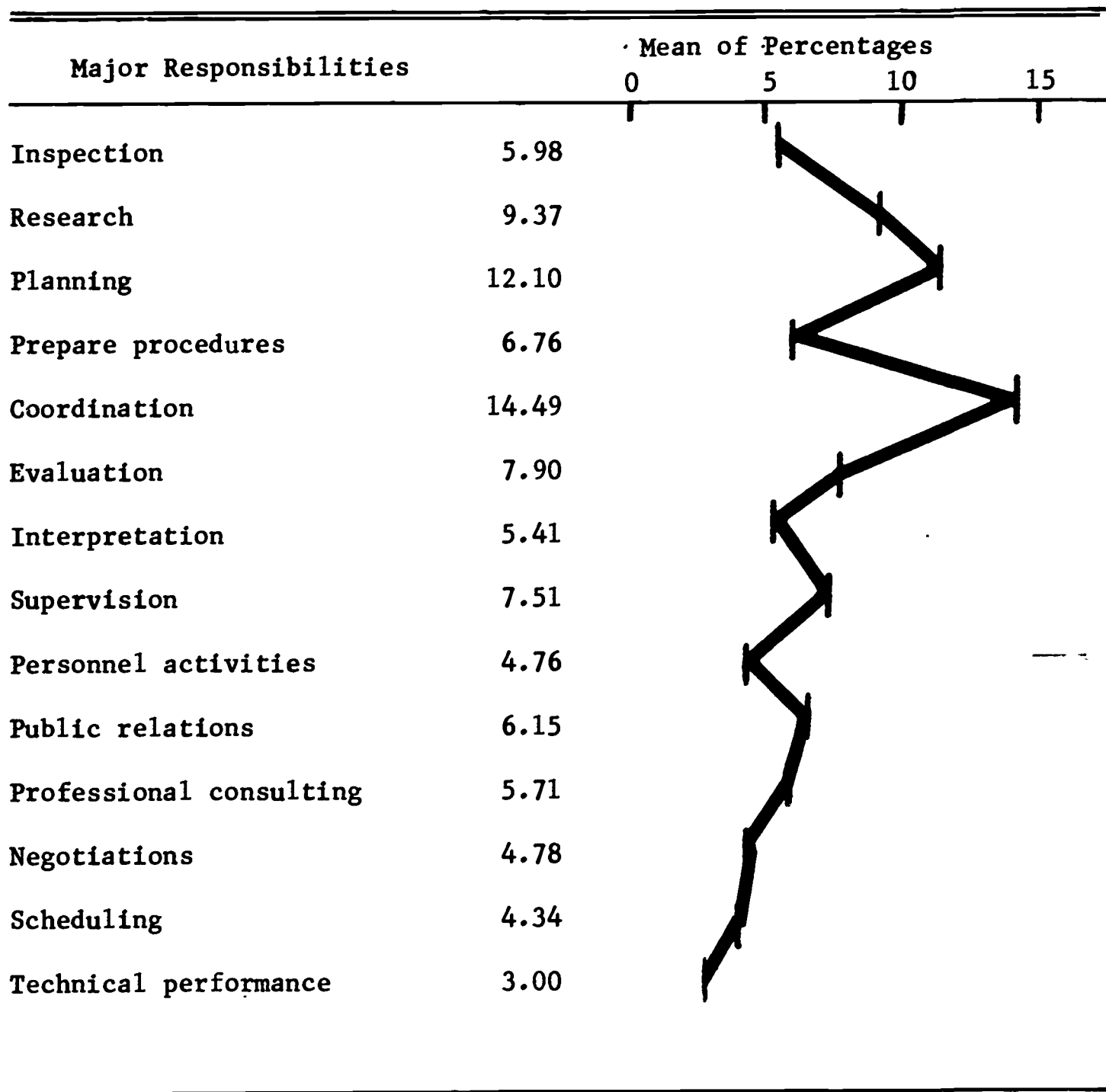
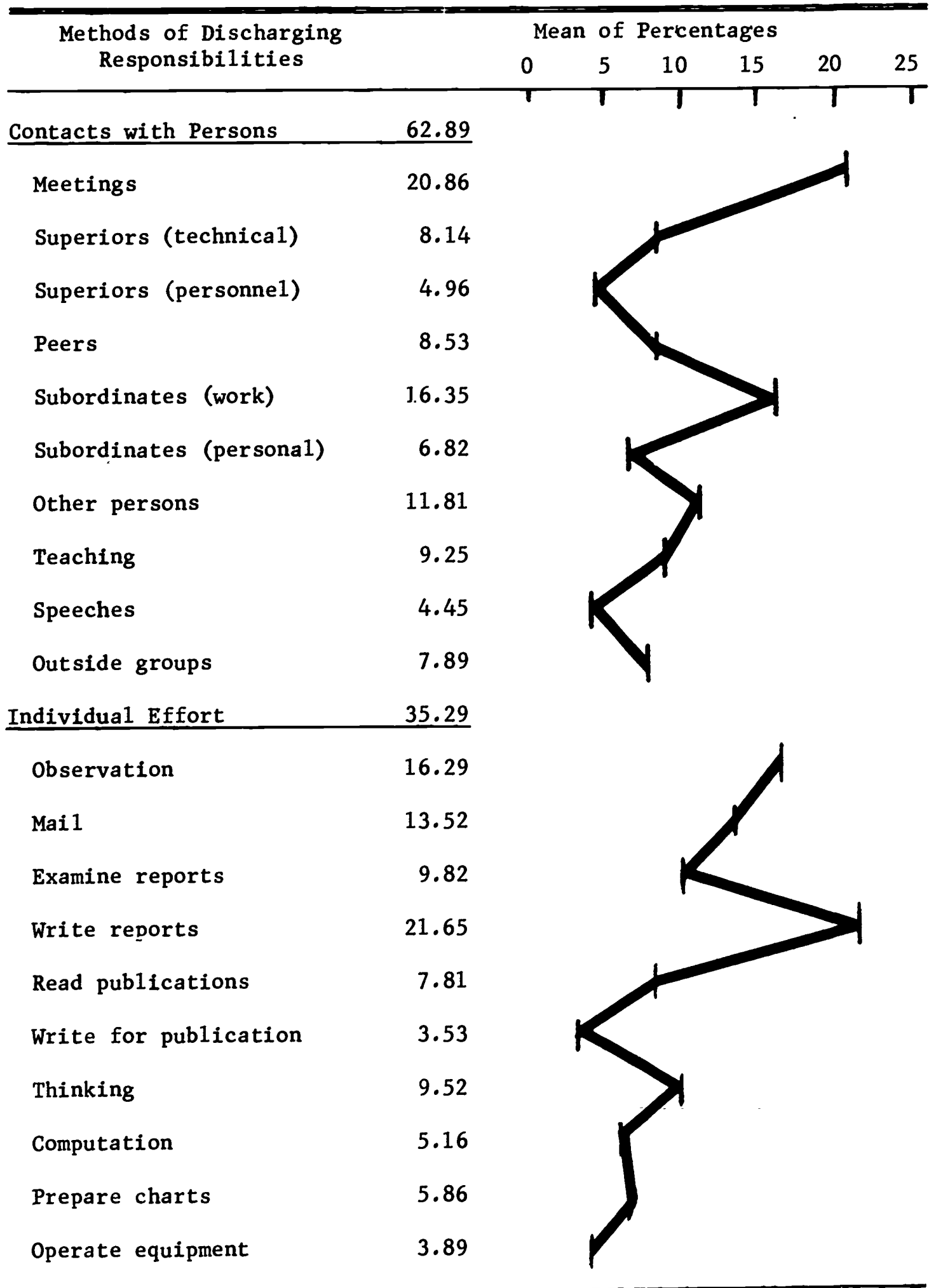


TABLE 2-10

PERCENTAGE OF TIME SPENT IN CONTACTS WITH PERSONS AND
IN INDIVIDUAL EFFORT FOR JUNIOR COLLEGE LEADERS



partially due to the fact that they are the largest subgroup (N = 98) in the overall sample and tend to dominate any measure of central tendency.

The largest portions of their time spent in personal contacts are spent consulting with subordinates (23.17 percent) and attending meetings (20.86 percent). Reading and writing reports require almost one-third (31.47 percent) of their time spent in individual effort. As indicated in Table 2-11, the most time consuming major responsibility of junior college leaders is the coordination and integration of activities and operations (15.99 percent).

Junior college district. Trade and technical leaders in the junior college district offices differ more from the overall population than other junior college leaders. Since leaders in the district offices are often responsible for more than one junior college and are often geographically separated from the college campuses, their roles place a greater emphasis upon coordination. Table 2-12 describes their profile of major responsibilities. The two types of responsibilities which require greater expenditures of time for junior college district leaders than the overall population are coordination (18.25 percent) and inspection (12.31 percent). A significant portion of their time (11.63 percent) is also allotted to planning.

Table 2-13 indicates that junior college district leaders spend considerably less time in personal contacts (55.94 percent) than the overall population. With the exception of time spent consulting subordinates about their work, they spend less time in consultation.

TABLE 2-11

PERCENTAGE OF TIME DEVOTED TO MAJOR RESPONSIBILITIES
FOR JUNIOR COLLEGE LEADERS

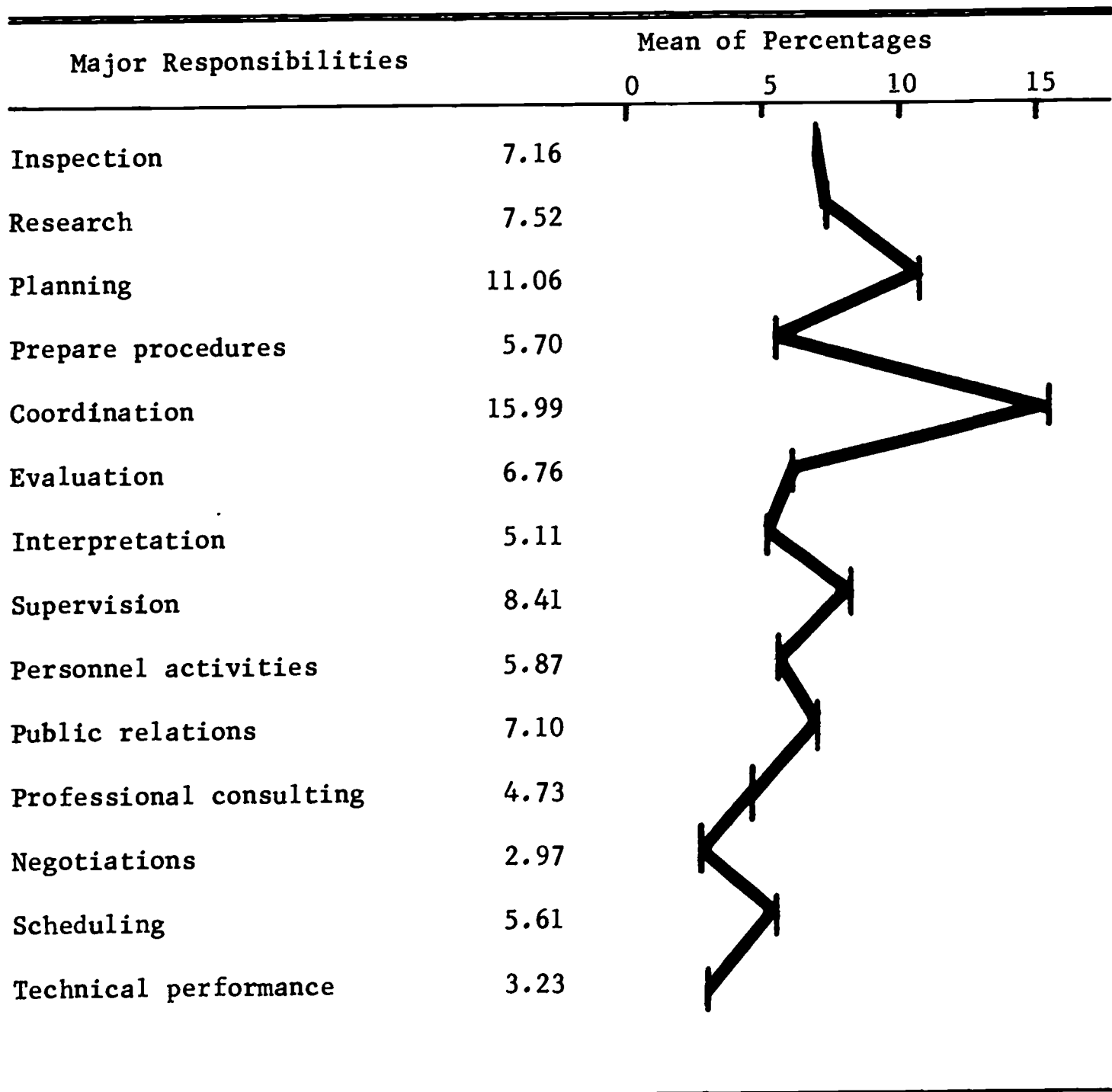


TABLE 2-12

PERCENTAGE OF TIME DEVOTED TO MAJOR RESPONSIBILITIES FOR
JUNIOR COLLEGE DISTRICT OFFICE LEADERS

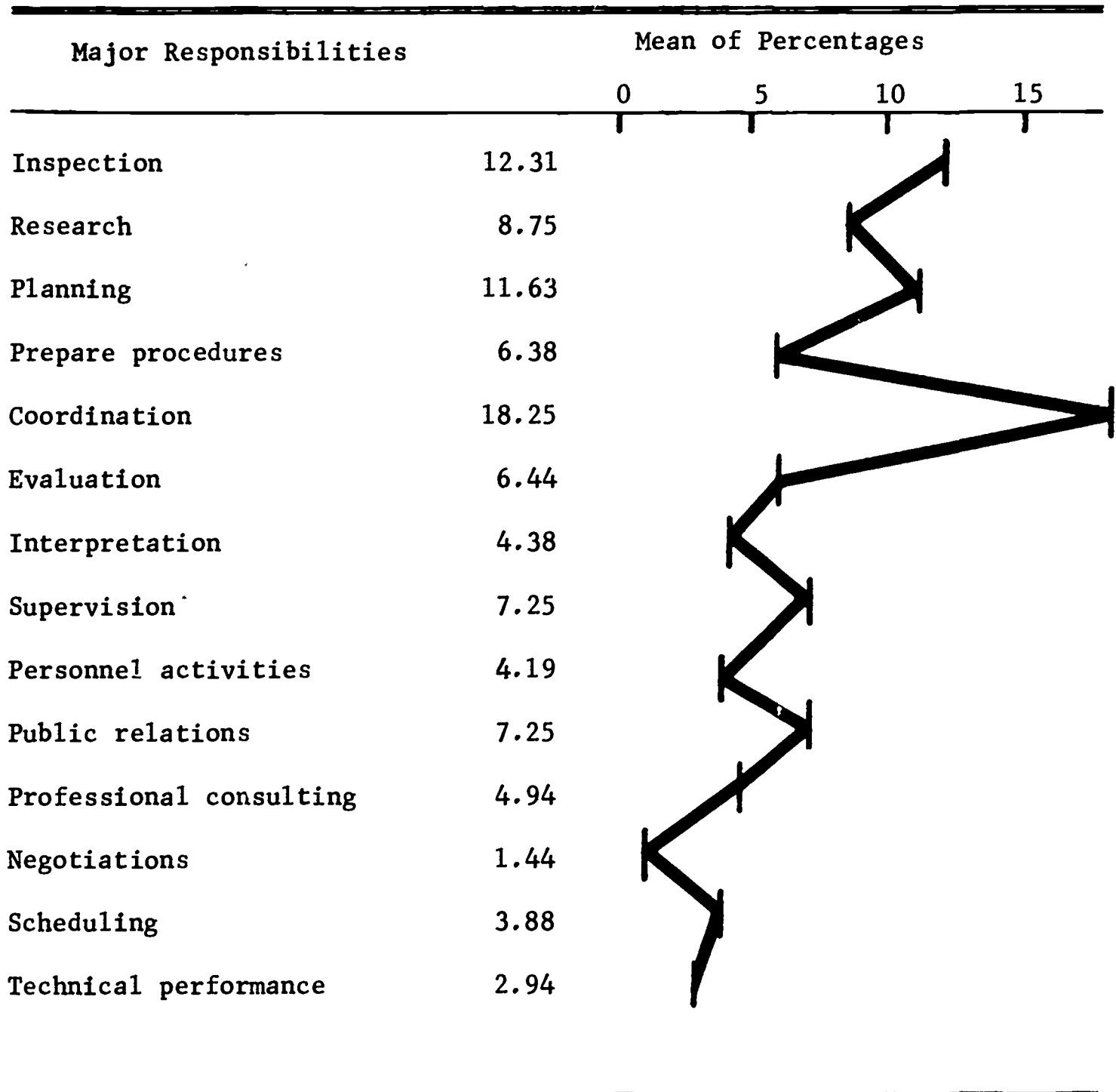
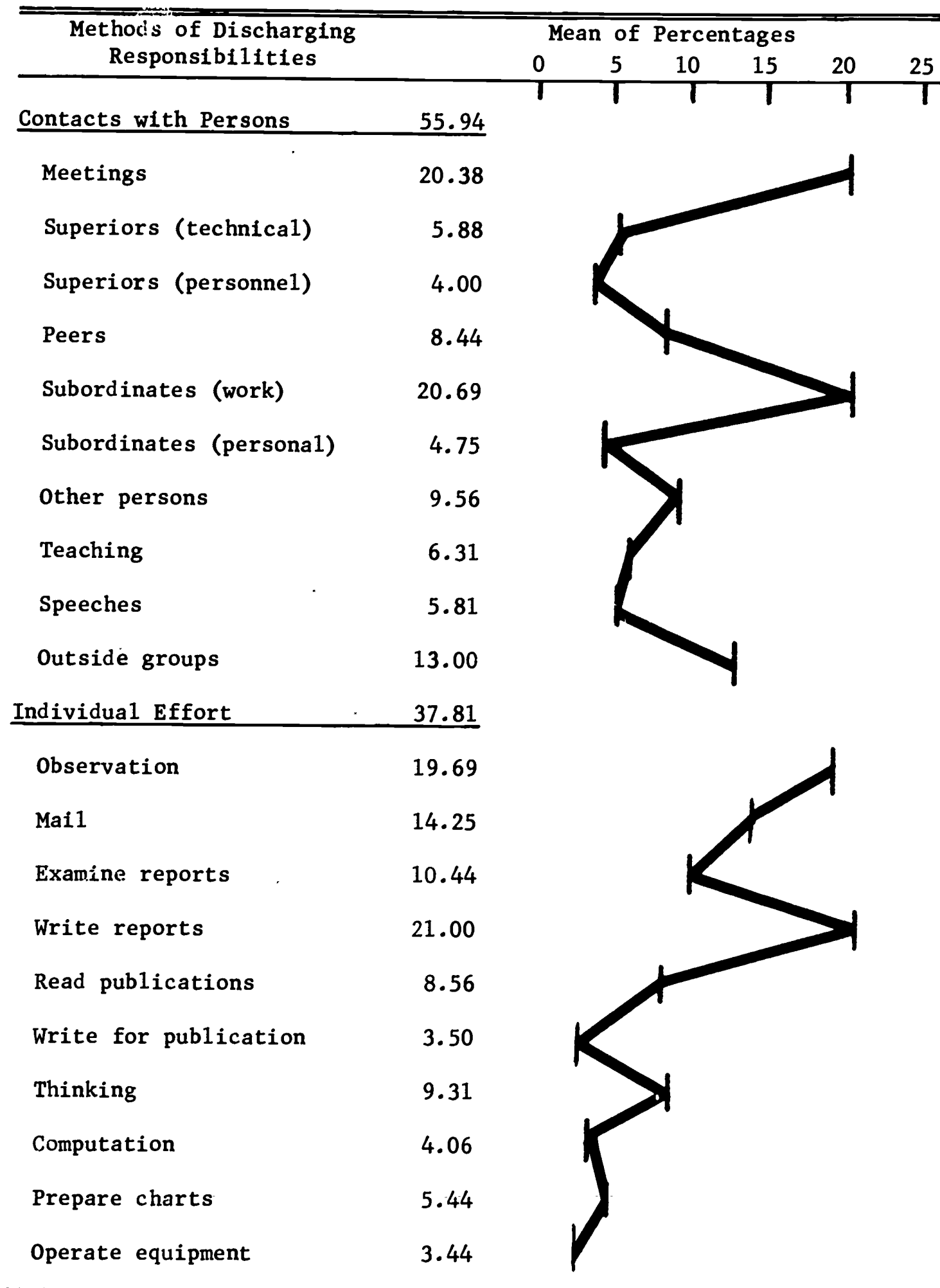


TABLE 2-13

PERCENTAGE OF TIME SPENT IN CONTACTS WITH PERSONS AND IN INDIVIDUAL EFFORT FOR JUNIOR COLLEGE DISTRICT OFFICE LEADERS



Attending meetings and conferences (20.38 percent), consulting subordinates about their work (20.69 percent) and attending meetings with outside groups (13.00 percent) are the three most time consuming activities.

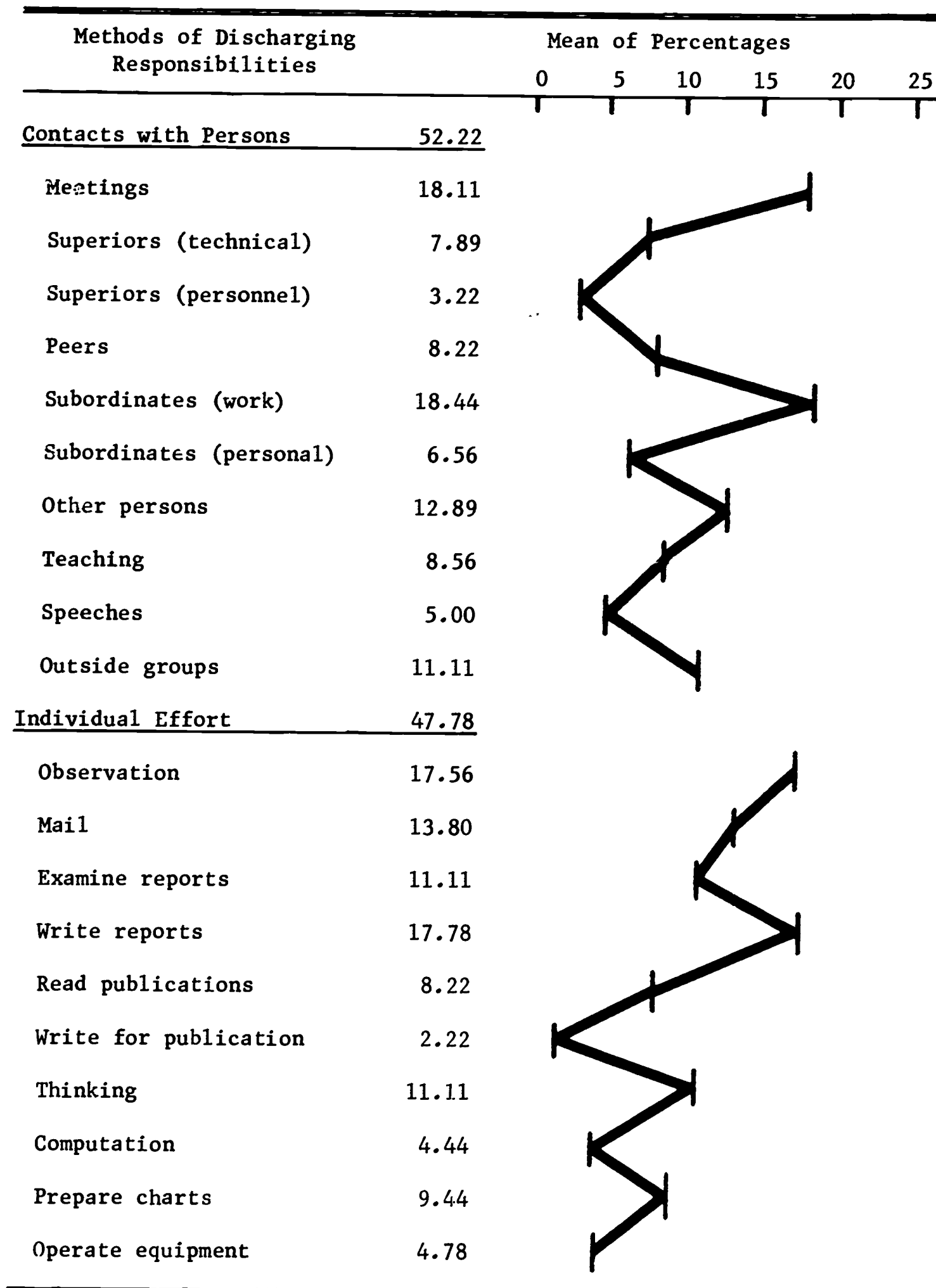
Although these leaders spend more time in individual effort (37.81 percent) than the overall population, the distribution of their time for activities within this category is similar. The only percentage that differs significantly from that of the overall sample is the higher percentage of time spent for observation, inspection and examination (19.69 percent).

Adult school. Trade and technical leaders with responsibility for adult schools work in high school and junior college districts. They report the smallest percentage of time spent in personal contacts (52.22 percent) of any subgroup and the largest percentage of time spent in individual effort (47.78 percent). (See Table 2-14.) This suggests that there are some unexplored institutional demands which require more time spent in individual effort. Also, these leaders tend to work in the evening and not in the morning.

Although adult school leaders spend less time in total personal contacts than the overall population, they spend more time consulting with subordinates (25.00 percent) and attending meetings with outside groups (11.11 percent). They also spend considerable amounts of time attending committee meetings and conferences (18.11 percent) and consulting with other persons (12.89 percent).

TABLE 2-14

PERCENTAGE OF TIME SPENT IN CONTACTS WITH PERSONS AND
IN INDIVIDUAL EFFORT FOR ADULT SCHOOL LEADERS



In individual effort, writing reports ranks first in time consumption for adult school leaders (17.78 percent), although they spend less time at this than the overall population. Observation, inspection and examination ranks second (17.56 percent).

The two most time consuming major responsibilities are planning and coordination (12.89 percent and 11.56 percent respectively). (See Table 2-15.) These leaders also spend more time in personnel activities (9.44 percent) than the overall population.

Correctional facility. Leaders in correctional institutions are second only to county leaders in time spent in personal contacts (69.28 percent). (See Table 2-16.) They spend unusually large percentages of time with subordinates (30.28 percent) and other persons (16.78 percent). However, only 3.78 percent of their time spent in personal contacts is spent with outside groups. This is not surprising since correctional institutions are usually more isolated than public schools from their surrounding communities. The unique student population in correctional institutions undoubtedly accounts for the high scores in other types of personal contacts.

As expected, they rank observation, inspection and examination higher in time consumption (19.83 percent) than the overall population. However, correctional leaders rank all other types of individual effort lower.

Table 2-17 reports the amount of time spent for major responsibilities by correctional leaders. Their high score for time spent in supervision (12.50 percent) again reflects the peculiar nature of the

TABLE 2-15

PERCENTAGE OF TIME DEVOTED TO MAJOR RESPONSIBILITIES
FOR ADULT SCHOOL LEADERS

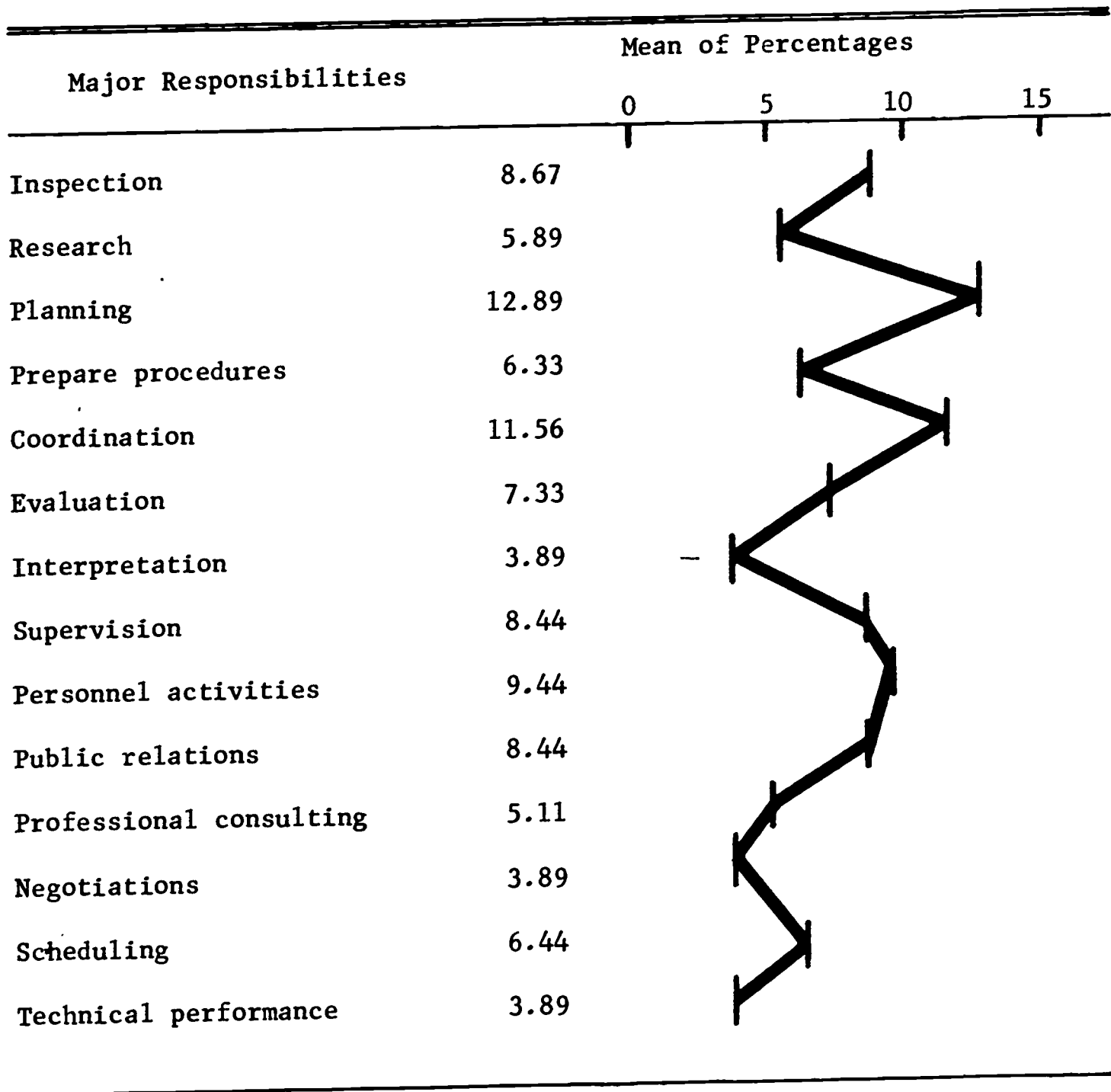


TABLE 2-16

PERCENTAGE OF TIME SPENT IN CONTACTS WITH PERSONS AND
IN INDIVIDUAL EFFORT FOR CORRECTIONAL LEADERS

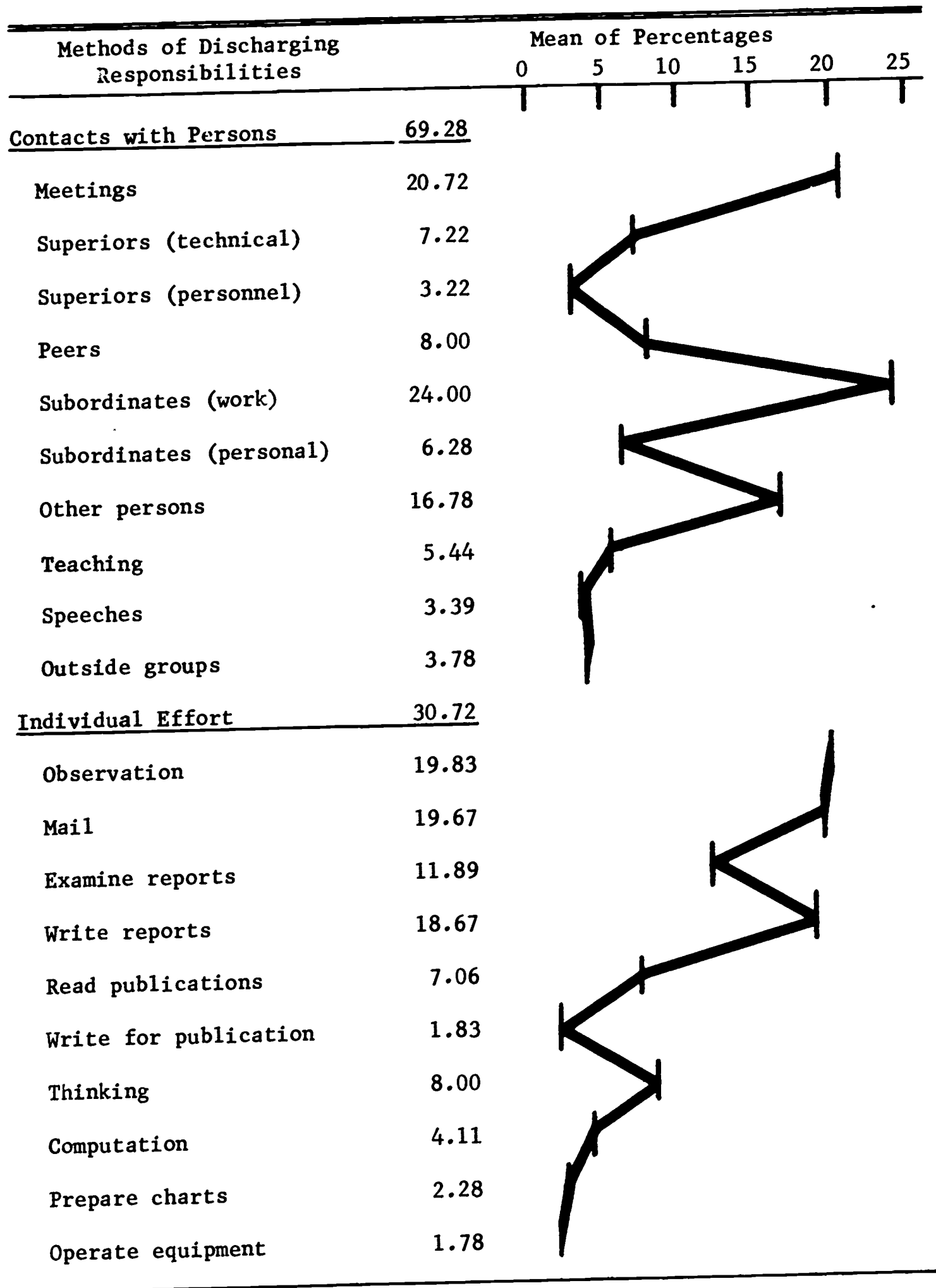
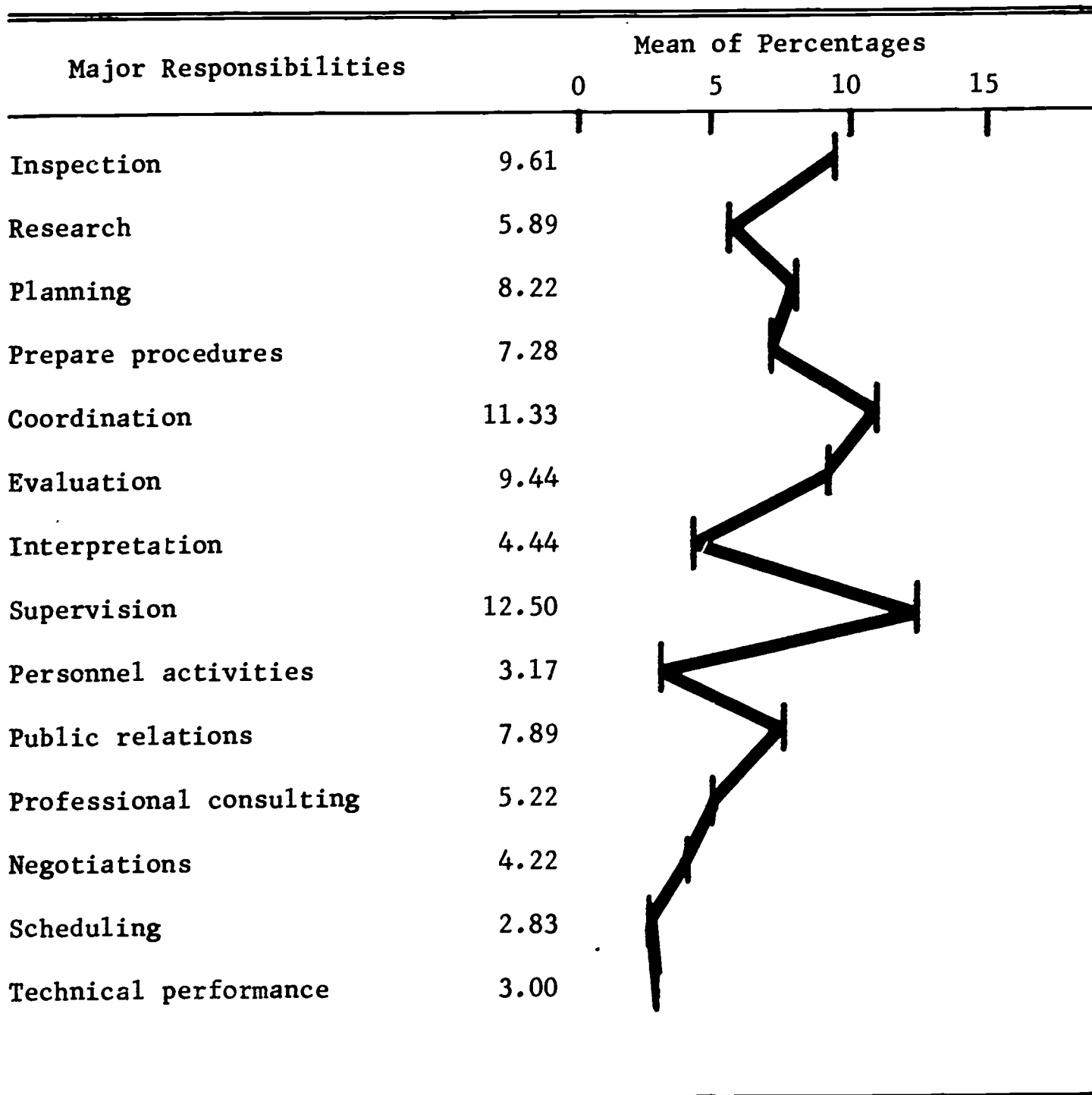


TABLE 2-17

PERCENTAGE OF TIME DEVOTED TO MAJOR RESPONSIBILITIES
FOR CORRECTIONAL LEADERS



correctional facility. Coordination, which normally requires more time for other trade and technical leaders, receives a score of only 11.33 percent from correctional leaders.

Differences in Authority

The type of authority vested in the office of a trade and technical leader also has an effect upon the work profiles. For example, Tables 2-18 and 2-1 illustrate that leaders with the authority to direct and control programs report a higher percentage of time for personal contacts (64.12 percent) than the overall population. In addition, they spend more time consulting with subordinates (25.81 percent) and less time consulting with superiors (11.20 percent).

Conversely, Tables 2-19 and 2-1 indicate that leaders with the authority only to make recommendations about programs report a lower percentage of time for personal contacts (60.51 percent) than the overall population. They spend more time with superiors (14.17 percent) and less time with subordinates (18.16 percent). These leaders also devote more time to teaching (9.52 percent).

Since the responsibility for the success of programs is coupled with the authority to direct and control programs, it is not surprising that these leaders have more personal contacts with subordinates. More consultation with subordinates is needed to assure that objectives are accomplished.

Both types of leaders distribute their time for activities involving individual effort similarly as the overall population. However, those with the authority only to recommend changes spend slightly

TABLE 2-18

PERCENTAGE OF TIME SPENT IN CONTACTS WITH PERSONS AND IN INDIVIDUAL EFFORT FOR LEADERS WITH AUTHORITY TO DIRECT AND CONTROL

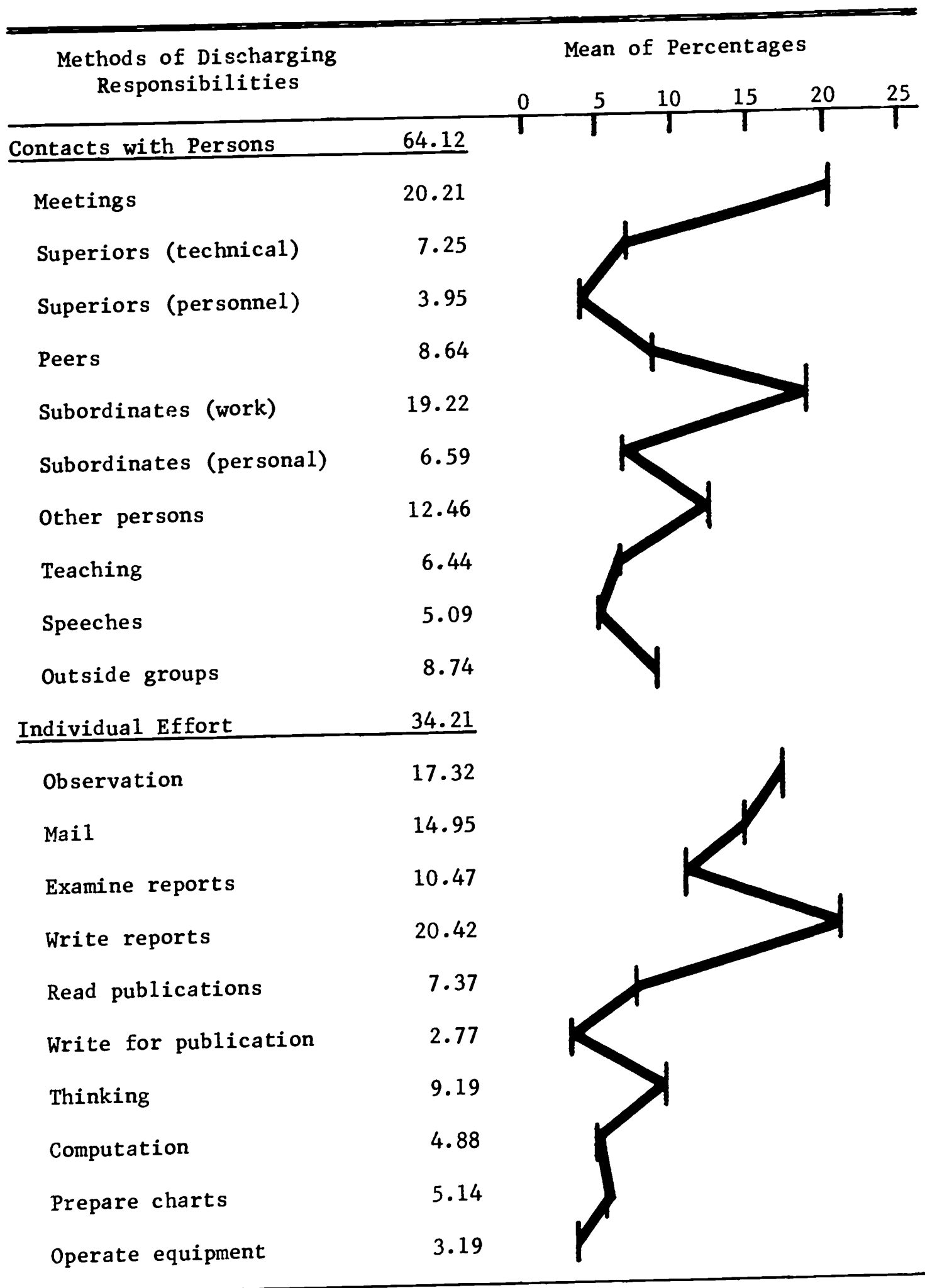
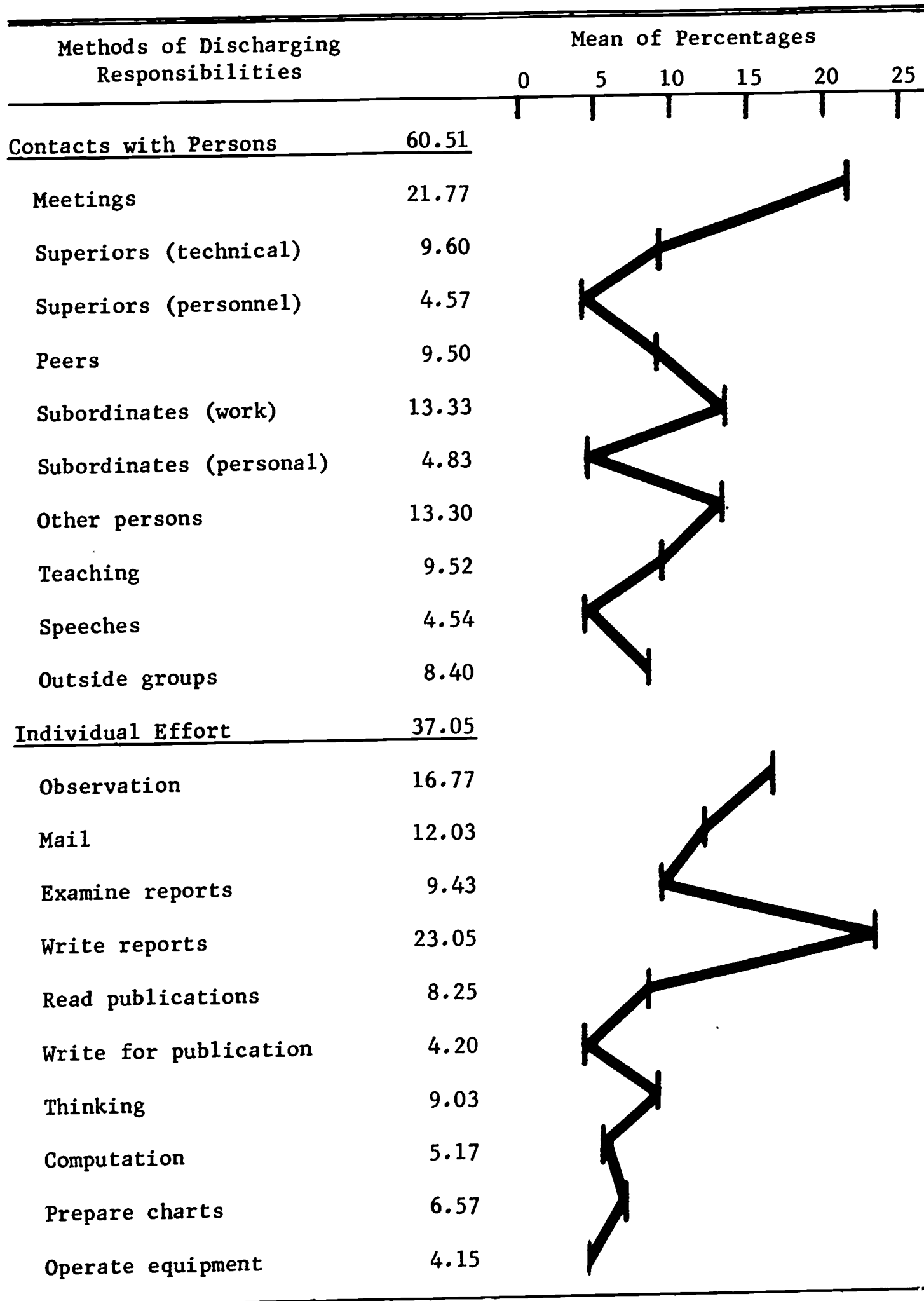


TABLE 2-19

PERCENTAGE OF TIME SPENT IN CONTACTS WITH PERSONS AND IN INDIVIDUAL EFFORT FOR LEADERS WITH AUTHORITY TO RECOMMEND



more time writing reports (23.05 percent), writing articles for publication (4.20 percent) and preparing charts, tables and diagrams (6.57 percent).

A comparison of the amounts of time devoted to major responsibilities in Tables 2-20 and 2-2 shows that leaders who direct and control programs spend more time (9.58 percent) supervising the work of subordinates than the overall population, but spend less time coordinating activities and operations (12.96 percent). In contrast, Tables 2-21 and 2-2 show that those who do not have this authority spend less time supervising subordinates (6.68 percent) and more time coordinating activities (17.82 percent). The differences in scores for supervision support the data above related to personal contacts; the differences for coordination indicate that leaders who direct and control programs effect their coordination through their subordinates.

Summary

The Work Analysis Forms was used to describe the activities and responsibilities of trade and technical leaders in California. The estimates of time spent in different aspects of administrative performance were analyzed in order to construct profiles of the overall population and various subgroups.

Trade and technical leaders spend more time in personal contacts than in individual effort. Most of their time spent in personal contacts is spent attending meetings and conferences and working with subordinates. Writing and examining reports, observing and inspecting programs and processing mail require the majority of their time spent in

TABLE 2-20

PERCENTAGE OF TIME DEVOTED TO MAJOR RESPONSIBILITIES FOR LEADERS WITH AUTHORITY TO DIRECT AND CONTROL

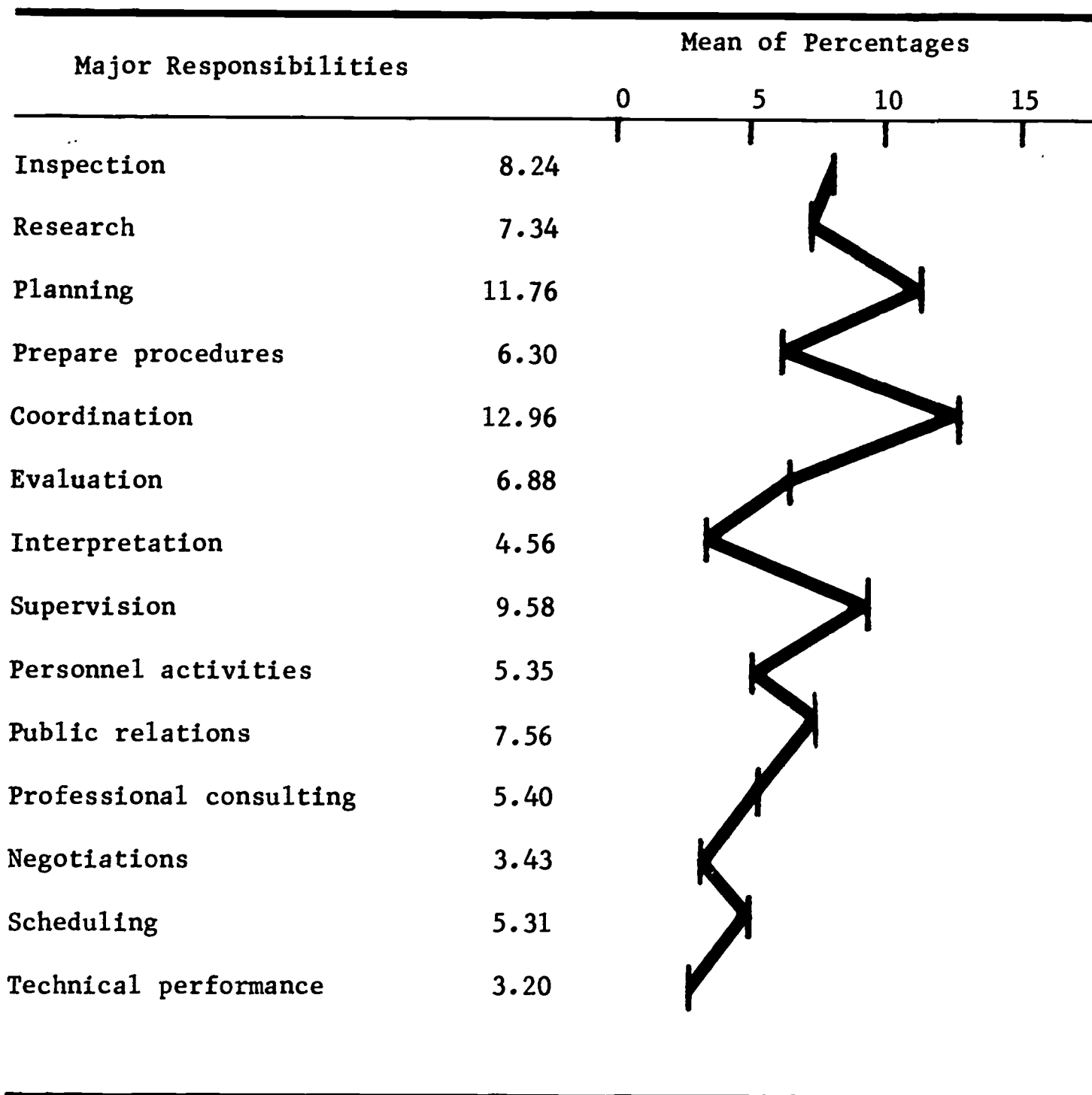
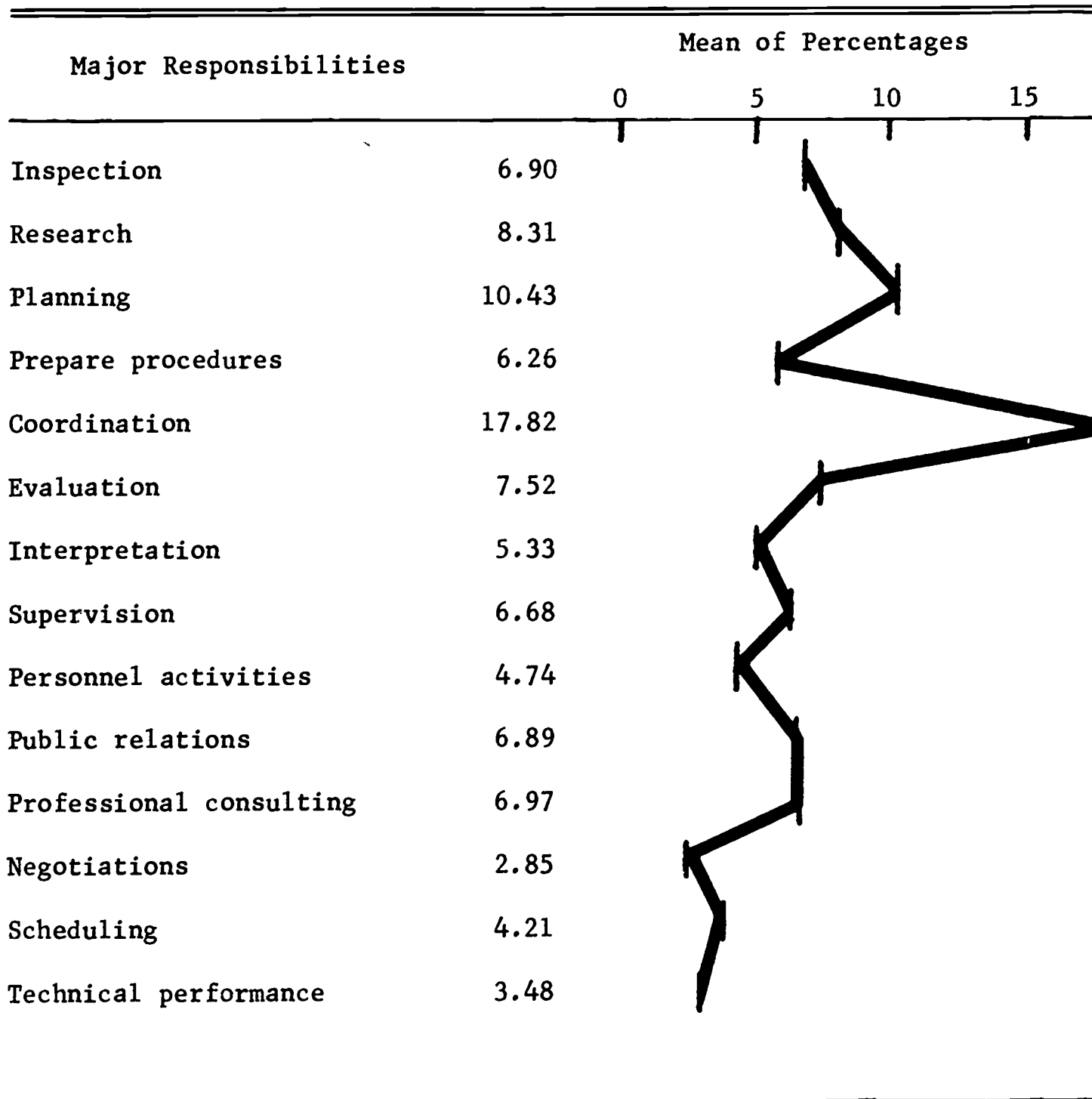


TABLE 2-21

PERCENTAGE OF TIME DEVOTED TO MAJOR RESPONSIBILITIES FOR LEADERS
WITH AUTHORITY TO RECOMMEND



individual effort. The most time consuming major responsibilities are coordination and planning.

Although there is a general similarity in the profiles of various subgroups in the overall population, a number of differences stand out. For example, leaders in the county offices have a 70 - 30 percent division of time for personal contacts and individual effort while leaders in adult schools have a 50 - 50 percent division of time.

Other differences in the amount of time spent in various activities and major responsibilities are also apparent. State Department leaders spend much less time with superiors, peers and subordinates than the overall population, but twice as much time with other persons. They spend more time examining reports than the overall population and less time writing reports, although most of their individual effort is devoted to observation, inspection and examination. Professional consultation is not only their most time consuming major responsibility, but it also requires twice the amount of time for these leaders than for the overall population.

County leaders spend the most time of any institutional group in personal contacts. They report higher percentages of time spent with peers and other persons than the overall population and a lower percentage of time spent with subordinates. These percentages, as well as their higher percentage of time spent in observation, inspection and examination of programs, reflect their out-of-office activities with school districts in the county. Coordination and professional consultation are also ranked higher by these leaders.

Leaders employed in high school or unified districts have a profile similar to the overall profile. The distribution of their time between personal contacts and individual effort and the distribution of their time between activities within these two categories differ very little. However, they tend to spend more time working with superiors and writing reports.

The profile of junior college leaders is amazingly similar to that of the overall population. Most of their scores do not vary more than one percentage point. This is partially due to the fact that they are the largest institutional subgroup in the sample and they tend to dominate any measure of central tendency.

Leaders in the junior college district offices vary more from the overall population than other junior college leaders since their roles place a greater emphasis on coordination. Although they spend less time in total personal contacts, their percentage of time spent with subordinates is significantly higher. Their only atypical score in individual effort is their higher percentage of time spent in observation, inspection and examination.

Adult school leaders, who report the lowest score for time spent in personal contacts of any institutional subgroup, spend more time consulting with subordinates and attending meetings with outside groups than the overall population. In individual effort, writing reports ranks first in time consumption, although these leaders spend less time at this than the overall population. Adult school leaders also spend more time in personnel activities than the overall population.

The unique student population in correctional institutions undoubtedly influences the profile of correctional leaders. These leaders are second only to county leaders in time spent in personal contacts and they rank observation, inspection and examination higher in time consumption than the overall population. Coordination, which typically demands more time from other leaders, receives a comparatively low score from correctional leaders; but their score for supervision is higher than the overall population.

The type of authority vested in the office of a trade and technical leader also has an effect upon the work profiles. Leaders with the authority to direct and control programs report a higher percentage of time spent in personal contacts and a lower percentage of time spent in individual effort than leaders with the authority only to make recommendations. In addition, those with the authority to direct and control programs spend more time consulting with subordinates and less time consulting with superiors than other trade and technical leaders. A comparison of the amounts of time devoted to major responsibilities shows that they also spend less time coordinating activities and operations and more time supervising the work of subordinates.

CHAPTER III
ORGANIZATIONAL AFFILIATIONS

102/103

CHAPTER III

ORGANIZATIONAL AFFILIATIONS

The extensive participation of trade and technical leaders in professional and non-professional organizations has been generally observed in California although it has remained undocumented. It is also generally believed that those who are upward mobile support their professional organizations and are active in community life. However, this is also undocumented.

In recent years relationships between careers and patterns of social participation have been studied systematically. For example, Harold Wilensky was able to describe and document some relevant differences in the social participation between those who have orderly careers and those who have disorderly careers. In brief, he discovered that "men whose careers are orderly will have stronger attachments to formal associations and the community than men whose job histories are disorderly."¹ He was able to make the following predictions:

1. Men with orderly careers will have more memberships in formal associations and attend more meetings (including church services) than men with disorderly work histories.
2. Men with orderly careers will average more hours a month in all activities of formal associations (excluding church services) than men with disorderly work histories.

¹Harold L. Wilensky, "Orderly Careers and Social Participation: The Impact of Work History on Social Integration in the Middle Mass," American Sociological Review, Vol. 26, No. 4 (1961), p. 530.

3. Men with orderly careers will range widely in their secondary attachments more often than men with disorderly work histories: the participants among the former will be exposed to organizations representing a greater variety of values, interests, and status levels.²

This study of trade and technical leaders does not provide an in-depth analysis of the patterns of organizational participation of trade and technical leaders; although such an analysis is needed. Nevertheless, the general descriptions of organizational memberships provided here make a significant beginning since this information has never been available.

Overall Memberships

Memberships per leader. The inclination of trade and technical leaders to actively participate in professional and social organizations is amply documented by the data in this chapter. Eighty-five percent of the sample report memberships in five or more organizations and forty percent report memberships in ten or more organizations. Only two people report no memberships. Table 3-1 indicates that the highest number of memberships per leader is for local organizations and the lowest number for national organizations.

Comparisons with a previous study of trade and technical teachers reveals that leaders join more organizations than teachers.³ The median number of memberships per leader is 8.9, while the median per teacher is only 5.6. (See Table 3-2.)

²Ibid., p. 532.

³Melvin L. Barlow and Bruce Reinhart, Profiles of Trade and Technical Teachers: Comprehensive Report (Los Angeles: Division of Vocational Education, University of California, 1968), p. 114.

TABLE 3-1
 NUMBER OF MEMBERSHIPS PER LEADER IN NATIONAL, STATE AND
 LOCAL ORGANIZATIONS

Number of Organizations	National		State		Local		Overall	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
0	42	14.69	9	3.15	29	10.14	2	.70
1	63	22.03	46	16.08	30	10.49	3	1.05
2	66	23.08	85	29.72	41	14.34	7	2.45
3	53	18.53	72	25.17	32	11.19	10	3.50
4	35	12.24	48	16.78	39	13.64	22	7.69
5	21	7.34	16	5.59	32	11.19	21	7.34
6	4	1.40	4	1.40	21	7.34	27	9.44
7	2	.70	4	1.40	20	6.99	26	9.09
8			1	.35	20	6.99	28	9.79
9			1	.35	6	2.10	23	8.04
10					7	2.45	17	5.94
11					3	1.05	23	8.04
12					3	1.05	17	5.94
13					3	1.05	12	4.20
14							10	3.50
15							13	4.55
16							2	.70
17							8	2.80
18							7	2.45
19							4	1.40
20 or more							4	1.40
Totals	286	100.01	286	99.99	286	100.01	286	100.01

National memberships. The American Vocational Association and the National Education Association have the highest number of memberships from leaders. (See Table 3-3.) Nearly half of the leaders belong to the AVA (48.6 percent) and the NEA (47.5 percent). One-third (33.9 percent) are members of the National Council of Local Administrators; and nearly one fourth (24.13 percent) are members of the American Industrial Arts Association. Less than one-tenth of the leaders join the Adult Education Association and the American Association of School Administrators.

Leaders join more national organizations than do teachers. For example, the AVA attracts 48.6 percent of the leaders, but only 20.9 percent of the teachers. The NEA attracts 47.6 percent of the leaders, but only 21.6 percent of the teachers. Likewise, only 6.3 percent of the teachers join the AIAA while 24.1 percent of the leaders are members; and only 1.4 percent of the teachers join the AES while 8.0 percent of the leaders are members.

Furthermore, leaders have more opportunities to join a national organization. Memberships in administrative organizations such as the NCLA and the AASA contribute toward the higher median number of national organizations per leader.

State organizations. Seven out of ten leaders (70.3 percent) belong to the California Industrial Education Association and six out of ten (64.0 percent) belong to the California Teachers Association. (See Table 3-4.) Approximately one-fourth of the leaders (25.9 percent) belong to the California Vocational Association and nearly one-fifth

TABLE 3-2

MEDIAN NUMBER OF ORGANIZATIONAL MEMBERSHIPS PER TRADE AND
TECHNICAL TEACHER AND LEADER

Type of Organization	Median Number of Memberships	
	Teachers N = 1587	Leaders N = 286
National	1.0	2.6
State	1.8	3.0
Local	3.6	4.3
Overall	5.6	8.9

TABLE 3-3

DISTRIBUTION OF MEMBERSHIPS IN NATIONAL ORGANIZATIONS

Organization	Frequency	Percent
American Vocational Association	139	48.6
National Education Association	136	47.6
National Council of Local Administrators	97	33.9
American Industrial Arts Association	69	24.1
Adult Education Association of USA	23	8.0
American Association of School Administrators	19	6.6
Other (educational)	37	12.9
Other (non-educational)	49	17.1

(18.5 percent) belong to the California Junior College Administrators Association. Smaller percentages of leaders join the California Association of Secondary School Administrators (11.5 percent), the California Council for Adult Education (11.5 percent), the California Junior College Faculty Association (10.1 percent) and the California Association of School Administrators (6.6 percent).

TABLE 3-4
DISTRIBUTION OF MEMBERSHIPS IN STATE ORGANIZATIONS

Organization	Frequency	Percent
California Industrial Education Association	201	70.3
California Teachers Association	183	64.0
California Vocational Association	74	25.8
California Junior College Administrators Association	53	18.5
California Association of Secondary School Administrators	33	11.5
California Council for Adult Education	33	11.5
California Junior College Faculty Association	29	10.1
California Association of School Administrators	19	6.6
Other (educational)	63	22.0
Other (non-educational)	50	17.5

As with national organizations, the leaders join more state organizations than teachers. Larger percentages of leaders join the

CIEA (70.3 percent of the leaders versus 38.6 percent of the teachers), the CTA (64.0 percent versus 48.1 percent) and the CVA (25.8 percent versus 11.7 percent). Also, the CJCAA, the CASSA and the CASA offer the leaders more opportunities to join a state organization.

Local organizations. Table 3-5 indicates that over half of the leaders (53.9 percent) belong to a professional fraternity; and four out of ten belong to a service club (44.7 percent), an educational or cultural group (42.3 percent), a professional educational organization (41.6 percent), and a religious organization (40.6 percent). About one-third are members of a civic and/or political group (34.6 percent) and about one-fourth work with a youth or children's organization (26.9 percent) and belong to a recreational group (26.6 percent). Military and/or veteran groups are joined by 15.0 percent of the leaders and labor organizations are joined by 13.3 percent.

TABLE 3-5

DISTRIBUTION OF LEADERS WITH ONE OR MORE MEMBERSHIPS
PER TYPE OF LOCAL ORGANIZATION

Type of Organization	Frequency	Percent
Professional fraternities	154	53.9
Service clubs	128	44.7
Educational and cultural	121	42.3
Professional educational	119	41.6
Church and religious	116	40.6
Civic and political	99	34.6
Youth and children	77	26.9
Recreational	76	26.6
Military and Veteran	43	15.0
Labor	38	13.3

In eight out of ten types of local organizations, the leaders have a higher percentage of membership than the teachers. The difference is most apparent in professional fraternities (53.9 percent of the leaders versus 18.2 percent of the teachers) and in service clubs (44.7 percent versus 21.4 percent). Significant differences, however, are also apparent in educational and cultural groups (42.3 percent versus 31.4 percent), religious groups (40.6 percent versus 27.7 percent), civic and political groups (34.6 percent versus 14.7 percent) and in the sponsorship of youth and children's groups (26.9 percent versus 18.5 percent). On the other hand, teachers have a higher percentage of membership than leaders in local professional educational organizations (63.0 percent of the teachers versus 41.6 percent of the leaders) and labor organizations (15.7 percent versus 13.3 percent).

Professional Organizations

It is apparent that professional organizations dominate the organizational affiliations of trade and technical leaders. This is particularly true at the national and state levels. For example, 83.2 percent of the leaders belong to a national professional educational organization and only 17.1 percent belong to other types of national organizations. At the state level, 95.5 percent of the leaders belong to a professional educational organization, but only 17.5 percent belong to other types of organizations. At the local level, only 67.8 percent of the leaders are members of a professional educational organization while 83.2 percent are members of other organizations. However, the fact that leaders often regard memberships in local organizations as part of their professional responsibility undoubtedly accounts for the more numerous memberships in non-professional organizations.

Exclusive Organizations

Trade and technical leaders are active in both exclusive (limited to vocational educators) and inclusive (all educators) organizations. However, the memberships in national and state vocational organizations are more numerous. This pattern differs from the membership pattern of trade and technical teachers. They belong to more inclusive, rather than exclusive, organizations.⁴

"Joiners" and "Non-joiners"

The number of organizational memberships per person varies from 0 to more than 20 for leaders of trade and technical education. This difference in the number of memberships prompted a comparison of those leaders who join only a few organizations with those who join many organizations. For this purpose, the sample was divided into three groups as described in Table 3-6. By comparing these three groups with respect to numerous other variables, certain relationships were discovered.

TABLE 3-6

DISTRIBUTION OF THREE TYPES OF JOINERS

Type of Joiners	Number of Memberships	Frequency	Percent
Low	0 - 4	44	15.0
Medium	5 - 9	125	43.5
High	10 or more	117	41.5

⁴Ibid., Chapter IV.

Teaching background. For example, the number of memberships per leaders varies by type of teaching background. Table 3-7 indicates that a disproportionately larger percentage of the leaders with a trade and technical teaching background are in the low group (i.e., they have less than five memberships) and a disproportionately smaller percentage of these leaders are in the high group (i.e., they have more than ten memberships). On the other hand, leaders with a teaching background in industrial arts and other vocational areas have the opposite trend.

Institutional employment. The number of memberships also varies by type of institutional employment. As indicated in Table 3-8, a disproportionately larger percentage of correctional leaders are in the low group while a smaller percentage are in the high groups. County, adult school, high school and junior college leaders tend to have larger percentages in the medium and high groups.

Educational levels. Table 3-9 reveals that leaders with a bachelor or master degree prior to teaching are over-represented in the high group and under-represented in the low group. On the contrary, those with two years or less of college education prior to teaching are under-represented in the high group and over-represented in the low group.

The same general trend holds true for the educational levels at the start of supervision and/or administration and for the current educational levels. Apparently those who enter the world of education with at least a bachelor degree and those who work toward an academic degree while an educator tend to join more organizations than those who do not acquire as much formal education.

TABLE 3-7
NUMBER OF MEMBERSHIPS PER LEADER BY TYPE OF TEACHING BACKGROUND

Type of Teaching Background	0 - 4 memberships		5 - 9 memberships		10 or more memberships	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Trade and technical	31	70.45	73	58.40	55	47.01
Other vocational	4	9.09	10	8.00	15	12.82
Industrial arts	1	2.27	14	11.20	27	23.08
General education	6	13.64	24	19.20	17	14.53
Other	1	2.27	3	2.40	1	.85
No answer	1	2.27	1	.80	2	1.71
Totals	44	99.99	125	100.00	117	100.00

TABLE 3-8

NUMBER OF MEMBERSHIPS PER LEADER BY TYPE OF INSTITUTIONAL EMPLOYMENT

Type of Teaching Background	0 - 4 memberships		5 - 9 memberships		10 or more memberships	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Adult school	--	----	3	2.40	6	5.13
Correctional	8	18.18	12	9.60	2	1.71
County office	2	4.55	10	8.00	13	11.11
High school	3	6.82	18	14.40	23	19.66
Junior college	14	31.82	49	39.20	52	44.44
State department	2	4.55	11	8.80	3	2.56
Other	1	2.27	5	4.00	3	2.56
No answer	14	31.82	17	13.60	15	12.82
Totals	44	100.01	125	100.00	117	99.99

TABLE 3-9

NUMBER OF MEMBERSHIPS PER LEADER BY LEVELS OF EDUCATION

Educational Level	Prior to Teaching Memberships			At Start of Supervision and/or Administration Memberships			Currently Completed Memberships		
	0 - 4	5 - 9	10 +	0 - 4	5 - 9	10 +	0 - 4	5 - 9	10 +
High school diploma	31.82%	12.00%	11.97%	13.64%	1.60%	.85%	6.82%	2.40%	.85%
Junior college courses	6.82	9.60	2.56	---	4.00	.85	---	1.60	---
Junior college degree	6.82	7.20	2.56	4.55	2.40	.85	2.27	1.60	---
Registered nurse	---	---	.85	---	---	.85	---	---	---
College or university courses (excluding adult or extension)	6.82	15.20	7.69	15.91	16.80	8.55	18.18	13.60	5.13
Bachelor degree	27.27	36.00	48.72	22.73	27.20	23.93	15.91	18.40	7.69
Master degree	15.91	16.00	21.37	36.36	40.00	55.56	47.73	50.40	64.10
Doctor degree	2.27	2.40	---	4.55	4.00	4.27	4.55	10.40	17.95
No answer	2.27	1.60	4.27	2.27	4.00	4.27	4.55	3.20	4.27
Totals	100.00%	100.00%	99.99%	100.01%	100.00%	99.98%	100.01%	100.00%	99.99%

Work experience. The relationship of work experience to the number of organizational memberships is less clearly established. According to Table 3-10, leaders with more than fifteen years of work experience are over-represented in the low group while those with less than fifteen years are over-represented in the middle and high group. Evidently the longer an educator spends in industry before entering the world of education, the less inclined he is to join many organizations.

Religion. Trade and technical leaders with Protestant religious affiliations tend to join more organizations than other leaders. As indicated in Table 3-11, they tend to be over-represented in the middle and high groups while leaders with Catholic, Jewish and other affiliations tend to be under-represented in these groups. This pattern was also found in the previous study of trade and technical teachers.⁵

Other variables. Two other relationships should also be mentioned. Leaders tend to have more organizational memberships if they have more credentials (see Table 3-12) and also if their full-time salary is more than \$17,000 a year (see Table 3-13).

Summary

The study of organizational memberships among trade and technical leaders in California lends credence to the general observation and belief that vocational educators with upward mobile (orderly) career patterns give greater support to organizations (both professional and

⁵Ibid., pp. 122-124.

TABLE 3-10
NUMBER OF MEMBERSHIPS PER LEADER BY YEARS OF WORK EXPERIENCE

Years of Work Experience	0 - 4 memberships		5 - 9 memberships		10 or more memberships	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
None	4	9.09	14	11.20	7	5.98
1 - 4	4	9.09	13	10.40	17	14.53
5 - 9	7	15.91	27	21.60	32	27.35
10 - 14	12	27.27	42	33.60	36	30.77
15 - 19	8	18.18	13	10.40	12	10.26
20 - 24	4	9.09	7	5.60	4	3.42
25 - 29	1	2.27	1	.80	3	2.56
30 - 34	--	----	1	.80	1	.85
35 - 39	1	2.27	1	.80	--	----
No answer	3	6.82	6	4.80	5	4.27
Totals	44	99.99	125	100.00	117	99.99

TABLE 3-11

NUMBER OF MEMBERSHIPS PER LEADER BY TYPE OF RELIGIOUS AFFILIATION

Type of Religious Affiliation	0 - 4 memberships		5 - 9 memberships		10 or more memberships	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Catholic	5	11.36	19	15.20	10	8.55
Jewish	1	2.27	1	.80	1	.85
Protestant	28	63.64	95	76.00	93	79.49
Other	3	6.82	6	4.80	4	3.42
None	4	9.09	3	2.40	2	1.71
No answer	3	6.82	1	.80	7	5.98
Totals	44	100.00	125	100.00	117	100.00

TABLE 3-12

NUMBER OF MEMBERSHIPS PER LEADER BY NUMBER OF CREDENTIALS PER LEADER

Number of Credentials	0 - 4 memberships		5 - 9 memberships		10 or more memberships	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
One	2	4.55	6	4.80	2	1.71
Two	18	40.91	28	22.40	20	17.09
Three	11	25.00	36	28.80	20	17.09
Four	3	6.82	28	22.40	23	19.66
Five	4	9.09	14	11.20	21	17.95
Six	3	6.82	5	4.00	10	8.55
Seven	1	2.27	4	3.20	6	5.13
Eight	1	2.27	3	2.40	4	3.42
Nine	1	2.27	1	.80	5	4.27
Ten or more	--	----	--	----	6	5.13
Totals	44	100.00	125	100.00	117	100.00



TABLE 3-13

NUMBER OF MEMBERSHIPS PER LEADER BY ANNUAL FULL-TIME SALARY

Annual Salary	0 - 4 memberships		5 - 9 memberships		10 or more memberships	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
\$10,000 - 10,999	--	---	1	.80	--	---
11,000 - 11,999	2	4.55	4	3.20	2	1.71
12,000 - 12,999	6	13.64	9	7.20	7	5.98
13,000 - 13,999	4	9.09	22	17.60	9	7.69
14,000 - 14,999	8	18.18	22	17.60	9	7.69
15,000 - 15,999	8	18.18	24	19.20	15	12.82
16,000 - 16,999	4	9.09	11	8.80	9	7.69
17,000 - 17,999	3	6.82	7	5.60	14	11.97
18,000 - 18,999	2	4.55	7	5.60	20	17.09
19,000 - 19,999	3	6.82	4	3.20	8	6.84
20,000 - 20,999	1	2.27	7	5.60	7	5.98
21,000 - 21,999	--	---	--	---	4	3.42
22,000 - 22,999	--	---	1	.80	5	4.27
23,000 - 23,999	--	---	--	---	1	.85
24,000 - 24,999	--	---	1	.80	--	---
25,000 and more	--	---	2	1.60	2	1.71
No answer	3	6.82	3	2.40	5	4.27
Totals	44	100.01	125	100.00	117	99.98

1

non-professional). For example, those who have advanced to leadership positions in trade and technical education have more organizational memberships than teachers of trade and technical education. This pattern holds true for national organizations (median number of memberships per person is 2.6 for leaders versus 1.0 for teachers), state organizations (median of 3.0 versus 1.8) and local organizations (median of 4.3 versus 3.6) as well as total memberships (median of 8.9 versus 5.6). The number of memberships per leader is increased partially because they have the opportunity to join organizations which are limited to administrators. However, the leaders also join more organizations which are available to both teachers and administrators.

The national organizations with the largest percentages of membership from trade and technical leaders are the AVA (48.6 percent), the NEA (47.5 percent), the NCLA (33.9 percent) and the AIAA (24.13 percent). The most numerous memberships at the state level are for the CIEA (70.3 percent), the CTA (63.9 percent), the CVA (25.9 percent) and the CJCA (18.5 percent). At the local level, the most common types of memberships are for professional fraternities (53.9 percent), service clubs (44.7 percent), educational and cultural groups (42.3 percent), professional educational organizations (41.6 percent), church and religious organizations (40.6 percent) and civic and political associations (34.6 percent).

As do trade and technical teachers, the leaders belong to more professional organizations than non-professional organizations at the state and national levels. However, unlike teachers, they join more

exclusive (limited to vocational educators) organizations than inclusive (all educators) organizations.

When the number of organizational memberships per leader are categorized by low (less than five memberships), medium (from five to nine memberships) and high (ten or more memberships) and compared with other variables, the following characteristics are found:

Leaders with a trade and technical teaching background are inclined to join fewer organizations and leaders with an industrial arts or other vocational background are inclined to join more organizations.

Correctional leaders tend to join fewer organizations and public school leaders (high school, junior college and adult school) and county leaders tend to join more organizations.

Those who begin teaching with at least a bachelor degree and those who work for academic degrees while an educator are more inclined to join organizations than those with less formal education.

Leaders with fifteen or more years of work experience are less inclined to join organizations than those with less work experience.

Those with Protestant religious affiliations tend to join more organizations than others.

Trade and technical leaders tend to have more organizational memberships if they have more credentials and also if their full-time salary is more than \$17,000 a year.

CHAPTER IV
MAJOR ISSUES

3

125

CHAPTER IV
MAJOR ISSUES

The utilization and conservation of our human resources is a major concern of our nation's leadership. Educational programs play a vital role in this. However, it has become evident that planning and direction is needed to coordinate educational programs with manpower needs. Those who formulate policies and direct this coordination must be aware of several major issues now plaguing vocational and technical education. These issues must be understood and suggestions for their resolution assessed.

Fifteen major issues were presented to the trade and technical leaders in the Major Issues Questionnaire (see Appendix). Nine of the issues were identified by Grant Venn in his book, Man, Education and Work.¹ Six additional issues were identified from individual interviews with thirty leaders in California. The ten suggestions for the solution of each major issue were also formed from the comments of the thirty interviewees.

In the MIQ, the leaders were requested to rate the suggestions offered for the solution of a major issue on a five point scale where 1 represented least helpful and 5 represented most helpful. The mean scores for all the items were then grouped as follows:

¹Grant Venn, Man, Education and Work (Washington: American Council on Education, 1964), Ch. 7.

<u>Description</u>	<u>Mean .</u>
Very high	4.36 or above
High	4.15 - 4.35
Substantial	4.03 - 4.14
Weak	3.72 - 4.02
Poor	3.71 or less

This grouping is used throughout this chapter to analyze the data and standardize the descriptions.

It should be kept in mind that six of the major issues and all of the suggestions to solve the issues were identified by trade and technical leaders and also rated by trade and technical leaders. Although the limitations of this approach are easily recognized, the values are equally apparent. The MIQ measures the thoughts of those who actually have the responsibility for planning and implementing trade and technical programs at the state, county and local levels.

Education and Social Status

Grant Venn asks the question, "How can vocational and technical education achieve the status and prestige it needs to perform its proper and vital role in a technological society?"² This is a question that is being asked by vocational educators throughout California.

Social scientists have given us ample evidence that differential social status is awarded to those persons identified with different

²Ibid., p.

occupations. Furthermore, the education identified with different occupations also has varying social status. The problem for vocational educators is that the occupations for which they provide training are not given high status in the social structure of our society; and the education for these occupations also has low status.

The lack of trained craftsmen and technicians for the manpower needs of our nation is a disfunctional aspect of this status system. Another disfunctional aspect is the human cost to high school graduates and college drop-outs who have no vocational training to fit them for employment.

The problem has no simple solution, but the trade and technical leaders in California have some specific suggestions. The scores for these suggestions are recorded in Tables 4-1A and 4-1B. Table 4-1A and Table 4-1B reports the scores by the type of institutional employment of the leaders.

It is evident from the suggestions that leaders feel that providing information about vocational education is the solution to enhancing its status and prestige.³ Four target groups are identified in their strongest suggestions--counselors, students, parents and the public.

³Whether providing information will actually change the status structure is not within the scope of this research. It is our purpose here to identify what vocational leaders suggest to deal with this problem. The effect on changing behavior patterns, attitudes and values must be left to social scientists.

TABLE 4-1A

SUGGESTIONS CONCERNING STATUS AND PRESTIGE PROBLEMS
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Orient counselors to the values of vocational education for students.	4.58	0.66	4.56	0.60	4.66	0.59	4.33	0.79	4.54	0.76
Establish positive attitudes toward work in pre-vocational education at the elementary and junior high levels.	4.27	1.00	4.16	0.95	4.32	1.03	4.25	0.91	4.04	1.15
Offer parents information about the advantages of vocational education.	4.19	0.86	4.11	1.06	4.27	0.73	4.17	0.85	4.04	1.04
Publicize advantages (financial rewards, style of life, etc.) of graduates with occupational training.	4.08	0.95	3.97	0.81	4.22	0.96	3.92	1.05	3.92	0.93
Offer programs of vocational orientation for the total student body.	4.04	1.00	3.90	1.05	4.17	0.94	3.89	1.17	3.92	0.89
Publicize successful vocational programs via radio and television.	4.03	0.91	4.00	1.00	4.02	0.90	4.11	0.82	4.00	1.02

TABLE 4-1A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Promote visitation of vocational programs by parents and public.	3.91	1.01	3.92	1.04	3.95	1.00	3.92	1.00	3.77	1.11
Participate in many community organizations as a professional vocational educator.	3.83	0.99	3.64	1.16	3.98	0.90	3.56	1.03	3.77	1.11
Establish area councils to develop regional strategies to promote vocational education.	3.69	1.08	3.72	1.05	3.76	1.08	3.53	1.16	3.54	1.17
Maintain speakers' bureau to disseminate information about vocational education.	3.32	1.08	3.23	1.09	3.36	1.11	3.03	1.14	3.58	0.86

TABLE 4-1B

SUGGESTIONS CONCERNING STATUS AND PRESTIGE PROBLEMS
BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Orient counselors to the values of vocational education for students.	4.58	0.66	4.38	0.74	4.53	0.61
Establish positive attitudes toward work in pre-vocational education at the elementary and junior high levels.	4.27	1.00	4.50	1.07	4.32	0.95
Offer parents information about the advantages of vocational education.	4.19	0.86	3.63	0.74	3.68	1.00
Publicize advantages (financial rewards, style of life, etc.) of graduates with occupational training.	4.08	0.95	3.88	0.64	4.05	0.97
Offer programs of vocational orientation for the total student body.	4.04	1.00	3.63	1.06	4.16	1.01
Publicize successful vocational programs via radio and television.	4.03	0.91	3.88	0.99	3.79	1.18
Promote visitation of vocational programs by parents and public.	3.91	1.01	4.75	0.46	3.79	1.08
Participate in many community organizations as a professional vocational educator.	3.83	0.99	3.50	1.07	3.79	1.13

TABLE 4-1B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.59	0.67	4.41	0.74	4.69	0.54	4.62	0.65	4.38	0.92
4.36	1.05	4.32	0.91	4.20	1.04	4.33	1.15	4.88	0.35
4.41	0.80	4.05	0.89	4.26	0.82	4.54	0.52	4.50	0.76
4.05	0.90	3.98	0.94	4.11	0.95	4.31	1.03	4.50	0.76
4.32	0.72	4.00	1.10	3.98	0.93	4.08	1.26	4.38	0.74
4.32	0.89	3.83	0.92	4.06	0.84	4.15	0.99	3.63	1.06
3.86	1.08	4.07	0.93	3.80	0.96	3.46	1.05	4.13	1.13
3.91	1.11	3.93	0.79	3.79	1.01	3.77	1.12	4.25	1.04

TABLE 4-1B (continued)

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Establish area councils to develop regional strategies to promote vocational education.	3.69	1.08	3.29	1.11	3.33	1.50
Maintain speakers' bureau to disseminate information about vocational education.	3.32	1.08	2.75	1.04	3.22	1.11

TABLE 4-1B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
3.64	1.26	3.71	1.03	3.81	0.98	3.69	1.25	3.75	1.17
3.14	1.35	3.41	1.12	3.42	0.99	2.92	0.86	3.57	1.33

A very high mean score (4.58) is given to a suggestion to orient counselors to the values of vocational education for students.⁴ It also implies that counselors are presently not oriented to the values of vocational education. A previous study of trade and technical teachers also identified the counselors as the key people in the development of vocational education and suggested that orientation and in-service training be established for them.⁵

The suggestion to improve the status and prestige of vocational education by focusing on the elementary and junior high school students has a high mean (4.27). Implicit in this suggestion is the understanding that attitudes of social status can be more favorably conditioned by teachers at the elementary and junior high grade levels.

The leaders do not stop with the elementary and junior high students. They also call for programs of vocational orientation for the total student body at the secondary and post-secondary levels (substantial mean of 4.04). Vocational educators have not had access to the total student body and they feel that all students should have information about vocational education.

Providing vocational information to parents receives a high score (4.19) since it is acknowledged that parents often resist the aspirations of their children to enter vocational and technical fields

⁴The term "very high" indicates a mean score of 4.36 or above as discussed previously in this chapter.

⁵Melvin L. Barlow and Bruce Reinhart, Profiles of Trade and Technical Teachers: Comprehensive Report (Los Angeles: Division of Vocational Education, UCLA, 1968), pp. 146-148.

instead of the professions. However, promoting visitation programs for parents receives a weak score (3.91). We suspect that the visitation programs receive less emphasis because of the difficulty in getting parents to the schools.

Publicity for general consumption also receives substantial support (mean of 4.08). The leaders feel that the advantages of graduating with occupational training should be publicized. They feel that if the financial rewards and the style of life of their graduates were known, there would be an adjustment in the social ranking of their occupations and consequently their training. They also call for radio and television publicity with a substantial score of 4.03.

Four suggestions received weak or poor scores. Evidently the leaders place less emphasis on the value of parental visitation, participation of vocational educators in community organizations, establishment of area councils to develop regional strategies and organization of speakers' bureaus.

Differences in suggestions concerning status and prestige by teaching background of the leaders. Leaders with a teaching background in general education evidently prefer to deal with this problem by orienting counselors, parents and students at the elementary and junior high school levels to the values of vocational education. A very high score (4.56) is awarded to the suggestion to orient counselors; and a high score (4.16) is awarded for establishing positive attitudes toward work in pre-vocational education at the elementary and junior high school levels. These leaders would also like to offer parents information about the advantages of vocational education (substantial score of 4.11).

Leaders with a background in trade and technical teaching also have a very high score (4.66) for orienting counselors and a high score for working with students (4.32). However, they also have high scores for offering information to parents (4.27), publicizing advantages of vocational training for graduates (4.22) and offering orientation programs for the entire student body (4.17). A substantial score of 4.02 is awarded to the suggestion for radio and television publicity.

Leaders with a background in industrial arts give high scores to the suggestions to orient counselors (4.33), work with elementary and junior high school students (4.25) and offer information to parents (4.17). They also have a substantial score (4.11) for radio and television publicity.

The only suggestion which receives a very high score from leaders with a background in other vocational areas is the suggestion to orient counselors (4.54). The second highest scores are for working with elementary and junior high school students and offering parents information (both substantial scores of 4.04).

Differences in suggestions concerning status and prestige by institutional employment of the leaders. Adult school leaders have a very high score for three suggestions--visitation programs by the parents and the public (4.73), working with elementary and junior high school students (4.50) and orienting counselors to the values of vocational education (4.38).

Correctional leaders also award a very high score (4.53) for orienting counselors. However, they give only high scores to working with

students (4.32) and offering orientation programs to the total student body (4.16). They would also like to publicize the advantages of occupational training for graduates (substantial score of 4.05).

County leaders give very high scores to the suggestions for counselor orientations (4.59), working with elementary and junior high school students (4.36) and offering information to parents (4.41). They give high scores to offering orientation programs to the total student body (4.32) and publicity over radio and television (4.32). They also call for publicizing the advantages of occupational training for graduates with a substantial score of 4.05.

High school leaders award a very high score to orienting counselors (4.41), and they give a high score to working with elementary and junior high students (4.32). They also call for offering parents information with a score of 4.05 and promoting visitation of vocational programs by the parents and the public with a score of 4.07.

Junior college leaders award a very high score (4.69) to orientations for counselors and give high scores to working with elementary and junior high students (4.20) and offering parents information (4.26). They also call for publicizing the advantages of occupational training for graduates with a score of 4.11 and publicizing successful programs on radio and television with a score of 4.06.

State leaders award very high scores to orientation for counselors (4.62) and information for parents (4.54). They give high scores to working with elementary and junior high school students (4.33), publicizing the advantages of vocational training for graduates (4.31), and publicizing vocational education through radio and television (4.15).

Role of the Federal Government

The role of the Federal Government on vocational education at the state and local levels is a much discussed topic for leaders of vocational education in California. All of the leaders in this study, with the exception of the correctional leaders, play some part in the administration and/or supervision of federally reimbursed programs.

The MIQ was developed and administered shortly after the Advisory Council on Vocational Education released its report. The Staff Director of the Council had presented the recommendations of the Council to several audiences of vocational educators in California by the time this instrument was administered. The Amendments to the Vocational Education Act of 1963 (P.L. 90-576) had not become a reality. Therefore, it is not surprising that the scores on this section of the MIQ have a wider range than most other sections in the questionnaire. Some of the items in this section had been discussed extensively for years (e.g., increased flexibility for vocational programs) but leaders and these topics did not have the benefit of extensive discussion. The timing of this questionnaire undoubtedly had an influence upon the scores.

Increased flexibility of vocational programs to meet local needs received the highest overall score (4.58) in Tables 4-2A and 4-2B. The problem of flexibility was also identified by Grant Venn as a problem in the Federal support of vocational education. States Venn, "Over the years Federal Policy has been one of categorical support for the establishment

of expansion of given educational programs as the times seemed to necessitate."⁶

The shifting of priorities in the federal reimbursement of vocational education undoubtedly influenced the very high score (4.41) given the suggestion to maintain continuity of federal support. Vocational educators found it difficult to develop and maintain programs under such conditions.

The leaders also give a high score (4.29) to allocating funds to the districts earlier in the year. At the present time leaders must proceed on projects for which federal funding is needed but not assured.

More money is understandably a highly rated suggestion (4.23). Trade and technical education requires more financial support per student than academic education and the current need for expanded facilities and programs requires funding beyond that attainable at the local level.

A number of suggestions for the administration of vocational education at the national level are given weak or poor scores. A weak overall mean score of 3.97 is given to the combining of all vocational legislation under one act. But local and state leaders are interested in simplifying the administration of reimbursed programs, modernizing the administration of vocational education at the state level, and obtaining a clearer understanding of the total objectives of vocational education legislation.

⁶Venn, op. cit., pp. 155.

TABLE 4-2A

SUGGESTIONS CONCERNING THE ROLE OF FEDERAL GOVERNMENT
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Increase flexibility of vocational programs to meet local needs.	4.58	0.77	4.50	0.94	4.71	0.65	4.43	0.81	4.44	0.71
Maintain continuity of federal support.	4.41	0.85	4.53	0.65	4.33	0.93	4.37	0.81	4.69	0.68
Allocate funds to the districts earlier in the year.	4.29	1.04	4.14	1.10	4.33	1.07	4.34	1.08	4.31	0.84
Increase federal appropriations to the states.	4.23	1.00	4.38	0.82	4.11	1.10	4.28	0.88	4.54	0.90
Combine all vocational legislation administered by the Office of Education into one act.	3.97	1.35	3.94	1.35	4.01	1.39	4.09	1.16	3.50	1.53
Maintain continuous national study of vocational education.	3.72	1.06	3.75	1.05	3.73	1.02	3.81	1.31	3.65	1.06
Maintain a National Advisory Committee on vocational education.	3.72	1.17	3.31	1.28	3.92	1.13	3.69	1.25	3.54	0.98

TABLE 4-2A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Establish a Department of Education and Manpower Development at the Cabinet level.	3.56	1.38	3.21	1.45	3.79	1.31	3.61	1.46	3.13	1.32
Transfer the responsibility for identifying manpower needs from the Department of Labor to the Department of Health, Education and Welfare.	3.13	1.46	2.94	1.48	3.15	1.48	3.23	1.48	3.21	1.38
Provide federal funds to construct and operate residential vocational schools.	2.86	1.40	2.86	1.54	2.88	1.39	2.86	1.29	2.56	1.39

TABLE 4-2B

SUGGESTIONS CONCERNING THE ROLE OF FEDERAL
GOVERNMENT BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Increase flexibility of vocational programs to meet local needs.	4.58	0.77	5.00	0.00	4.58	0.61
Maintain continuity of federal support.	4.41	0.85	4.38	0.74	3.68	1.11
Allocate funds to the districts earlier in the year.	4.29	1.04	4.63	0.52	3.89	1.08
Increase federal appropriations to the states.	4.23	1.00	4.71	0.49	3.50	1.25
Combine all vocational legislation administered by the Office of Education into one act.	3.97	1.35	3.43	1.99	3.79	1.47
Maintain continuous national study of vocational education.	3.72	1.06	3.25	0.71	3.53	1.12
Maintain a National Advisory Committee on vocational education.	3.72	1.67	3.88	0.99	3.84	1.07
Establish a Department of Education and Manpower Development at the Cabinet level.	3.56	1.38	3.50	1.97	3.63	1.34
Transfer the responsibility for identifying manpower needs from the Department of Labor to the Department of Health, Education and Welfare.	3.13	1.46	3.67	1.75	2.26	1.48
Provide federal funds to construct and operate residential vocational schools.	2.86	1.40	3.86	1.07	3.74	1.19

TABLE 4-2B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.27	1.03	4.34	0.81	4.65	0.72	4.23	0.93	4.86	0.38
4.45	0.74	4.56	0.71	4.52	0.77	4.31	0.85	4.71	0.76
4.14	1.17	4.51	0.78	4.15	1.20	4.33	0.98	4.86	0.38
4.45	0.80	4.55	0.71	4.19	1.02	4.00	1.15	4.71	0.49
3.73	1.64	4.10	1.17	3.96	1.33	4.15	1.34	4.86	0.38
3.82	1.33	3.90	0.83	3.72	1.03	3.54	1.39	4.29	0.95
3.86	1.13	3.95	1.11	3.49	1.22	3.54	1.39	4.43	0.79
3.76	1.30	3.62	1.39	3.36	1.41	4.38	1.12	3.71	1.60
3.00	1.45	3.36	1.48	3.06	1.44	3.25	1.14	3.00	1.41
2.91	1.23	3.55	1.34	2.49	1.35	2.54	1.45	2.43	1.13

They also called for a continuous national study of vocational education with a weak score of 3.72. The need for this information is apparent to many leaders. Virtually none is being collected now. The collection and evaluation of data is needed concerning vocational students, benefits of program to students, future vocational education needs, placement, follow-up, etc.

Trade and technical leaders also support the maintenance of a National Advisory Committee of Vocational Education as established in the Vocational Education Act of 1963 with a weak score of 3.72. This committee provides information to the Commissioner of Education on policy matters concerning vocational education.

The establishment of a Department of Education and Manpower Development at the Cabinet level received poor support (3.56). The Advisory Council on Vocational Education stated,

The Department should have responsibility for all Federal programs of public education including vocational and technical education. It would serve as a coordinating and central funding agency for the occupational education and training of youth and adults and for remedial work and training programs.⁷

No single Federal agency is currently assigned to coordinate these broad efforts of manpower training and education.

The suggestion to provide federal funds for residential vocational schools also received poor support (2.86) by the leaders in California,

⁷Advisory Council on Vocational Education, Department of Health, Education and Welfare, The Bridge Between Man and His Work (Washington: U. S. Government Printing Office, 1968), p. 372.

although the idea did not have much discussion at the time of the survey.

The mixed feelings about the problems of working with both the Department of Labor and the Department of Health, Education and Welfare is evident in the score (3.13) of the suggestion to transfer responsibility for identifying manpower needs. Although problems exist the leaders do not indicate a consensus on this suggestion.

Role of the Federal Government by teaching background. Leaders with teaching backgrounds in general education award very high scores to continuity of federal support (4.53), increased flexibility (4.50), and increased appropriations to the states (4.38). They also call for earlier allocation of funds with a substantial score of 4.14.

Leaders with backgrounds in trade and technical education give notable scores to four suggestions. They award a very high score (4.71) to the suggestion of increasing flexibility, and the same high score (4.33) to maintaining continuity of federal support and allocating funds earlier. They also call for increased federal appropriations to the states with a substantial score of 4.11.

Leaders with industrial arts backgrounds award very high scores to the suggestion of increased flexibility (4.43) and continuity (4.37). They give high scores to earlier allocations of funds (4.34) and increased appropriations to the states (4.28). They also call for combining all legislation administered by the Office of Education into one act by a substantial score of 4.09.

Leaders with other vocational teaching backgrounds award very high scores for continuity (4.69), increased federal appropriations to the states (4.54), and increased flexibility (4.44). They also call for an earlier allocation of funds with a high score of 4.31.

Role of the Federal Government by type of institution. The adult leaders award very high scores to five suggestions and relegate the remainder to weak and poor scores. The four very highly scored suggestions call for increased flexibility (5.00), increased federal appropriations to the states (4.71), earlier allocations of funds (4.63), and continuity of federal support (4.38).

Correctional leaders, who are not eligible for federal reimbursement of vocational programs, call for increased flexibility with a very high score of 4.58, and give all other suggestions weak or poor scores.

County leaders call for increased federal support to the states and continuity with the same very high score of 4.45, request increased flexibility with a high score of 4.27, and give a substantial score (4.14) to the earlier allocation of funds.

High school leaders award very high scores to continuity of federal support (4.56), increased federal appropriations to states (4.55) and the earlier allocation of funds (4.51). They also call for increased flexibility with a high score (4.34) and combining legislation with a substantial score of 4.10.

Increased flexibility and continuity of federal support are awarded very high scores of 4.65 and 4.52 respectively by junior college

leaders. But they also call for increased federal appropriations and the earlier allocation of funds with scores of 4.19 and 4.15 respectively.

State leaders stand out from all of the other groups with a very high score (4.38) for establishing a Department of Education and Manpower Development at the Cabinet level. They also call for the earlier allocation of funds with a score of 4.33, continuity of support with a score of 4.31, flexibility to meet local needs with a score of 4.23 and combining legislation with a score of 4.15.

Isolation of Vocational Education

Trade and technical educators in particular and vocational educators in general are aware of the problem of isolation. The separation of vocational education from academic education in the school systems is sometimes obvious and at other times less apparent although real. Often the separation is made by establishing single-purpose (vocational) schools. But the problem of isolation is not necessarily solved by establishing comprehensive institutions. Separate facilities often isolate vocational education on a "comprehensive" campus. Academic faculties and vocational faculties sometimes become separate subcultures within schools. Separate student subcultures also develop.

The reasons for the isolation are numerous and complex. Since they are beyond the scope of this research they will not be identified and described here. It is sufficient to acknowledge with Grant Venn that the present situation has an extensive history. States Venn,

Vocational and technical education have been isolated from the mainstream of education by Federal statute, by local and state administration, by professional organizations, and by public preference...even today occupational and general educators are split on proposals to expand and improve vocational and technical education.⁸

The suggestions offered by the trade and technical leaders and rated by them in Tables 4-3A and 4-3B are representative though not exhaustive. Two of the suggestions concern information dissemination; two rely on administrative decision-making; four look to the faculty; one is concerned with students; and another makes a direct attack on the problem.

As in the status section, trade and technical leaders have faith in the dissemination of information about vocational education. "Publicize vocational programs through all available media" is awarded a very high score (4.40) and information programs for parents is given a substantial score (4.13).

Administrative action is also considered a means to the solution of this problem. The establishment of policy and commitment for vocational education through school boards and decisions to keep vocational education in comprehensive institutions receive scores of 4.37 and 4.15 respectively.

Suggestions which involve working with the faculty are weakly or poorly scored. Promoting interdisciplinary experimentation and team teaching with academic and vocational teachers receive weak scores of 3.87 and 3.86 respectively. However, interchanging academic and vocational staffs

⁸Venn, op. cit., p. 141.

and requiring teachers (and administrators) to expose themselves to a broad range of courses are poorly scored at 3.28 and 3.25 respectively.

The concern for more student exposure to vocational education prompts the suggestion to relax course requirements to provide opportunity for students to take a greater variety of vocational courses. However, it receives a poor score of 3.52 from the overall population.

The direct approach to attack the problem through workshops, seminars, and staff meetings receives a weak score of 3.74. Such an approach is based on the assumption that the problem should be discussed openly.

Isolation by teaching background. Leaders with teaching backgrounds in general education call for vocational policy from school boards and publicity for vocational education through all available media with the same high score of 4.31. They also give substantial support to information programs for parents (4.14) and keeping vocational education in comprehensive schools (4.11).

Leaders with trade and technical teaching backgrounds award very high scores to publicity (4.46) and school board policy (4.45), call for information programs for parents with a high score (4.15), and give substantial support to keeping vocational education in comprehensive schools (4.07).

Leaders with industrial arts backgrounds give their highest score (4.37) to keeping vocational education in comprehensive schools. They call for publicity, policy, and interdisciplinary experimentation with scores of 4.36, 4.31 and 4.18 respectively. They also give substantial support (4.08) to information programs for parents.

TABLE 4-3A

SUGGESTIONS CONCERNING THE PROBLEM OF ISOLATION OF VOCATIONAL EDUCATION
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Publicize vocational programs through all available media.	4.40	0.82	4.31	0.80	4.46	0.84	4.36	0.68	4.44	0.87
Establish policy and commitment for vocational education through school boards.	4.37	0.80	4.31	0.99	4.45	0.78	4.31	0.62	4.25	0.74
Keep vocational education in comprehensive schools.	4.15	1.06	4.11	0.96	4.07	1.16	4.37	0.91	4.44	0.77
Maintain vocational information programs for parents.	4.13	0.92	4.14	0.91	4.15	0.91	4.08	0.97	4.16	0.80
Promote interdisciplinary experimentation.	3.87	1.08	3.86	1.14	3.73	1.10	4.18	1.01	4.24	0.97
Establish more team teaching combining both academic and vocational teachers.	3.86	1.12	3.86	1.08	3.98	1.07	3.83	1.32	3.54	1.10
Establish workshops, seminars and staff meetings to attack the problem of isolation.	3.74	1.09	3.37	1.06	3.79	1.12	3.89	1.18	4.00	0.72

TABLE 4-3A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Relax course requirements to provide opportunity for students to take a greater variety of vocational courses.	3.52	1.37	3.63	1.33	3.50	1.44	3.69	1.30	3.48	1.23
Interchange academic and vocational instructional staffs between all areas wherever feasible.	3.28	1.31	3.50	1.40	3.28	1.32	3.03	1.34	3.48	1.16
Require all teachers and administrators to take courses in a broad range of subjects.	3.25	1.30	3.00	1.48	3.42	1.21	3.03	1.30	3.28	1.28

TABLE 4-3B

SUGGESTIONS CONCERNING THE PROBLEM OF ISOLATION OF VOCATIONAL
EDUCATION BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Publicize vocational programs through all available media.	4.40	0.82	4.25	0.89	4.00	1.00
Establish policy and commitment for vocational education through school boards.	4.37	0.80	4.75	0.46	4.47	0.51
Keep vocational education in comprehensive schools.	4.15	1.06	4.25	0.71	3.63	1.26
Maintain vocational information programs for parents.	4.13	0.92	3.88	1.13	3.74	0.81
Promote interdisciplinary experimentation.	3.87	1.08	3.71	1.60	3.17	1.04
Establish more team teaching combining both academic and vocational teachers.	3.86	1.12	3.29	1.25	3.74	1.28
Establish workshops, seminars and staff meetings to attack the problems of isolation.	3.74	1.09	3.88	0.83	3.74	1.19
Relax course requirements to provide opportunity for students to take a greater variety of vocational courses.	3.52	1.37	4.00	1.41	2.79	1.47
Interchange academic and vocational instructional staffs between all areas wherever feasible.	3.28	1.31	3.88	1.13	2.89	1.33
Require all teachers and administrators to take courses in a broad range of subjects.	3.25	1.30	2.86	1.35	3.00	1.63

TABLE 4-3B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.59	0.73	4.25	0.81	4.46	0.87	4.38	0.77	4.71	0.49
4.23	1.02	4.30	0.82	4.39	0.84	4.15	0.80	4.57	0.53
4.59	0.59	3.93	1.16	4.19	1.08	3.85	1.21	4.43	0.53
4.18	0.96	4.10	0.90	4.17	0.97	3.69	0.85	4.29	0.95
4.09	1.07	3.82	1.00	3.92	1.02	3.92	1.32	4.14	1.46
3.91	1.27	3.92	1.09	3.78	1.08	4.23	0.60	4.71	0.49
3.64	1.29	3.95	0.81	3.65	1.07	3.08	1.44	4.17	0.75
3.91	1.07	3.75	1.19	3.37	1.47	3.54	1.27	3.57	1.13
3.32	1.21	3.44	1.21	3.15	1.32	3.54	1.33	3.29	1.25
3.18	1.30	3.15	1.17	3.29	1.30	3.15	1.21	3.57	1.40

Leaders with backgrounds in other vocational areas give the same very high score (4.44) to publicity and comprehensive schools. Policy from school boards, interdisciplinary experimentation and information programs for parents are highly scored at 4.25, 4.24 and 4.16 respectively.

Isolation by type of institution. Adult leaders give notable scores to three suggestions. They call for the establishment of policy on vocational education by school boards with a very high score of 4.75. They also urge more publicity and the maintenance of vocational education in comprehensive schools with the same score of 4.25.

Correctional leaders urge the establishment of school board policy on vocational education with a very high score of 4.47 and score all other suggestions with weak or poor scores.

County leaders call for publicity and comprehensive schools with the same high score of 4.59, and they request policy on vocational education from school boards with a score of 4.23, and information programs for parents with a score of 4.18. They also give interdisciplinary experimentation substantial support (4.09).

High school leaders limit their notable scores to policy from school boards (4.30), publicity (4.25) and information programs for parents (4.10).

Junior college leaders call for publicity and policy with very high scores of 4.39 and 4.46 respectively. They also want to keep vocational education in comprehensive schools (4.19) and maintain vocational information programs for parents (4.17).

State leaders request publicity with a very high score of 4.38, and urge team teaching and the establishment of school board policy with scores of 4.23 and 4.15 respectively.

Quality Vocational Staff

Facing the problem of maintaining a qualified staff of teachers is an ever present problem for leaders of trade and technical education. The problem of teacher recruitment is compounded by the necessity of finding journeymen in the trade and technical areas of the world of work who have potential abilities to develop teaching skills. Furthermore, both vocational and teaching competence must be maintained while teaching. Tables 4-4A and 4-4B report the scores given to suggestions for maintaining a qualified staff of teachers.

The promotion of in-service training for teachers is clearly the most valued suggestion in this section (4.40). (The leaders concur with the teachers in this need.)⁹ The leaders also support increasing salaries by equating a year of work experience with a year of teaching experience on the salary schedules with a high score (4.24). But they are also concerned with the teachers who drop out, and give substantial support to concentrating on teacher guidance during the early period of teaching to assist teachers in making the transition from the world of work to the world of education.

⁹See Barlow and Reinhart, op. cit., pp. 178-192 for teacher desires and suggestions for in-service training.

TABLE 4-4A

SUGGESTIONS FOR QUALITY VOCATIONAL STAFF
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Technical	
	M	SD	M	SD	M	SD	M	SD	M	SD
Promote in-service training to increase teacher competence	4.40	0.85	4.41	0.72	4.46	0.81	4.42	1.02	4.21	0.88
Emphasize vocational competence in recruitment.	4.28	0.88	4.13	0.89	4.48	0.78	3.91	1.01	4.08	0.93
Increase salaries by equating a year of work experience with a year of teaching experience on the salary schedule.	4.24	0.97	3.90	1.07	4.40	0.89	4.18	0.90	4.26	1.05
Emphasize ability to instruct in recruitment.	4.14	0.92	4.44	0.72	4.10	1.00	3.89	0.83	4.33	0.82
Concentrate on teacher guidance during the early period of teaching to reduce teacher "drop outs".	4.14	1.00	4.31	0.86	4.15	0.99	4.03	1.11	4.17	1.01
Create a clearinghouse for qualified available teachers.	4.10	0.95	3.95	1.02	4.24	0.92	3.74	0.89	4.22	0.91

TABLE 4-4A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Maintain a statewide recruitment program.	3.73	1.10	3.27	1.10	3.92	1.06	3.63	1.26	3.70	0.82
Initiate a survey for qualified potential teachers by occupational area.	3.56	1.07	3.59	1.02	3.59	1.10	3.41	1.10	3.67	1.05
Establish advisory committees for the specific purpose of recruitment.	3.25	1.19	2.92	1.28	3.35	1.21	3.44	1.08	3.05	1.21
Emphasize formal education in recruitment.	2.97	1.14	2.64	1.25	3.07	1.14	2.85	1.02	3.13	1.19

TABLE 4-4B

SUGGESTIONS FOR OBTAINING QUALIFIED TEACHERS
BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Promote in-service training to increase teacher competence.	4.40	0.85	3.88	1.36	4.26	0.87
Emphasize vocational competence in recruitment.	4.28	0.88	4.25	1.17	4.37	0.76
Increase salaries by equating a year of work experience with a year of teaching experience on the salary schedule.	4.24	0.97	4.25	1.17	3.84	1.07
Emphasize ability to instruct in recruitment.	4.14	0.92	4.25	1.17	3.89	1.05
Concentrate on teacher guidance during the early period of teaching to reduce teacher "drop outs."	4.14	1.00	3.88	1.13	4.11	0.88
Create a clearinghouse for qualified available teachers.	4.10	0.95	3.88	1.13	3.79	1.13
Maintain a statewide recruitment program.	3.73	1.10	3.71	1.38	3.72	1.07
Initiate a survey for qualified potential teachers by occupational area.	3.56	1.07	3.86	1.46	3.47	1.12
Establish advisory committees for the specific purpose of recruitment.	3.25	1.19	4.00	0.93	3.37	1.46
Emphasize formal education in recruitment.	2.97	1.14	2.88	1.25	3.00	1.11

TABLE 4-4B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.36	1.00	4.46	0.67	4.42	0.82	4.77	0.60	4.50	0.53
3.86	1.17	4.03	0.92	4.42	0.73	4.38	1.19	4.13	0.83
4.36	0.79	4.33	0.76	4.18	1.07	4.46	0.88	4.88	0.35
3.77	0.81	4.15	0.80	4.30	0.84	3.85	1.21	3.88	0.83
3.91	1.02	4.10	1.06	4.19	0.94	4.00	1.47	4.25	1.39
3.73	1.03	4.13	0.82	4.23	0.89	3.85	0.90	4.50	0.76
3.38	1.28	3.85	1.00	3.63	1.11	4.23	0.73	3.88	1.25
3.45	1.10	3.65	0.98	3.45	1.16	3.77	0.93	4.00	1.07
2.73	1.03	3.58	0.95	3.05	1.24	2.92	1.00	3.25	1.04
2.41	1.05	3.15	1.05	3.01	1.14	2.92	1.12	2.75	1.39

Seven questions in this section relate to the problem of recruitment. Three of these provide a comparison of criteria for recruitment--vocational competence, ability to instruct and formal education. Vocational competence is obviously the most valued criteria (4.28), ability to instruct follows closely (4.14) but formal education is clearly the least desired of the three (2.97).

Other questions in this section are related to the mechanics of a recruitment program. A clearinghouse for qualified teachers receives a substantial score (4.10), but a statewide recruitment program (3.73), a survey of potential teachers by subject area (3.56) and establishing advisory committees for the specific purpose of recruitment (3.25) are given weak and poor scores.

Maintaining qualified teachers by teaching background. When scores are compared by teaching background, leaders with teaching experience in general education score the ability to instruct first (4.44), vocational competence second (4.13) and formal education poorly (2.64). To maintain a quality staff after recruitment in-service training and guidance for teachers are well supported with scores of 4.41 and 4.31 respectively.

Leaders with trade and technical teaching backgrounds give a very high score (4.48) to vocational competence and a substantial score (4.10) to instructional ability as criteria for the recruitment of teachers. They also call for a clearinghouse with a high score of 4.24. To increase teacher competence they place a premium of in-service training (4.46) and teacher guidance (4.15) during the early period of teaching. They also

award a very high score (4.40) to the suggestion of equating a year of work experience with a year of teaching experience on the salary schedule.

The industrial arts group limits their notable scores to promoting in-service training (4.42), equating a year of work experience with a year of teaching experience (4.18), and concentrating on teacher guidance during the early period (4.03).

Leaders with backgrounds in other vocational areas emphasize the ability to instruct over vocational competence in recruiting teachers with scores of 4.33 and 4.08 respectively. They also call for equating work experience with teaching experience on salary schedules (4.26), creating a clearinghouse for qualified available teachers (4.22), promoting in-service training (4.21), and guidance during the early period of teaching (4.17) with high scores.

Maintaining qualified teachers by type of institution. Adult school leaders place equal emphasis on vocational competence and ability to instruct as criteria for recruitment by scoring both suggestions at 4.25. They also call for equating work experience with teaching experience on salary schedules with a score of 4.25.

In the recruitment of teachers correctional leaders give a very high score (4.37) to vocational competence and a weak score (3.89) to the ability to instruct. They call for in-service training with a score of 4.26 and guidance for teachers during their early period of teaching with a score of 4.11.

County leaders limit their notable scores to the promoting of in-service training (4.36) and equating work experience with teaching experience (4.36).

High school leaders emphasize the ability to instruct over vocational competence in teacher recruitment with scores of 4.15 and 4.03 respectively. They also call for a clearinghouse of available teachers with a score of 4.13. They award a very high score (4.46) to in-service training, call for equating work experience with teaching experience on salary schedules with a high score (4.33), and provide a substantial score (4.10) for teacher guidance during the early period of teaching.

Junior college leaders give a slight preference to work competence over instructional ability in recruiting teachers with scores of 4.42 and 4.30 respectively. They also call for a clearinghouse for available teachers with a score of 4.23. They place a premium on in-service training with a very high score of 4.42, and request equating work experience and teaching experience on salary schedules and teacher guidance during the early period with scores of 4.18 and 4.19 respectively.

State leaders call for in-service training and equating a year of work experience with a year of teaching on salary schedules with very high scores of 4.77 and 4.46 respectively. They also emphasize vocational competence in recruitment with a very high score (4.38) and stand alone among other groups in asking for a statewide recruitment program for teachers with a score of 4.23.

Teacher Relationships

The Profiles Study of trade and technical teachers discovered that the school environment dominates the concerns of trade and technical

teachers.¹⁰ Their relationships with administrators, other teachers and counselors are uppermost in their minds. The items in Tables 4-5A and 4-5B relate to an estrangement that is commonly acknowledged between the trade and technical teachers and their academic colleagues, but which differs markedly from campus to campus. On some campuses the estrangement is negligible but on other campuses it is strongly felt. The scores in this section reflect the value to trade and technical leaders of a variety of suggestions for dealing with this estrangement.

The highest overall score in this section (4.61) is awarded to the suggestion to include vocational teachers in the counseling program. It reflects the common belief among vocational educators that counseling is one of the weakest links in vocational education and that vocational teachers could help make the counseling relevant to their subject areas.

The second most highly scored suggestion (4.26) would bring academic teachers, vocational teachers, and industrial leaders together in workshops to improve the preparation of graduates for the world of work.

The suggestion to bring vocational and academic teachers together for the integration of course content is also given a high score (4.17). Implicit in this suggestion is the need to relate the course content of academic subjects with vocational subjects as well as build better interpersonal relationships between the faculty involved.

¹⁰Barlow and Reinhart, op. cit., pp. 131, 151.

TABLE 4-5A

SUGGESTIONS FOR IMPROVING TEACHER RELATIONSHIPS
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Include vocational teachers in the counseling program.	4.61	0.76	4.42	0.92	4.74	0.66	4.32	0.91	4.65	0.57
Offer workshops for teachers (both academic and vocational) and industrial leaders to improve the preparation of graduates for the world of work.	4.26	0.93	4.23	0.90	4.27	1.00	4.24	0.92	4.43	0.59
Bring vocational and academic teachers together for the integration of course content.	4.17	0.96	4.18	0.87	4.14	1.04	4.24	0.90	4.35	0.71
Encourage teachers to participate in vocational organizations to advance vocational education.	4.12	1.04	3.62	1.18	4.27	0.97	4.00	1.12	4.35	0.78
Encourage teachers to publish and speak about vocational education.	4.06	1.02	3.97	0.96	4.16	0.99	3.85	1.02	4.08	1.21
Encourage teachers to participate in professional organizations that cover all areas.	4.05	0.95	3.95	1.00	4.09	0.92	3.97	1.03	4.21	0.88

TABLE 4-5A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Emphasize comprehensive education to unite vocational and academic faculties.	3.93	1.08	3.95	1.15	3.87	1.06	3.91	1.08	4.29	1.04
Increase the social contacts of vocational teachers with academic teachers.	3.85	1.12	3.90	1.12	3.85	1.13	3.62	1.04	4.17	1.27
Expose vocational teachers to problems of academic teachers.	3.69	1.07	3.56	1.17	3.74	1.09	3.41	0.99	4.17	0.82
Bring the problems of vocational teachers to the attention of all colleagues.	3.59	1.13	3.26	1.25	3.69	1.11	3.38	1.02	4.13	0.92

TABLE 4-5B

SUGGESTIONS FOR IMPROVING TEACHER RELATIONSHIPS
BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Include vocational teachers in the counseling program.	4.61	0.76	4.29	1.50	4.73	0.61
Offer workshops for teachers (both academic and vocational) and industrial leaders to improve the preparation of graduates for the world of work.	4.26	0.93	4.50	0.84	4.21	0.86
Bring vocational and academic teachers together for the integration of course content.	4.17	0.96	4.00	0.89	4.53	0.61
Encourage teachers to participate in vocational organizations to advance vocational education.	4.12	1.04	3.75	1.28	3.84	1.17
Encourage teachers to publish and speak about vocational education.	4.06	1.02	3.57	1.40	4.00	1.20
Encourage teachers to participate in professional organizations that cover all areas.	4.05	0.95	3.88	1.13	3.79	0.79
Emphasize comprehensive education to unite vocational and academic faculties.	3.93	1.08	3.38	0.92	4.11	0.83
Increase the social contacts of vocational teachers with academic teachers.	3.85	1.12	2.83	1.83	3.74	1.15

TABLE 4-5B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.59	0.59	4.54	0.85	4.66	0.81	4.77	0.44	4.38	0.52
4.36	1.05	4.40	0.71	4.15	0.97	4.31	1.11	4.00	0.76
4.14	1.08	4.15	0.87	4.08	1.01	4.38	0.65	4.00	0.93
3.73	1.28	4.44	0.79	4.13	1.06	4.00	0.91	4.50	0.76
4.00	1.07	4.00	1.05	4.04	1.03	4.08	0.86	4.63	0.52
3.41	1.18	4.26	0.88	4.08	0.87	4.23	1.24	4.38	0.52
4.00	1.35	3.90	0.91	3.97	1.12	3.77	1.36	3.63	0.92
3.45	1.26	3.72	1.07	4.03	1.04	4.15	0.80	3.75	1.39

TABLE 4-5B (continued)

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Expose vocational teachers to problems of academic teachers.	3.69	1.07	3.75	1.04	3.63	1.26
Bring the problems of vocational teachers to the attention of all colleagues.	3.59	1.13	3.14	1.35	3.58	1.02

TABLE 4-5B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
3.18	1.26	3.69	1.03	3.77	1.05	3.92	0.86	3.75	0.89
3.45	1.34	3.46	1.10	3.57	1.18	4.00	0.71	3.88	0.83

Although the leaders support the suggestion that vocational teachers participate in vocational organizations at a higher level (4.12) than they support the suggestion that vocational teachers participate in organizations that cover all areas (4.05), they give both substantial scores. The suggestion implies that participation with other faculty in organizations of general professional interest will build better interpersonal relationships.

Two of the suggestions, encourage teachers to participate in vocational organizations to advance vocational education and encourage teachers to publish and speak about vocational education, assume that the direct promotion of vocational education to emphasize its "legitimate" role will increase the importance of vocational education in the minds of their colleagues. These two suggestions are given substantial scores of 4.12 and 4.06 respectively.

Emphasizing comprehensive education to bring vocational and academic faculties together and increasing social contacts are weakly scored at 3.93 and 3.85 respectively. Two suggestions to bring the problems of vocational and academic teachers to each other's attention receive poor scores.

Teacher relationships by teaching background. Leaders with teaching backgrounds in general education give a very high score (4.42) to including vocational teachers in the counseling program, a high score (4.23) to offering workshops with teachers and industrial leaders to improve the preparation of graduates for work, and a high score (4.18) to bringing vocational and academic teachers together for the integration of course content.

Leaders with backgrounds in trade and technical education award a very high score (4.74) to including teachers in the counseling program. They also see value in bringing vocational teachers together with academic teachers. They give a high score (4.27) to bringing vocational and academic teachers together in workshops with industrial leaders to improve the preparation of graduates for the world of work. They also give substantial scores to bringing academic and vocational teachers together for the integration of course content (4.14) and to encouraging teachers to participate in professional organizations that cover all areas (4.09). However, they also give high scores to encouraging vocational teachers to participate in vocational organizations (4.27) and to speak and to publish about vocational education (4.16).

Leaders with backgrounds in industrial arts give their highest scores to including vocational teachers in the counseling program (4.24), offering workshops to improve the preparation of graduates for the world of work (4.24), and bringing vocational and academic teachers together for the integration of course content (4.35).

Leaders with backgrounds in other vocational areas favor every suggestion in this section with a very high, high or substantial score. They award very high scores to including vocational teachers in the counseling program (4.65), offering workshops for teachers and industrial leaders (4.43), bringing vocational and academic teachers together for the integration of course content (4.35), and encouraging teachers to participate in vocational organizations (4.35). High scores are given to emphasizing comprehensive education to unite vocational and academic

teachers (4.29), encouraging teachers to participate in professional organizations that cover all areas (4.21), increasing social contacts (4.17), and exposing vocational teachers to problems of academic teachers (4.17). Bringing the problems of vocational teachers to the attention of all colleagues and encouraging teachers to publish and speak about vocational education receive substantial scores of 4.17 and 4.21 respectively.

Teacher relationships by type of institution. When leaders scores are compared by type of institutional employment adult school leaders award a very high score (4.50) to offering workshops for academic and vocational teachers with industrial leaders and a high score (4.29) to including vocational teachers in the counseling program. They give weak or poor scores to all other suggestions.

Correctional teachers award very high scores to including vocational teachers in the counseling program (4.73) and to bringing vocational and academic teachers together for the integration of course content (4.53). They give a high score (4.31) to offering workshops to improve the preparation of graduates for the world of work and a substantial score (4.11) to emphasizing comprehensive education.

County leaders give three notable scores to suggestions in this section. They award a very high score (4.59) to including vocational teachers in the counseling program, a high score (4.36) to offering workshops for vocational and academic teachers with industrial leaders, and a substantial score (4.14) to bringing vocational and academic teachers together for the integration of course content.

High school leaders award very high scores to including vocational teachers in the counseling program (4.54), encouraging teachers to participate in vocational organizations (4.44) and offering workshops for academic and vocational teachers with industrial leaders (4.40). They also provide a high score (4.15) for bringing vocational and academic teachers together for the integration of course content.

Junior college leaders award a very high score (4.66) to including vocational teachers in the counseling program and a high score (4.15) to offering workshops for academic and vocational teachers with industrial leaders. Substantial scores are given to encouraging teachers to participate in vocational organizations (4.13), encouraging vocational teachers to participate in organizations that cover all areas (4.08), bringing vocational and academic teachers together to integrate course content (4.08), encouraging teachers to speak and publish about vocational education (4.04), and to increasing social contacts of vocational and academic teachers (4.03).

Two very high scores are awarded by state leaders to including vocational teachers in the counseling program (4.77) and bringing vocational and academic teachers together for the integration of course content (4.38). They also favor the offering of workshops to academic and vocational teachers with industrial leaders with a score of 4.31, encouraging vocational teachers to participate in professional organizations that cover all areas with a score of 4.23, and increasing social contacts between academic and vocational teachers with a score of 4.15. They

also provide a substantial score (4.08) to encouraging teachers to publish and speak about vocational education.

Leader Relationships

Leaders of trade and technical education often report a less than satisfactory relationship with their academic colleagues. In some districts the estrangement is negligible but in other districts it is strongly felt. In the minds of trade and technical leaders it manifests itself in administrative policies and practices which are unsympathetic to the development of vocational education.

The suggestions of the leaders in this study embody a variety of approaches to the problem. Many of them recognize the need to bring differing groups of people together for study, problem-solving or training. Other suggestions are based on increasing the knowledge of others about vocational education. One suggestion asks for a functional change in organizational structure.

The scores in Tables 4-6A and 4-6B reflect the values trade and technical leaders place upon these suggestions. The study of the relationship of the school to the world of work by academic, vocational and industrial leaders is awarded a very high score (4.52). Problem-solving with counselors is a close second (4.51). However, bringing academic colleagues into the problem-solving processes of vocational education is not as well received (4.02) as joining with academic leaders for the problem-solving (4.40). Evidently there is more desire to enter the problem-solving processes of academic leaders than to bring outsiders into the problem-solving processes of vocational education.

Three suggestions embody a direct approach at getting the story of vocational education across. As before, they reflect a faith in disseminating information. Emphasizing successful vocational programs in publicity (4.37), promoting an understanding of the vocational educator's role (4.31) and emphasizing the national focus upon vocational education at every opportunity (4.03) represent this direct approach.

Another direct approach to the problem of vocational education's marginality is to provide higher rank (and salaries) for vocational leaders. This suggestion implies that a change in the organizational structure will provide a more honored position for vocational education and its leadership and it receives a substantial score of 4.10.

Less value is placed upon training programs than any other approach. Leadership training programs (as traditionally experienced in California) are weakly scored at 3.86 and more uncommon sensitivity training is poorly scored at 3.53.

Leader relationships by teaching background. Leaders with a general education background place much emphasis upon study and problem-solving processes. Joining with academic colleagues in the problem-solving processes of the whole school (4.49), bringing academic, vocational and industrial leaders together to study relationships of the school to the world of work (4.43) and joining the counseling staff for the solution of mutual problems (4.42) are the three highest scored suggestions. Bringing academic colleagues into the problem-solving processes of vocational education also finds substantial support (4.08). Emphasizing successful vocational programs in publicity and promoting an understanding

TABLE 4-6A

SUGGESTIONS FOR IMPROVING LEADER RELATIONSHIPS
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Bring academic, vocational and industrial leaders together to study the relationships of school to the world of work.	4.52	0.76	4.43	0.69	4.59	0.75	4.53	0.88	4.52	0.67
Join with the counseling staff for solution of mutual problems.	4.51	0.74	4.42	0.69	4.57	0.70	4.36	0.93	4.71	0.46
Join with academic colleagues in the problem-solving processes of the whole school.	4.40	0.78	4.49	0.69	4.41	0.76	4.26	0.98	4.46	0.78
Emphasize successful vocational programs in publicity.	4.37	0.87	4.08	0.81	4.33	0.95	4.66	0.68	4.58	0.58
Promote understanding of the vocational educator's role.	4.31	0.96	4.11	1.02	4.44	0.92	4.03	1.10	4.42	0.78
Increase the rank (and salaries) of vocational leaders.	4.10	1.01	3.89	0.89	4.20	1.03	3.97	1.04	4.25	0.99

TABLE 4-6A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Emphasize national focus upon vocational education at every opportunity.	4.03	1.10	3.78	0.92	4.06	1.17	4.03	1.18	4.22	0.85
Bring academic colleagues into the problem-solving processes of vocational education.	4.02	0.98	4.08	0.95	4.01	1.02	3.91	1.01	4.08	0.88
Provide a greater number of leadership training programs.	3.86	1.04	3.76	0.98	3.89	1.05	4.00	0.98	3.96	1.00
Emphasize sensitivity training in the in-service training of vocational educators.	3.53	1.27	3.30	1.33	3.62	1.25	3.54	1.34	3.46	1.25

TABLE 4-6B

SUGGESTIONS FOR IMPROVING LEADER RELATIONSHIPS
BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Bring academic, vocational and industrial leaders together to study the relationships of school to the world of work.	4.52	0.76	4.57	0.53	4.37	0.90
Join with the counseling staff for the solution of mutual problems.	4.51	0.74	5.00	0.00	4.33	0.59
Join with academic colleagues in the problem-solving processes of the whole school.	4.40	0.78	4.57	0.79	4.21	0.71
Emphasize successful vocational programs in publicity.	4.37	0.87	4.38	0.74	4.26	0.81
Promote understanding of the vocational educator's role.	4.31	0.96	4.13	0.83	4.42	0.77
Increase the rank (and salaries) of vocational leaders.	4.10	1.01	4.43	0.79	4.00	1.15
Emphasize national focus upon vocational education at every opportunity.	4.03	1.10	3.43	1.62	3.68	1.11
Bring academic colleagues into the problem-solving processes of vocational education.	4.02	0.98	4.14	1.46	4.05	0.91
Provide a greater number of leadership training programs.	3.86	1.04	4.25	0.89	3.68	0.89
Emphasize sensitivity training in the in-service training of vocational educators.	3.53	1.27	3.50	1.41	3.05	1.51

TABLE 4-6B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.48	1.03	4.45	0.75	4.48	0.77	4.83	0.39	4.63	0.52
4.24	1.04	4.48	0.78	4.58	0.69	4.58	0.79	4.38	0.92
4.00	1.05	4.35	0.74	4.48	0.75	4.42	0.67	4.63	0.52
4.57	0.81	4.45	0.78	4.26	0.97	4.33	0.78	4.25	1.04
3.95	1.23	4.25	0.93	4.25	1.08	4.75	0.45	4.50	0.76
3.48	0.75	4.10	1.08	4.17	1.03	4.00	1.00	3.88	0.64
4.05	1.07	4.08	1.02	4.03	1.16	3.64	0.92	4.88	0.35
3.90	1.04	4.05	0.90	4.05	1.00	3.67	0.89	3.88	1.13
3.71	1.19	4.10	0.98	3.76	1.12	3.82	1.25	4.00	0.58
3.05	1.32	3.83	1.01	3.54	1.30	3.83	1.19	3.75	1.28

of the vocational educator's role receive scores of 4.08 and 4.11 respectively.

Leaders with trade and technical teaching backgrounds award very high scores to bringing academic, vocational and industrial leaders together to study the relationships of the school to the world of work (4.59), joining with the counseling staff (4.57) and the academic colleagues (4.41) for the solution of problems. Suggestions to increase the knowledge of others about vocational education through publicizing successful vocational programs (4.33), promoting an understanding of the vocational educator's role (4.44) and emphasizing the national focus upon vocational education at every opportunity (4.06) are all well supported.

Leaders with industrial arts backgrounds value the suggestion to publicize successful vocational programs more than any other suggestion (4.66). Next in importance is the study of relationships between the school and the world of work (4.53). They also support suggestions to join counselors (4.36) and academic colleagues (4.26) with more fervor than bringing academic colleagues into the problem-solving processes of vocational education (3.91). Promoting an understanding of the vocational educator's role and emphasizing the national focus on vocational education each receive a substantial score of 4.03.

Leaders with teaching backgrounds in other vocational fields award higher scores to joining with the counseling staff (4.71), joining with counselors (4.71) and academic colleagues (4.46) for the solution of problems. However, bringing academic colleagues into the problem-solving

processes of vocational education receives a substantial score of 4.08. They also award very high scores to increasing knowledge about vocational education by publicizing successful vocational programs (4.58), promoting an understanding of the vocational educator's role (4.42), and a high score to emphasizing the national focus upon vocational education at every opportunity (4.22). A study of the relationship of the school to the world of work and an increase in the rank and salary of vocational leaders are both well supported suggestions with scores of 4.53 and 4.25 respectively.

Leaders relationships by type of institution. Leaders in adult schools give the highest possible score to joining with counselors for the solution of mutual problems (5.00). Joining with academic leaders for problem-solving is favored over bringing academic leaders into the problem-solving processes of vocational education with scores of 4.57 and 4.14 respectively. The study of the relationship of the school to the world of work also receives a very high score (4.57). Adult leaders see substantial value to increasing the knowledge about vocational education through publicizing successful vocational programs (4.38) and promoting an understanding of the vocational educator's role (4.13). They also award a very high score to increasing the rank and salaries of vocational educators (4.43) and to leadership training programs (4.25).

Correctional leaders give their highest score (4.42) to promoting an understanding of the vocational educator's role. Their next highest score (4.37) is awarded to the study of the relationships between the school and the world of work. They also favor joining with counselors

(4.33) and academic colleagues (4.21) to solve problems rather than bring academic leaders into the problem-solving processes of vocational education (4.05). They support the suggestion to emphasize successful vocational programs through publicity with a high score of 4.26.

County leaders give their highest score to emphasizing successful vocational programs in publicity (4.57) and their next highest score to studying the relationships between school and the world of work (4.48). Joining with the counseling staff for problem-solving receives a very high score. Emphasizing the national focus on vocational education is supported with a score of 4.05.

High school leaders support all but one suggestion with a very high, high or substantial score. They award very high scores to joining with the counseling staff (4.58) and with academic colleagues (4.48) for the solution of mutual problems. They also provide a very high score (4.45) to joining with academic leaders and industrial leaders to study the relationship of the school to the world of work. Emphasizing vocational education through publicity receives a very high score of 4.45 and promoting an understanding of the vocational educator's role is supported with a score of 4.25. All other suggestions except sensitivity training receives substantial scores from high school leaders.

The suggestions of joining with counselors and academic leaders for the solution of mutual problems are supported by junior college leaders with scores of 4.58 and 4.48 respectively. They also favor the suggestion of bringing academic and industrial leaders together with vocational leaders to study the relationship of the school to the world of work with a very high score of 4.48. They favor the suggestions of promoting an

understanding of the vocational educator's role and increasing the rank of vocational leaders with scores of 4.25 and 4.17 respectively. They give substantial scores to bringing academic colleagues into the problem-solving processes of vocational education (4.05) and emphasizing the national focus (4.03).

The very highest score (4.83) of state leaders goes to bringing vocational, academic and industrial leaders together to study the relationships of the school to the world or work. The next highest score (4.75) is given to promoting an understanding of the vocational educator's role. Other very high scores are awarded by state leaders to joining with counselors (4.58) and academic leaders (4.42) for the mutual solution of problems. Publicity for vocational education is supported with a score of 4.33.

Student Learning

The question of how learning, regardless of how or where achieved, can be given equivalent educational credit is becoming an increasingly important issue. Grant Venn states the problem well when he writes as follows:

Learning is the goal of education. Educators have tended, however, to be much more willing to give recognition to learning gained in certain courses and schools than learning from other sources. A system of transferring education credits from school to school and level to level has been developed, but no plan has been devised to accept learning regardless of where or how it has been obtained. In fact, educators have more often than not been intransigent about recognizing that individuals may learn by other than

pre-approved, formally organized educational programs.¹¹

John Gardner also laments the situation in his essay in Goals for Americans.

If we really believe in individual fulfillment, our concern for education will reach far beyond the formal system. We shall expect people to continue to learn and grow in and out of schools, in every possible circumstance, and at every stage of their lives....

Many people who study outside the formal system do so for reasons having to do with their own fulfillment, and care little for academic credit. Others are concerned only with the immediate acquisition of skills, and credit is irrelevant here too. But many others do wish to obtain academic credit. We shall serve these people far more effectively where we have devised a flexible system of credit by examination. Such a system would assess and certify accomplishment on the basis of present performance. The route that the individual has traveled to achieve competence would not come into question. Such a system would permit many individuals to participate in higher education who now--by the nature of their jobs or other obligations--cannot do so.¹²

The items in Table 4-7A and 4-7B are the suggestions of trade and technical leaders to deal with this problem. The need to increase efforts at articulation between schools on different levels (e.g., high school and junior college) is given the highest score by the overall population (4.48). This suggestion recognizes that learning at different levels is not coordinated so that learning experiences can build on each other and

¹¹Venn, op. cit., p. 143.

¹²Gardner, "National Goals in Education," Goals for Americans: The Report of the President's Commission of National Goals (Englewood Cliffs, N. J.: Prentice-Hall, 1960), pp. 94-95.

be awarded credit. It also recognizes that learning at lower levels does build a base for advanced studies but is not identified as such without articulation.

More individualized instruction is another well supported suggestion (4.44). Individualized instruction would allow students to move quickly through familiar material.

Examination over courses of instruction to permit students to skip courses received a score of 4.08 and pre-tests for advanced placement of students within a course of study received a score of 4.17.

Establishing credit criteria for work experience was supported with a score of 4.09.

Support for the intensification of efforts to identify and evaluate knowledge acquired out of school is weak (3.80), and the score for the establishment of organizational "machinery" at the district level to study the problem of non-accredited learning is poor (3.30).

The leaders also prefer "delayed credit" for learning that is in question (3.74) to enrolling students "on probation" to prove their non-credit knowledge (3.22). Neither, however, is well supported.

Devising methods of equating learning in occupational programs with academic programs received a poor score of 3.71.

Student learning by teaching background. Leaders with teaching backgrounds in general education prefer individualized instruction over all other suggestions with a score of 4.41. Increased articulation and the establishment of credit criteria for work experience are next in importance with scores of 4.39 and 4.29 respectively. They call for

TABLE 4-7A

SUGGESTIONS FOR RECOGNITION OF STUDENT LEARNING
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Increase efforts at articulation between schools on different levels (e.g., high school and junior colleges).	4.48	0.84	4.39	0.86	4.50	0.84	4.54	0.89	4.34	0.79
Program more instruction on an individual basis so that students can move quickly through familiar material.	4.44	0.73	4.41	0.72	4.49	0.63	4.51	0.89	4.39	0.78
Establish pre-tests for advanced placement.	4.17	0.95	4.08	0.95	4.18	0.88	4.29	1.09	4.43	0.84
Establish credit criteria for work experience.	4.09	0.94	4.29	0.77	4.04	1.04	4.06	0.81	4.26	0.75
Provide opportunities to skip courses by examination.	4.08	1.03	3.89	1.07	4.10	1.01	4.34	0.97	4.23	1.07
Intensify efforts to identify and evaluate knowledge acquired out of school.	3.80	1.00	4.03	0.99	3.86	1.03	3.57	0.88	3.64	1.00

TABLE 4-7A (continued)

Item	Overall		General ¹ Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Devise methods of equating learning in occupational programs with academic programs.	3.71	1.18	3.62	1.32	3.83	1.18	3.53	0.95	3.78	1.17
Recognize knowledge acquired out of school as "delayed credit" to be awarded at the conclusion of the program of study.	3.74	1.21	3.70	1.20	3.42	1.24	3.34	1.06	3.40	1.35
Establish organizational "machinery" in every district to study the problem of non-accredited learning.	3.30	1.02	3.50	1.11	3.29	0.99	3.15	1.03	3.43	1.08
Enroll students "on probation" to prove their non-credit knowledge.	3.22	1.15	3.39	1.25	3.21	1.19	3.25	0.95	3.05	1.20

TABLE 4-7B

SUGGESTIONS FOR RECOGNIZING STUDENT LEARNING
BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Increase efforts at articulation between schools on different levels (e.g., high school and junior colleges).	4.48	0.84	4.63	0.74	3.72	0.96
Program more instruction on an individual basis so that students can move quickly through familiar material.	4.44	0.73	4.25	0.71	4.76	0.44
Establish pre-tests for advanced placement.	4.17	0.95	4.67	0.52	3.94	1.00
Establish credit criteria for work experience.	4.09	0.94	4.25	0.89	3.89	0.83
Provide opportunities to skip courses by examination.	4.08	1.03	3.86	1.46	3.11	1.37
Intensify efforts to identify and evaluate knowledge acquired out of school.	3.80	1.00	3.88	1.36	3.67	1.14
Devise methods of equating learning in occupational programs with academic programs.	3.71	1.18	4.00	0.82	4.22	0.73
Recognize knowledge acquired out of school as "delayed credit" to be awarded at the conclusion of the program of study.	3.74	1.21	3.17	1.17	3.06	1.11

TABLE 4-7B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.55	0.91	4.46	0.79	4.58	0.80	4.54	0.66	4.17	1.33
4.45	0.96	4.41	0.72	4.31	0.77	4.69	0.48	4.50	0.55
3.82	1.18	4.00	1.10	4.32	0.89	3.92	0.76	4.40	0.89
4.05	0.90	4.41	0.72	3.94	1.10	3.85	0.99	4.00	0.63
4.18	1.10	4.10	0.88	4.18	0.98	4.15	0.80	4.50	0.84
3.50	1.10	3.86	0.92	3.77	0.96	4.00	0.82	3.67	1.51
3.50	1.22	3.76	1.13	3.63	1.22	3.58	1.51	2.67	1.37
3.65	1.18	3.61	1.20	3.40	1.30	3.08	0.95	3.83	1.47

TABLE 4-7B (continued)

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Establish organizational "machinery" in every district to study the problem of non-accredited learning.	3.30	1.02	3.80	0.84	2.94	1.00
Enroll students "on probation" to prove their non-credit knowledge.	3.22	1.15	3.75	0.50	3.11	1.28

TABLE 4-7B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
3.55	1.10	3.54	1.07	3.19	0.99	3.08	1.12	3.67	1.03
3.29	1.15	3.58	1.08	3.07	1.17	2.77	1.24	2.67	1.37

intensified efforts to identify and evaluate knowledge acquired out of school with a score of 4.03.

Leaders with backgrounds in trade and technical education award very high scores to increased efforts at articulation between schools (4.50) and more instruction on an individualized basis (4.49). They also call for pre-tests for advanced placement with a score of 4.18, examinations to skip courses with a score of 4.10, and the establishment of credit criteria for work experience with a score of 4.10.

Leaders with industrial arts backgrounds support increased articulation between schools and more individualized instruction with the very high scores of 4.54 and 4.51 respectively. They call for examinations to skip courses with a score of 4.34 and for advanced placement with a score of 4.29. They also give substantial support (4.06) to establishing credit criteria for work experience.

Leaders with other vocational backgrounds award their highest score (4.43) to the suggestion of establishing pre-tests for advanced placement. They also support examinations to skip courses with a score of 4.23. They call for more individualized instruction with a score of 4.39, increased articulation between schools with a score of 4.34, and credit criteria for work experience with a score of 4.26.

Student learning by type of institution. Adult school leaders call for pre-tests for advanced placement with their highest score (4.67) and increased articulation between schools with their next highest score (4.63). They support more individualized instruction and credit criteria for work experience with the same score of 4.25.

Correctional leaders emphasize more instruction on an individualized basis with a very high score of 4.76. They also call for methods of equating learning in occupational programs with academic programs with a score of 4.22. All other suggestions are scored weak or poor.

The two highest scores of the county leaders are awarded to articulation between schools (4.55) and more individualized instruction (4.45). They also call for opportunities to skip courses by examination with a score of 4.18 and credit criteria for work experience with a score of 4.05.

Junior college leaders call for increased efforts at articulation between schools with the very high score of 4.58. They support examinations for advanced placement with a score of 4.32 and examinations to skip courses with a score of 4.18. They request more individualized instruction with a score of 4.31.

State leaders award very high scores to more instruction on an individualized basis (4.69) and increased efforts at articulation (4.54). They also call for opportunities to skip courses by examination with a score of 4.15. All other suggestions in this section received weak or poor scores.

Institutional Character

The character of an institution is conditioned by the types of commitments and policy decisions that have been accepted in the course of adaptation to internal and external pressures. Whether these commitments and decisions have resulted in single-purpose or comprehensive

institutions, vocational programs administered by academic or vocational personnel, determine their distinctive competences or inadequacies. Thus, the vocational character of an institution evolves and becomes known over time.

The vocational character of an institution is a major issue in the minds of vocational educators. The competence and success of vocational education is believed to be determined by an institution's character. Because the vocational character of educational institutions does not easily change, this issue is persistent and long-standing.

Four suggestions in Table 4-8A and 4-8B were made and scored very high, high or substantial by the overall population. Increasing the vocational staff to expand occupational offerings and emphasizing comprehensive schools are both well supported with a score of 4.21. There are some differences of opinion about increasing the emphasis on occupational skills with the underprivileged, but the overall population supported this suggestion with a score of 4.04. There is, however, much more difference of opinion about placing vocational education under the administration of vocational educators but the overall population supports this suggestion with a score of 4.16.

Four suggestions receive weak scores and two suggestions receive poor scores by the overall population. From these scores we can observe the relationship of basic and general education to training for specific occupational skills in the minds of the leaders. For example, basic education for the underprivileged receives less support (3.93) than training

in occupational skills (4.04). However, general education for the normally privileged receives the very same score as increasing the emphasis on specific occupational skills, namely, 3.79.

It is also apparent that increasing the participation of academic staff in areas related to vocational programs (3.88) is much more acceptable than placing vocational education under the administration of comprehensive educators (2.70).

It is also apparent that increasing the participation of academic staff in areas related to vocational programs (3.88) is much more acceptable than placing vocational education under the administration of comprehensive educators (2.70).

Emphasis on single-purpose vocational schools (e.g., area vocational schools, vocational high schools, etc.) receives a very low score of 2.42.

Institutional character by teaching background. Leaders with teaching backgrounds in general education award their highest score (4.26) to increasing vocational staff to expand occupational offerings, but they obviously want this to take place in comprehensive schools (4.24) rather than in single-purpose schools (1.94).

Leaders with backgrounds in trade and technical education prefer the suggestion of placing vocational education under the administration of vocational educators more than any other suggestion (4.51). Next in importance is increasing vocational staff to expand occupational offerings (4.23), emphasizing comprehensive schools (4.10) and emphasizing occupational skills with the underprivileged (4.03).

TABLE 4-8A

SUGGESTIONS CONCERNING THE INSTITUTIONAL CHARACTER OF VOCATIONAL EDUCATION
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Increase vocational staff to expand occupational offerings.	4.21	0.86	4.26	0.70	4.23	0.90	4.11	0.80	4.16	1.03
Emphasize comprehensive schools.	4.21	1.08	4.24	1.21	4.10	1.12	4.33	0.99	4.56	0.77
Place vocational education under the administration of vocational educators.	4.16	1.16	3.32	1.25	4.51	0.97	4.09	1.15	3.88	1.27
Increase the emphasis on occupational skills with the underprivileged.	4.04	1.04	4.00	1.07	4.03	1.08	4.09	1.07	4.04	0.87
Increase the emphasis on basic education with the underprivileged.	3.93	1.08	3.70	1.27	3.96	1.05	4.03	1.01	4.04	1.08
Increase the participation of academic staff in areas related to vocational programs.	3.88	0.95	3.97	0.90	3.81	0.99	4.00	0.97	3.88	0.86

TABLE 4-8A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Expand the base of related general education in vocational programs.	3.79	0.96	4.00	1.00	3.68	0.99	3.94	0.87	3.88	0.86
Increase the emphasis on specific occupational skills in vocational programs.	3.79	1.06	3.73	1.22	3.85	1.03	3.78	1.05	3.65	1.13
Place vocational education under the administration of comprehensive educators.	2.70	1.40	3.43	1.41	2.40	1.33	2.84	1.32	2.80	1.41
Emphasize single-purpose vocational schools (e.g., area vocational schools, vocational high schools, etc.).	2.42	1.51	1.94	1.43	2.72	1.61	2.14	1.40	1.96	1.00

TABLE 4-8B

SUGGESTIONS CONCERNING THE INSTITUTIONAL CHARACTER OF VOCATIONAL EDUCATION BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Increase vocational staff to expand occupational offerings.	4.21	0.86	4.57	0.79	4.06	0.97
Emphasize comprehensive schools.	4.21	1.08	3.43	1.40	3.28	1.56
Place vocational education under the administration of vocational educators.	4.16	1.16	3.88	1.64	4.44	0.78
Increase the emphasis on occupational skills with the underprivileged.	4.04	1.04	4.14	1.57	3.83	1.15
Increase the emphasis on basic education with the underprivileged.	3.93	1.08	4.43	0.98	3.61	1.14
Increase the participation of academic staff in areas related to vocational programs.	3.88	0.95	3.86	1.22	3.94	0.73
Expand the base of related general education in vocational programs.	3.79	0.96	3.88	0.83	3.78	1.11
Increase the emphasis on specific occupational skills in vocational programs.	3.79	1.06	4.50	1.07	4.00	0.91
Place vocational education under the administration of comprehensive educators.	2.69	1.40	2.00	1.20	2.39	1.42
Emphasize single-purpose vocational schools (e.g., area vocational schools, vocational high schools, etc.)	2.42	1.51	3.25	1.98	3.11	1.71

TABLE 4-8B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
3.91	0.68	4.33	0.69	4.19	0.97	3.92	0.90	4.67	0.82
4.64	0.66	3.98	1.12	4.39	0.88	4.38	0.96	3.83	1.60
3.73	1.35	4.21	1.17	4.19	1.11	4.54	1.13	3.67	1.63
3.64	1.18	4.30	0.82	4.03	1.03	3.92	1.19	4.17	0.75
3.55	1.47	4.05	0.90	3.99	1.02	3.69	1.18	3.67	1.03
3.68	0.95	3.09	0.84	3.90	1.02	4.15	0.69	3.83	1.60
3.64	1.00	3.95	0.85	3.77	0.89	3.85	1.28	3.67	1.37
3.50	1.26	3.93	0.97	3.81	1.00	3.31	1.25	3.83	1.47
2.64	1.43	2.55	1.52	2.85	1.40	2.25	1.29	3.00	1.41
1.77	1.11	3.36	1.53	1.98	1.30	2.42	1.51	2.67	1.37

Leaders with industrial arts backgrounds give their highest score to emphasizing comprehensive schools (4.33) and their next highest score to increasing the vocational staff to expand occupational offerings (4.11). They give slight preference to training the underprivileged in occupational skills (4.09) over basic education (4.03). They also support vocational educators for the administration of vocational education with a score of 4.09.

Leaders with backgrounds in other vocational areas give their highest score to emphasizing comprehensive schools (4.56) and their next highest score to increasing vocational staff to expand occupational offerings (4.16). They give the same score (4.04) to emphasizing occupational skills and basic education with the underprivileged.

Institutional character by type of institution. Adult school leaders place emphasis on three suggestions with very high scores. They call for an increased vocational staff to expand occupational offerings (4.57), an increased emphasis on specific occupational skills in vocational programs (4.50), and an increased emphasis on basic education with the underprivileged (4.43). But they also support an increased emphasis on occupational skills with the underprivileged with a score of 4.14.

Correctional leaders select one suggestion for a very high score, one suggestion for a substantial score and give the other suggestions weak or poor scores. They call for placing vocational education under the administration of vocational educators with a score of 4.44 and increasing the vocational staff to expand occupational offerings with a score of 4.06.

County leaders single out the emphasis on comprehensive schools for a very high score (4.64) and give all other suggestions weak or poor scores.

High school leaders call for increasing the vocational staff with a score of 4.33 and placing vocational education under the administration of vocational educators with a score of 4.21. They prefer to emphasize occupational skills over basic education when training the underprivileged with scores of 4.30 and 4.05 respectively.

Junior college leaders award a very high score (4.39) to emphasizing comprehensive schools and award the same high score (4.19) to increasing vocational staff to expand occupational offerings and placing vocational education under the administration of vocational educators.

State leaders call for placing vocational education under the administration of vocational educators with a score of 4.54 and emphasizing comprehensive schools with a score of 4.38. They also favor increasing the participation of academic staff in areas related to vocational programs with a score of 4.15.

Diversity and Comprehensiveness

The need for occupational training in a diverse array of occupations is continually increasing. The Department of Labor summarizes the causes this way:

1. The continuing shift from an agricultural economy to one that is industrial.
2. The rapid expansion in research and development activities.

3. The tremendously rapid increase in application of technological improvements.
4. The increased size and complexity of business organization.
5. The widespread growth of record keeping among all types of enterprises.
6. The growing need for educational and medical services.¹³

Leaders in trade and technical education in California were asked for suggestions in responding to the demand for diversity and comprehensiveness in the occupational world. In offering the suggestions in this section the leaders were often torn between the need to provide basic and/or general education on the one hand and the need to train for specific occupations on the other hand. Five of the suggestions in Table 4-9A and 4-9B emphasize the need for diverse and specific training to meet employment needs and five of the suggestions emphasize the need to keep trade and technical education integrated with general education.

Among the suggestions which focused on specific employment objectives is the suggestion which receives the highest score from the leaders (4.56). The suggestion to develop curricula that relate to both immediate and long range employment objectives acknowledges the need of students to be trained for immediate employment at an entry level as well as for more advanced levels. In other words, the student ought to have a program of study which allows him to obtain an education for the more highly trained and specialized occupations within a field of study.

¹³U.S. Department of Labor, Manpower Challenge of the 1960's (Washington: Government Printing Office, 1961), p. 11.

Another suggestion which emphasizes specific employment objectives has the second highest score (4.20). Short special purpose courses allow vocational educators greater flexibility to meet the manpower needs of industry. Short courses can also be tailored to the more diverse abilities, aptitudes and interests of the student population. Frequently a school will broaden its service to include special groups of students not a part of the regular student population by use of special short courses.

A third suggestion which emphasizes specific employment calls for the utilization of industrial experts to diversify the faculty and curricula. This suggestion, which is supported with a score of 4.08, is aimed at the problem of obtaining a knowledgeable faculty for special subject areas in which the regular faculty is not trained.

Two other suggestions which emphasize training for specific employment needs receive much lower scores. Dispersing vocational courses to industrial settings has the advantage of utilizing the special equipment and other facilities of industry but this suggestion receives a weak score (3.65). Emphasizing area vocational schools to more easily develop specialized vocational courses receives the lowest score (2.92) of all suggestions.

Among the suggestions which emphasize the integration of general and vocational education is the suggestion to emphasize comprehensive institutions (vs. single-purpose vocational institutions) with a high score of 4.17 and providing education for job clusters or families of occupations (vs. specific occupations) with a substantial score of 4.07.

TABLE 4-9A

SUGGESTIONS CONCERNING DIVERSITY AND COMPREHENSIVENESS OF VOCATIONAL EDUCATION
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Develop curricula that relate to both immediate and long range employment objectives.	4.56	0.64	4.50	0.69	4.58	0.64	4.45	0.67	4.65	0.57
Utilize short special purpose courses.	4.20	0.89	4.13	1.07	4.15	0.90	4.51	0.56	4.39	0.66
Emphasize comprehensive institutions.	4.17	1.03	4.35	0.89	4.13	1.06	4.29	0.86	4.13	1.22
Utilize industrial experts to diversify faculty and curricula.	4.08	0.91	4.11	0.95	4.19	0.85	3.85	0.96	4.08	0.97
Provide education for job clusters or families of occupations.	4.07	1.05	4.21	1.04	3.93	1.13	4.37	0.81	4.08	0.97
Introduce team teaching combining vocational and academic teachers.	3.97	1.05	4.03	0.97	4.05	1.07	4.00	0.98	3.67	1.20
Incorporate general education in vocational courses.	3.87	1.00	3.76	1.15	3.89	1.00	4.00	0.97	3.87	0.87

TABLE 4-9A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Disperse vocational courses into industrial settings.	3.65	1.19	3.47	1.43	3.70	1.19	3.85	0.93	3.39	1.23
Stress general practices over specific techniques.	3.45	1.11	3.76	0.93	3.40	1.18	3.33	0.96	3.46	1.22
Emphasize area vocational schools.	2.92	1.42	2.95	1.41	3.17	1.42	2.51	1.44	2.21	1.22

TABLE 4-9B

SUGGESTIONS CONCERNING DIVERSITY AND COMPREHENSIVENESS OF
VOCATIONAL EDUCATION BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Develop curricula that relate to both immediate and long range employment objectives.	4.56	0.64	4.50	0.55	4.61	0.50
Utilize short special purpose courses.	4.20	0.87	4.63	0.52	4.17	0.71
Emphasize comprehensive institutions.	4.17	1.03	4.00	1.00	3.56	1.10
Utilize industrial experts to diversify faculty and curricula.	4.08	0.91	4.38	0.92	4.06	0.87
Provide education for job clusters or families of occupations.	4.07	1.05	3.88	1.46	3.67	1.03
Introduce team teaching combining vocational and academic teachers.	3.97	1.05	3.86	1.22	3.94	1.06
Incorporate general education in vocational courses.	3.87	1.00	3.63	1.51	3.78	1.00
Disperse vocational courses into industrial settings.	3.65	1.19	3.57	1.51	3.67	1.08
Stress general practices over specific techniques.	3.45	1.11	3.00	1.55	3.22	1.35
Emphasize area vocational schools.	2.92	1.42	3.38	2.00	3.78	1.06

TABLE 4-9B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.62	0.50	4.50	0.64	4.58	0.71	4.45	0.69	4.75	0.46
4.43	0.87	4.35	0.80	3.99	0.97	4.38	0.65	4.63	1.06
4.52	1.12	4.00	1.04	4.28	0.99	4.31	0.95	4.00	1.07
3.76	1.18	3.93	1.00	4.13	0.86	4.25	0.75	4.00	0.76
4.48	0.75	4.48	0.72	3.97	1.07	3.69	1.25	4.00	1.60
3.86	1.11	4.00	1.04	3.87	1.08	4.23	0.60	4.38	0.74
3.81	1.08	4.03	0.86	3.90	0.97	3.62	0.96	3.88	1.13
3.76	1.18	3.95	1.01	3.46	1.26	3.46	1.13	3.75	1.28
3.67	1.02	3.28	0.97	3.58	1.10	3.00	1.10	3.75	1.17
2.38	1.50	3.62	1.35	2.53	1.30	2.69	1.38	3.50	1.41

Two suggestions to bring general education into vocational education received weak support. Introducing team teaching to bring academic and vocational teachers together receives a score of 3.97, and incorporating general education in vocational courses receives a score of 3.87. The latter suggestion frequently implies a dissatisfaction with the manner in which general education is taught by academic teachers and the desire to keep it related to vocational education.

Stressing general practices over specific techniques in vocational education is poorly supported (3.45). This suggestion supports a general orientation to a subject area field or cluster of occupations rather than specific techniques for a specific occupation.

Diversity and comprehensiveness by teaching background. Leaders with teaching backgrounds in general education give their highest score (4.50) to the development of curricula that relate to both immediate and long range employment objectives. They also call for an emphasis on comprehensive institutions and education for job clusters with scores of 4.35 and 4.21 respectively. Utilizing short special purpose courses (4.13), industrial experts (4.11), and introducing team teaching with vocational and academic teachers (4.03) all receive substantial support.

Developing curricula that relate to both immediate and long range objectives receives a very high score (4.58) from leaders with trade and technical backgrounds. They call for the utilization of industrial experts with a score of 4.19, short special purpose courses with a score of 4.15, comprehensive institutions with a score of 4.13, and team teaching with a score of 4.05.

Leaders with industrial arts backgrounds award very high scores to utilizing short special purpose courses (4.51) and curricula that relate to both immediate and long range employment objectives (4.45). They also give emphasis to comprehensive institutions with a score of 4.29.

Leaders with backgrounds in other vocational areas award very high scores to curricula that relate to both immediate and long range employment (4.56) and short special purpose courses (4.39). Substantial scores are given to emphasizing comprehensive institutions (4.13), utilizing industrial experts (4.08) and providing education for job clusters (4.08).

Diversity and comprehensiveness by type of institution. Adult school leaders award very high scores to utilizing short special courses (4.63), utilizing industrial experts to diversify faculty and curricula (4.38), and curricula related to both immediate and long range employment objectives (4.50).

Correctional leaders support curricula for immediate and long range employment objectives with a high score of 4.61. Suggestions to utilize short special purpose courses and industrial experts receive scores of 4.17 and 4.06 respectively. Other scores are weak or poor.

County leader scores give first preference to the development of curricula that relate to both immediate and long range employment objectives (4.62). They call for comprehensive institutions with a score of 4.52, providing education for job clusters with a score of 4.48, and developing short special purpose courses with a score of 4.45.

High school leaders also give their highest score to the suggestion that curricula relate to both immediate and long range employment objectives (4.50). They give almost as much support, however, to providing education for job clusters (4.48). Short special purpose courses are also awarded a very high score (4.35) and incorporating general education in vocational courses receives a substantial score (4.03).

Junior college leaders give three suggestions notable support. They call for curricula that relate both to immediate and long range employment objectives with a score of 4.58, an emphasis on comprehensive institutions with a score of 4.38 and utilizing industrial experts with a score of 4.13.

State leaders call for curricula that relate to both immediate and long range employment objectives and short special purpose courses with very high scores of 4.45 and 4.38 respectively. They emphasize comprehensive institutions, the use of industrial experts and team teaching with scores of 4.31, 4.25 and 4.23 respectively.

Vocational Guidance

Vocational educators consider vocational guidance a keystone in any comprehensive program of vocational education. Leaders in trade and technical education are no exception. Concern for occupational guidance, placement and follow-up is increasing as the need becomes more evident.

"But guidance in vocational and technical education is not an issue," states Grant Venn, "the need has already been affirmed--but rather a problem that is manifest when virtually every study of the field decries the

wide gap between what is said about guidance and what is done."¹⁴ A recent study by the authors illustrates the situation as trade and technical teachers view it.¹⁵ In this study high prescriptive scores (what should be) were given to suggestions to offer programs of vocational orientation and in-service training for counselors and to training and utilizing teachers to do vocational counseling, but low descriptive scores (what does exist) to the same items. The nature of the suggestions and the wide discrepancies between the prescriptive and descriptive scores emphasizes the gap between "what is said about guidance and what is done."

The items in Tables 4-10A and 4-10B are the suggestions of trade and technical leaders for dealing with this problem. One index of the concern is the large number of items--eight of ten--which receive very high, high and substantial scores by the overall population.

The two suggestions with the highest overall scores are both related to graduates. The suggestion to maintain follow-up studies of graduates and drop-outs, which receives a score of 4.53, emphasizes the need for information about the successes, failures and problems encountered by students in utilizing their education to gain entrance into the world of work. The second highest score (4.51) is awarded to the suggestion to maintain placement services for all graduates. Many leaders feel that the discrepancies between what is done for transfer students and terminal

¹⁴Venn, op. cit., p. 147.

¹⁵Barlow and Reinhart, op. cit., pp. 140-143, 146-148.

TABLE 4-10A

SUGGESTIONS FOR IMPROVING VOCATIONAL GUIDANCE
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Maintain follow-up studies of graduates and drop-outs.	4.53	0.83	4.50	0.98	4.55	0.75	4.65	0.73	4.48	0.96
Maintain placement services for all graduates.	4.51	0.75	4.68	0.53	4.49	0.79	4.33	0.79	4.72	0.54
Provide in-service training in vocational guidance for counselors.	4.50	0.71	4.45	0.86	4.60	0.61	4.43	0.70	4.36	0.70
Initiate more dialogue with counseling staff.	4.25	0.90	4.00	1.00	4.35	0.88	4.31	0.76	4.20	0.87
Utilize vocational teachers as part-time counselors.	4.19	1.03	3.61	1.22	4.45	0.85	3.94	1.10	4.00	1.12
Make vocational counselors available to students in the classroom.	4.12	0.95	4.16	0.87	4.22	0.96	3.94	0.95	3.92	0.97
Utilize an advisory system of vocational teachers for counselors.	4.04	0.90	3.82	0.93	4.18	0.85	3.82	1.00	3.96	0.93

TABLE 4-10A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Provide more student contacts with tradesmen.	4.04	0.93	4.00	0.90	4.03	0.96	4.15	0.89	4.04	0.91
Establish employment standards for vocational students to parallel the transfer standards for academic students.	3.78	1.10	3.74	1.22	3.89	1.06	3.66	1.00	3.61	1.23
Introduce more vocational exploration in elementary schools.	3.77	1.20	3.55	1.41	3.82	1.14	4.06	1.03	3.52	1.33

TABLE 4-10B

SUGGESTIONS FOR IMPROVING VOCATIONAL GUIDANCE
BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Maintain follow-up studies of graduates and drop-outs.	4.53	0.83	4.12	1.57	4.11	1.18
Maintain placement services for all graduates.	4.51	0.75	4.38	1.06	4.22	0.65
Provide in-service training in vocational guidance for counselors.	4.50	0.71	4.63	0.52	4.50	0.71
Initiate more dialogue with counseling staff.	4.25	0.90	4.38	1.06	3.44	1.34
Utilize vocational teachers as part-time counselors.	4.19	1.03	4.13	1.36	3.83	0.99
Make vocational counselors available to students in the classroom.	4.12	0.95	4.00	1.53	4.11	0.90
Utilize an advisory system of vocational teachers for counselors.	4.04	0.90	3.86	1.07	3.78	0.73
Provide more student contacts with tradesmen.	4.04	0.93	4.25	1.17	4.17	0.71
Establish employment standards for vocational students to parallel the transfer standards for academic students.	3.78	1.10	4.17	0.98	4.06	0.80
Introduce more vocational exploration in elementary schools.	3.77	1.20	3.43	1.27	3.67	1.14

TABLE 4-10B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.77	0.43	4.54	0.84	4.49	0.81	4.50	0.80	4.88	0.35
4.45	0.74	4.63	0.62	4.56	0.75	4.23	1.01	4.63	0.74
4.73	0.55	4.59	0.63	4.40	0.80	4.69	0.48	4.75	0.46
4.23	0.81	4.41	0.84	4.31	0.78	4.08	0.79	4.25	1.39
3.55	1.01	4.05	1.14	4.36	0.93	4.55	0.52	4.00	1.20
4.00	0.98	4.41	0.74	3.99	1.02	3.91	1.04	4.25	0.89
4.00	1.11	3.98	0.94	4.11	0.84	4.00	0.74	4.13	1.13
4.27	0.77	4.15	0.80	3.86	1.06	3.75	0.87	4.13	0.83
4.00	1.05	3.80	1.03	3.67	1.20	3.45	1.13	3.50	1.20
4.05	1.33	4.07	1.13	3.61	1.20	3.83	0.94	4.25	1.04

students is strikingly unjust, i.e., placement in another educational institution receives far more attention than placement of a student in the world of work.

Three suggestions relate to the counselors. Among these three providing in-service training in vocational guidance for counselors receives the highest score (4.50). Implicit in this suggestion is the supplementation and updating of the training counselors have received to relate their competence more directly to the large numbers of non-transfer, occupationally oriented students. Another well supported suggestion (4.25) concerning counselors calls for the initiation of more dialogue with the counseling staff. The needs for increased understandings between vocational and counseling personnel are implicit in this suggestion. Furthermore, the leaders support the suggestion of making vocational counselors available to students in the classroom with a score of 4.12. The current fear is that counselors are now both removed from the vocational students and vocational education.

Two suggestions for the utilization of vocational teachers receive scores of 4.19 and 4.04 respectively. The higher score is given to the suggestion of utilizing teachers as part-time counselors and implies that occupational counseling could be better related to the world of work through an instructor who is knowledgeable in a particular vocational area. The other suggestion provides for the same objective through the use of advisory committees of teachers for counselors.

The three suggestions that score lowest in this set of ten are related to students prior to graduation. The suggestion to provide more

student contacts with tradesmen receives a score of 4.04. It attempts to deal with the problem of inadequate and unrealistic exposure to the real world of work. Establishing employment standards for vocational students to parallel the standards for transfer students was less enthusiastically received (3.74). So was the suggestion to introduce more vocational exploration in the elementary schools (3.77).

Vocational guidance by teaching background. Leaders with a teaching background in general education give their highest score (4.68) to maintaining placement services for all graduates. They also give very high scores to maintaining follow-up studies of graduates (4.50), providing in-service training for counselors (4.45), and a high score to having vocational counselors available to students in the classroom (4.16).

The highest score (4.60) of leaders with trade and technical backgrounds is given to the suggestion of providing in-service training for counselors. They also give a very high score (4.35) to initiating more dialogue with counselors and a high score (4.22) to having counselors available in the classroom. They also call for follow-up studies and placement services for graduates with very high scores of 4.55 and 4.49 respectively. The use of vocational teachers as part-time counselors and in an advisory system for counselors receive scores of 4.45 and 4.18 respectively. They also give a substantial score (4.03) to more student contacts with tradesmen.

Leaders with industrial arts backgrounds award suggestions for follow-up studies and placement service of graduates scores of 4.65 and

4.33 respectively. They call for in-service training for counselors with a score of 4.43 and more dialogue with counseling staffs with a score of 4.31. They also call for more student contacts with tradesmen with a score of 4.15.

Leaders with other types of vocational backgrounds place their major emphasis on graduates. They call for placement services for all graduates with a score of 4.72 and follow-up studies of graduates and drop-outs with a score of 4.48. In-service training for counselors and more dialogue with counselors are awarded scores of 4.36 and 4.20 respectively. Substantial support (4.04) is also given to more student contacts with tradesmen.

Vocational guidance by type of institution. Adult school leaders award their highest score (4.63) to providing in-service training for counselors and their second highest score (4.38) to more dialogue with the counseling staff. They call for placement services for all graduates with a very high score of 4.38 and follow-up studies of graduates with a score of 4.25 and the establishment of employment standards for vocational students to parallel the transfer standards for academic students with a score of 4.17. The utilization of vocational teachers as part-time counselors receives a substantial score of 4.13 by adult school leaders.

Correctional teachers award their highest score (4.50) to the suggestion of providing in-service training for counselors. They support the idea of having counselors available to the students in the classrooms with a score of 4.11. They also call for placement services for graduates with a score of 4.22 and follow-up studies with a score of 4.11. More

student contacts with tradesmen receives a score of 4.17 and employment standards for vocational students receives a score of 4.06.

County leaders place a major emphasis on work with graduates by awarding very high scores of 4.77 and 4.45 respectively to follow-up studies and placement services. They also call for more in-service training for counselors and more dialogue with counselors with scores of 4.73 and 4.23 respectively. More student contacts with tradesmen and more vocational exploration in the elementary schools receive scores of 4.27 and 4.05 respectively.

High school leaders place their major emphases on graduates and counselors. Placement services for graduates and follow-up services of graduates are awarded scores of 4.63 and 4.54 respectively. They call for in-service training for counselors with a score of 4.59, having counselors available in the classroom with a score of 4.41, and more dialogue with counselors with a score of 4.41. More student contact with tradesmen also receives a high score (4.15).

Junior college leaders call for graduate placement services and follow-up studies of graduates with very high scores of 4.56 and 4.49 respectively. They call for in-service training of counselors with a score of 4.40 and more dialogue with counselors with a score of 4.31. They prefer that vocational teachers be used as part-time counselors over using them in an advisory system with scores of 4.36 and 4.11 respectively.

Providing in-service training for counselors receives the highest score (4.69) from state leaders. They also call for more dialogue with

counselors with a score of 4.08. They support follow-up studies of graduates and drop-outs with a very high score of 4.50 and placement services with a score of 4.23. A very high score (4.55) also indicates that they see a definite place for vocational teachers as part-time counselors.

Challenge of the New Technology

No one has given an adequate definition of "the new technology" but the rapid changes now besetting the social and economic institutions in industrial nations have been widely observed. Landmarks in the technological changes of industry and commerce have been the introduction of automation and computers. Automation has provided specialized machines for many sensing and motor tasks formerly performed by human labor. Computers have provided other types of machines for the traditional human tasks involving experience, memory, analysis, logic and decision-making.

The full impact of the new technology has been slow to register on the American consciousness and the vagueness of the educational response to the challenge of the new technology--or, indeed the absence of a commitment to make a response--is the issue. The suggestions in Tables 4-11A and 4-11B are offered by trade and technical leaders for the solution of this problem.

Most of the suggestions offered by the leaders of trade and technical education involve methods of keeping up-to-date with industrial changes. Building direct liaison with key people in industry is the most favored suggestion (4.64). Many vocational leaders state that people in industry provide the best "early warning system" of what is

about to happen in industry and provide an avenue of getting "inside" of these changes when they take place. Two other suggestions to using industrial personnel are given substantial support. Advisory committees to update course content, identify new courses and evaluate equipment needs is supported with a score of 4.36.

Two suggestions which depend directly or indirectly upon studies to obtain data about industrial changes are not as well supported. Conducting industrial surveys to determine specific training needs and working closely with the State Department of Employment to keep abreast of manpower needs have scores (4.15 and 3.94) which rank seventh and last among the ten suggestions.

Two suggestions involving teachers receive much more support. Trade and technical leaders suggest that teachers should be encouraged to work in industry to learn new developments and that in-service training should be provided with very high scores of 4.60 and 4.48 respectively.

Suggestions that relate to instructional programs include a well supported suggestion (4.48) to utilize more modern equipment (than that available to a school) through loan, lease or industry-based programs. Providing more work-study programs is supported with a score of 4.19 but restructuring traditional subject areas into "families" of occupational skills receives the next to the lowest score (4.04).

The new technology by teaching background. Leaders with general education backgrounds award their highest score (4.63) to obtaining more modern equipment. Work/study programs are supported with a score of

TABLE 4-11A

SUGGESTIONS CONCERNING THE NEW TECHNOLOGY OF VOCATIONAL EDUCATION
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Build direct liaison with key people in industry.	4.64	0.61	4.55	0.60	4.70	0.58	4.61	0.64	4.65	0.63
Encourage teachers to work in industry to learn new developments.	4.60	0.67	4.26	0.98	4.70	0.52	4.81	0.40	4.50	0.71
Utilize more modern equipment through loan, lease or industry-based programs.	4.48	0.78	4.63	0.59	4.42	0.87	4.61	0.55	4.54	0.71
Provide in-service training for teachers to keep up to date in trade and technical competencies.	4.48	0.76	4.29	0.93	4.54	0.69	4.61	0.80	4.42	0.64
Utilize advisory committees to update course content, identify new courses and evaluate equipment needs.	4.46	0.82	4.32	0.90	4.65	0.58	4.28	0.81	4.15	1.22
Bring resource people from industry to assist in classroom instruction.	4.36	0.80	4.26	0.76	4.35	0.82	4.47	0.70	4.46	0.95

TABLE 4-11A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Provide more work/study programs.	4.19	0.94	4.34	0.81	4.01	1.00	4.42	0.94	4.54	0.65
Conduct industrial surveys to determine specific training needs.	4.15	1.02	3.87	1.12	4.30	0.95	4.03	1.16	4.04	0.92
Restructure traditional subject areas into "families" of occupational skills.	4.04	1.09	4.16	0.97	3.90	1.17	4.36	0.96	4.12	1.11
Work closely with the State Department of Employment to keep abreast of manpower needs.	3.94	0.99	3.95	0.96	4.00	0.98	3.89	1.04	3.85	1.08

TABLE 4-11B

SUGGESTIONS FOR RESPONDING TO THE CHALLENGE OF THE
NEW TECHNOLOGY BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Build direct liaison with key people in industry.	4.64	0.61	5.00	0.00	4.56	0.70
Encourage teachers to work in industry to learn new developments.	4.60	0.67	5.00	0.00	4.11	1.02
Utilize more modern equipment through loan, lease or industry-based programs.	4.48	0.78	5.00	0.00	4.72	0.57
Provide in-service training for teachers to keep up to date in trade and technical competencies.	4.48	0.76	4.75	0.46	4.44	0.62
Utilize advisory committees to update course content, identify new courses and evaluate equipment needs.	4.46	0.82	4.88	0.35	4.22	1.00
Bring resource people from industry to assist in classroom instruction.	4.36	0.80	4.00	1.53	3.94	1.16
Provide more work/study programs.	4.19	0.94	4.50	0.93	3.94	0.73
Conduct industrial surveys to determine specific training needs.	4.15	1.02	4.38	1.19	4.17	1.04
Restructure traditional subject areas into "families" of occupational skills.	4.04	1.09	3.50	1.51	3.89	0.96
Work closely with the State Department of Employment to keep abreast of manpower needs.	3.94	0.99	3.75	1.17	3.83	0.99

TABLE 4-11B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.45	0.74	4.65	0.62	4.61	0.62	4.67	0.65	5.00	0.00
4.64	0.58	4.68	0.62	4.56	0.64	4.75	0.45	4.50	1.07
4.36	0.73	4.35	0.86	4.39	0.89	4.50	0.52	4.50	0.76
4.64	0.49	4.60	0.78	4.28	0.87	4.92	0.29	4.63	0.52
4.05	0.95	4.28	1.06	4.53	0.72	4.75	0.62	4.75	0.46
4.23	0.75	4.35	0.77	4.40	0.72	4.25	0.87	4.63	0.52
4.41	0.96	4.45	0.71	4.12	0.95	4.08	0.90	3.75	1.58
3.50	1.30	4.28	0.88	4.18	0.95	4.17	1.03	4.50	0.93
4.32	1.04	4.33	0.83	3.98	1.13	4.00	0.95	3.75	1.58
3.86	1.04	4.30	0.88	3.79	0.98	4.17	1.11	4.00	0.93

4.34 and restructuring subject areas into "families" of occupational skills is given a score of 4.16. Building a direct liaison with key people in industry is supported with a score of 4.55, utilizing advisory committees is given a score of 4.32 and bringing industrial resource people into the classroom is given a score of 4.26. Their scores also show a slight preference for in-service teacher training (4.29) to having teachers work in industry (4.26).

Leaders with trade and technical backgrounds place a major emphasis on working with industrial personnel. For example, they award very high scores to building a direct liaison with key people in industry (4.70), utilizing advisory committees (4.65), and the use of industrial personnel in classroom instruction (4.35). They also give very high support with their score of 4.70 to encouraging teachers to work in industry and their score of 4.54 of in-service training for teachers. But they evidently prefer conducting their own industrial surveys to determine specific training needs (4.30) to working with the State Department of Employment (4.00). In regard to program they score the utilization of more modern equipment higher (4.42) than providing more work/study programs and give the restructuring of subject areas into "families" of occupational skills their lowest score (3.90).

Leaders with industrial arts backgrounds put the emphasis on teachers in their scores of these suggestions. They award the suggestion of encouraging teachers to work in industry a score of 4.81 and providing in-service training for teachers a score of 4.61. A liaison with key

people in industry (4.61), bringing industrial resource people into classroom instruction (4.47) and utilizing advisory committees (4.28) are also well supported. Making more modern equipment available for school use receives a score of 4.61, work/study programs receive a score of 4.42 and restructuring subject areas into "families" of occupational skills receives a score of 4.36. Obtaining data from industrial surveys receives a score of 4.03.

Leaders with other types of vocational backgrounds also give much support to working with industrial personnel. Building a direct liaison with key people in industry is awarded their highest score (4.65), bringing industrial resource people for classroom instruction is supported with a score of 4.46, and utilizing advisory committees is given a score of 4.15. Suggestions involving instructional programs are also awarded high scores. For example, providing more work/study programs and utilizing more modern equipment not available to the schools both receive a score of 4.54. Restructuring subject areas into "families" is provided a score of 4.12. Encouraging teachers to work in industry and providing them with in-service training are also very highly scored at 4.50 and 4.42 respectively.

The new technology by type of employment. Adult school leaders award the very highest score of 5.00 to building direct liaison with key people in industry, encouraging teachers to work in industry, and utilizing modern equipment not available to the schools by loan, lease or industry-based programs. In addition, they support the use of advisory committees with a very high score (4.88), as well as in-service training for teachers

(4.75) and work/study programs for students (4.50). Conducting industrial surveys to determine specific training needs also receives substantial support (4.38).

Correctional leaders award their highest score (4.72) to obtaining more modern equipment for vocational instruction. Their second highest score is given to building direct liaison with key people in industry (4.56). They support the use of advisory committees with a score of 4.22. They evidently prefer in-service training for teachers (4.44) over encouraging teachers to work in industry (4.11). They also call for industrial surveys with a score of 4.17.

County leaders place the greatest emphasis upon teachers in adapting to the new technology. They give the same high score of 4.64 to in-service training for teachers and encouraging teachers to work in industry. They give a very high score to building a direct liaison with key people in industry (4.45), and a high score to using industrial resource people in the classroom (4.23) but the use of advisory committees receives much lower score (4.05). They call for more work/study, utilizing more modern equipment and restructuring subject areas into "families" of occupations with scores of 4.41, 4.36 and 4.32 respectively.

High school leaders also emphasize teachers in adapting to the new technology by awarding the suggestions to encourage teachers to work in industry a score of 4.68 and providing them with in-service training with a score of 4.60. Industrial personnel, however, also fit into their picture. A liaison with key people in industry receives a score of 4.65,

industrial resource people for use in classroom instruction receive a score of 4.35 and advisory committees receive a score of 4.28. High school leaders also support more work/study programs with a score of 4.45, more modern equipment with a score of 4.35 and the restructuring of subject areas into "families" of occupational skills with a score of 4.33. They also assign high scores to working closely with the State Department of Employment (4.30) and to industrial surveys (4.28).

Junior college leaders place a major emphasis on working with industrial personnel in their struggle with the new technology. They give their highest score to building a liaison with key industrial people (4.61) and support advisory committees and industrial resource people in the classrooms with scores of 4.53 and 4.40 respectively. Encouraging teachers to work in industry is supported with the high score of 4.56 and in-service training for teachers is supported with a score of 4.28. They also call for more modern equipment with a score of 4.39 and more work/study programs with a score of 4.12. Conducting industrial surveys receives a score of 4.18.

Teachers also receive the major emphasis in the minds of State Department leaders. They award very high scores to in-service training for teachers (4.92) and to encouraging teachers to work in industry (4.75). They also assign very high scores to utilizing advisory committees (4.75) to building a liaison with key people in industry (4.67), and they give a high score to bringing industrial personnel into the classroom (4.25). They also call for more modern equipment with a score of 4.50,

work/study programs with a score of 4.09. Industrial surveys and working with the State Department of Employment both receive scores of 4.17.

Poverty

There are still too many jobless or underemployed men and women in the current period of economic prosperity--who, in the President's words, are "...blocked from productive employment by barriers rooted in poverty: lack of health, lack of education, lack of training, lack of motivation."¹⁶ The Manpower Report of The President provides the following description of unemployment:

Half a million persons were enemployed in the poverty areas of large Standard Metropolitan Statistical Areas (SMSA's) in March 1966, representing 7.5 percent of the poverty area work force. This unemployment rate was nearly double the national average rate at the time (4.0 percent). One out of every 4 teenage workers (14 to 19 years old) in the poverty areas and nearly 1 out of 10 non-white teenagers, nearly a third of the boys and nearly half of the girls were jobless. Furthermore, the geographic concentration of non-white unemployment was great; about 60 percent of the jobless non-whites in the SMSA's were living in these poverty areas, four times the proportion for jobless white workers.

Startling as these figures are, they do not adequately represent the situation in some of the poorest slums. The unemployment rate was 10 percent or more in the slum areas of 10 of the 13 cities for which information was obtained by the Department of Labor and cooperating State agencies in November 1966 (in three cities from independent studies).¹⁷ In two of these city slums, the unemployment rate was above 15 percent.¹⁸

¹⁶The President's message on Manpower, January 23, 1968, p. 2.

¹⁷For a discussion of these surveys and their findings, see the Manpower Report of the President (Washington: U. S. Government Printing Office 1967) pp. 74, 75.

¹⁸Manpower Report of the President (Washington: U. S. Government Printing Office, 1968) p. 84.

But sub-employment is as important a concept for poverty considerations as unemployment. The employed poor--with earnings below the poverty line even for full-time work--now represent a larger problem, at least in terms of numbers, than the unemployed. Yet they are a group which has so far received comparatively little attention.

The suggestions in Tables 4-12A and 4-12B are offered by leaders of trade and technical education in California to deal with the problem of poverty through vocational education. The fact that the overall scores are lower for the suggestions in this section than the scores in most of the other sections suggest that the leaders feel less certain about these suggestions as solutions to the vocational problems of poverty. Only four of the ten items are scores as very high, high or substantial.

Educational program is the subject matter of six of the ten suggestions. The highest score (4.45) and the lowest score (2.39) reveal a striking preference for reaching the poverty group through special purpose courses rather than through traditional programs. The other program suggestion that receives substantial support (4.08) is work/study programs. Devoting more curricula to basic education, teaching in the native language of monolingual groups and developing more skill centers receive weak scores of 3.71, 3.15 and 3.07 respectively.

The problem of reaching poverty group members is the subject matter of four suggestions. Publicizing training opportunities through radio and television, which is being done on a limited scale in California, is supported with a score of 4.14. Joining community groups concerned with

TABLE 4-12A

SUGGESTIONS FOR POVERTY PROBLEMS
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Offer short special purpose courses.	4.45	0.79	4.47	0.65	4.43	0.84	4.72	0.45	4.44	0.77
Publicize training opportunities through radio and television.	4.14	1.03	4.37	0.91	4.13	1.03	4.09	1.07	4.04	1.10
Join community groups concerned with solving poverty problems.	4.13	1.00	4.22	0.93	4.07	1.04	4.38	0.78	4.12	1.01
Emphasize work/study programs.	4.08	0.95	4.28	0.78	3.90	1.04	4.29	0.83	4.40	0.76
Utilize mobile counseling units in poverty areas.	3.73	1.12	3.63	1.37	3.74	1.02	3.97	1.07	3.65	1.15
Devote more curricula to basic education.	3.71	1.07	3.51	1.10	3.73	1.07	3.74	1.04	3.88	1.13
Eliminate educational expenses for members of poverty groups.	3.41	1.29	4.00	1.37	3.22	1.22	3.44	1.28	3.58	1.32
Teach in native language of monolingual groups.	3.15	1.43	3.62	1.44	2.93	1.47	3.12	1.37	3.52	1.20

TABLE 4-12A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Develop more skill centers.	3.07	1.37	3.44	1.25	3.01	1.43	2.88	1.41	3.22	1.17
Emphasize traditional rather than special programs.	2.39	1.22	2.08	1.21	2.41	1.22	2.56	1.11	2.48	1.26

TABLE 4-12B

SUGGESTIONS FOR POVERTY PROBLEMS
BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Offer short special purpose courses.	4.45	0.79	4.13	1.13	4.47	0.72
Publicize training opportunities through radio and television.	4.14	1.03	3.67	1.75	3.94	1.03
Join community groups concerned with solving poverty problems.	4.13	1.00	4.50	0.84	3.71	1.26
Emphasize work/study programs.	4.08	0.95	3.67	0.82	4.12	0.78
Utilize mobile counseling units in poverty areas.	3.73	1.12	3.50	1.52	3.47	1.23
Devote more curricula to basic education.	3.71	1.07	4.43	0.79	3.38	1.26
Eliminate educational expenses for members of poverty groups.	3.41	1.29	2.71	1.70	2.65	1.32
Teach in the native language of monolingual groups.	3.15	1.43	4.14	1.57	2.81	1.33
Develop more skill centers.	3.07	1.37	4.00	1.53	4.00	0.89
Emphasize traditional rather than special programs.	2.39	1.22	2.43	1.62	2.29	1.21

TABLE 4-12B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.59	0.73	4.50	0.68	4.36	0.90	4.46	0.66	4.88	0.35
4.18	1.10	4.13	1.09	4.16	0.98	4.08	1.12	4.63	0.52
3.77	1.15	4.23	0.97	4.22	0.94	4.00	1.21	4.50	0.76
4.23	1.02	4.33	0.76	3.98	1.02	3.92	1.26	4.29	0.49
3.68	1.17	3.64	1.29	3.82	1.10	3.83	0.83	4.00	0.76
3.23	1.15	3.98	1.00	3.74	1.08	3.46	1.05	3.63	1.19
3.05	1.36	3.56	1.31	3.68	1.18	3.33	1.30	3.00	1.31
2.77	1.60	3.29	1.33	3.05	1.51	3.50	1.24	3.00	1.20
2.45	0.91	3.45	1.38	2.88	1.32	2.58	1.51	3.43	1.72
2.18	1.18	2.25	1.21	2.54	1.26	2.18	1.08	2.13	0.99

solving poverty problems is substantially supported with a score of 4.13 but eliminating the educational expenses for members of poverty groups and taking mobil counseling units into poverty areas receive only weak support (3.41 and 3.73 respectively).

Poverty suggestions by teaching background. Leaders with general education backgrounds favor short special purpose courses and work/study programs with scores of 4.47 and 4.28 respectively. To reach poverty groups they emphasize publicity through radio and television with a score of 4.27 and joining with other concerned groups with a score of 4.22.

Leaders with trade and technical education background call for short special purpose courses with a very high scores of 4.43. They give substantial scores to publicity through radio and television (4.13) and joining with other concerned community groups (4.07).

Short special purpose courses and work/study programs receive scores of 4.72 and 4.29 from leaders with backgrounds in industrial arts. To reach the poverty population they favor working with community groups (4.38) over publicity through radio and television.

Very high scores are awarded by leaders with backgrounds in other vocational areas to offering short special purpose courses (4.44) and emphasizing work/study programs (4.40). They emphasize joining community groups with a score of 4.12 and publicity with a score of 4.04.

Poverty suggestions by type of institution. Adult school educators call for more basic education with a score of 4.43, teaching in the native language of monolingual groups with a score of 4.14, and short special

purpose courses with a score of 4.13. Their highest score (4.50), however, goes to joining community groups concerned with solving poverty problems.

Correctional leaders put the emphasis on program with a high score for short special purpose classes (4.47) and work/study programs (4.12).

County leaders call for short special purpose courses with a score of 4.59 and work/study programs with a score of 4.23. Publicity also is favored with a high score of 4.18.

High school leaders emphasize short special purpose courses with a very high score of 4.50 and work/study programs with a score of 4.33. They also call for working with community groups with a score of 4.23 and publicity with a score of 4.13.

Junior college leaders emphasize short special purpose courses with a score of 4.36 and call for joining with community groups and publicity with scores of 4.22 and 4.16 respectively.

State Department leaders limit their notable scores to 4.46 for short special purpose courses and 4.08 for publicity through radio and television.

Continuing Occupational Education

The need for continuing occupational education is seldom an issue. A problem exists only because of the difference between what is said and what is done. According to John Gardner, the problem exists because of an artificial wall.

The successful transition of young people from school to job will become easier to accomplish as the artificial wall between the schools and the outer world breaks down. Fortunately the wall has been crumbling for some time, and is certain to disintegrate further. The vast programs outside the formal system is striking evidence of the fact...Also disintegrating is the notion that education is something that goes forward with no interruption until it is capped by some sort of graduation ceremony, whereupon it ends forever. We are coming to recognize that education must be lifelong, that it may be interrupted at many points, and that it may take place in many settings.¹⁹

Our educational system has not yet responded to this broader idea of continuous learning. It still places emphasis on the concept of full-time education over a set period of time, with a prescribed program of courses, ending at a set termination date. Grant Venn calls for more flexibility in continuing occupational education:

By contrast, a good vocational or technical education program will have as many (or more) students doing preparatory work; this goal has already been achieved in many of the existing programs. Those doing extension work are not necessarily day or degree-credit students, nor is their entry marked by prerequisites other than ability to profit from the instruction, nor is the course length necessarily divided into the traditional quarters or semesters--and this flexibility is an important element to their effectiveness.²⁰

When the leaders of trade and technical education in California discussed the need for improving continuing occupational education their suggestions were directed at a number of related problems. Three suggestions focused on determining needs. Other suggestions were concerned with

¹⁹John Gardner, "From High School to Job" 1960 Annual Report of the Carnegie Corporation (New York: The Corporation, 1961), p. 19.

²⁰Venn, op. cit., p. 151.

improving, promoting, changing and evaluating the program. See Tables 4-13A and 4-13B.

Of the three suggestions to determine needs in continuing education maintaining direct liaison with industry is awarded the highest score (4.69) by the overall population. It is preferred over advisory committees (4.44) and conducting industrial surveys (3.96).

Trade and technical leaders emphasize the need for adaptable and flexible programs in their suggestions. In their two most frequently mentioned suggestions short special purpose courses receives a high score (4.33) and utilizing the more flexible structures of extension education receives a substantial score.

To promote existing programs of continuing occupational education the direct liaison with industry is preferred with a score of 4.42 over vocational guidance centers for vocational alumni with a score of 3.58.

The evaluation of programs is suggested by conducting follow-up studies of graduates and drop-outs. Follow-up studies, which are often looked upon as the "acid" test of the program, are supported with a score of 4.35.

Continuing occupational education by teaching background. To determine the program needs leaders with general education backgrounds give their major support to maintaining direct liaison with industry with a score of 4.71 and advisory committees with a score of 4.32. Short special purpose courses and extension education are also emphasized to facilitate programming with scores of 4.26 and 4.98 respectively. Direct liaison with

TABLE 4-13A

SUGGESTIONS FOR CONTINUING OCCUPATIONAL EDUCATION
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Maintain direct liaison with industry to determine continuing occupational training needs.	4.69	0.60	4.71	0.57	4.73	0.57	4.60	0.69	4.58	0.58
Keep continuing occupational programs up to date with advisory committees.	4.44	0.81	4.32	0.82	4.61	0.70	4.20	0.76	4.21	1.10
Maintain direct liaison with industry to publicize continuing occupational courses.	4.42	0.79	4.50	0.73	4.49	0.78	4.26	0.74	4.21	0.83
Conduct follow-up studies on graduates and drop-outs.	4.35	0.96	4.37	0.97	4.39	0.98	4.41	0.82	4.21	1.02
Establish more short special purpose courses for continuing occupational education.	4.33	0.79	4.26	0.98	4.30	0.81	4.49	0.61	4.38	0.65
Utilize the more flexible structures of extension education for continuing education.	4.03	0.94	4.08	1.02	4.02	0.91	4.12	0.84	4.08	1.02

TABLE 4-13A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Conduct leadership workshops on the planning of change in continuing education.	4.03	0.97	4.13	0.84	4.03	1.00	3.91	1.04	4.17	0.96
Conduct industrial surveys to identify modifications in the curricula of continuing occupational education.	3.96	0.99	3.84	1.03	4.06	0.99	3.79	0.98	3.71	0.95
Provide 100 percent federal support for innovative programs in continuing education.	3.78	1.29	3.89	1.22	3.76	1.27	3.85	1.42	3.79	1.32
Establish vocational guidance centers for vocational alumni.	3.58	1.10	3.37	1.10	3.71	1.13	3.38	1.07	3.65	0.98

TABLE 4-13B

SUGGESTIONS CONCERNING CONTINUING OCCUPATIONAL EDUCATION
BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Maintain direct liaison with industry to determine continuing occupational training needs.	4.69	0.60	4.38	0.74	4.53	0.77
Keep continuing occupational programs up to date with advisory committees.	4.46	0.81	4.25	0.71	4.42	0.84
Maintain direct liaison with industry to publicize continuing occupational courses.	4.42	0.79	4.38	0.74	4.16	1.01
Conduct follow-up studies on graduates and drop-outs.	4.35	0.96	3.63	1.51	4.21	1.18
Establish more short special purpose courses for continuing occupational education.	4.33	0.79	4.63	0.52	3.89	1.05
Utilize the more flexible structures of extension education for continuing education.	4.03	0.94	4.13	0.83	3.58	1.17
Conduct leadership workshops on the planning of change in continuing education.	4.03	0.97	4.00	0.82	4.05	0.97
Conduct industrial surveys to identify modifications in the curricula of continuing occupational education.	3.96	0.99	3.63	1.06	3.74	1.19
Provide 100 percent federal support for innovative programs in continuing education.	3.78	1.29	3.29	1.89	3.68	1.38

TABLE 4-13B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.45	0.91	4.61	0.59	4.71	0.54	4.85	0.38	5.00	0.00
4.18	0.85	4.27	0.99	4.53	0.78	4.38	0.77	4.63	0.74
4.14	0.89	4.39	0.79	4.45	0.80	4.62	0.51	4.75	0.46
4.64	0.73	4.37	0.75	4.38	0.95	3.75	1.29	4.88	0.35
4.41	0.85	4.50	0.69	4.24	0.81	4.54	0.66	4.63	0.52
3.95	1.05	4.22	0.79	4.03	0.92	3.83	0.83	4.50	0.76
3.95	1.25	4.13	0.88	3.99	0.99	3.75	1.36	4.38	0.74
3.59	1.18	4.18	0.83	3.93	0.94	3.83	1.27	4.38	0.92
3.59	1.44	4.19	1.24	3.66	1.28	3.92	0.79	4.50	0.53

TABLE 4-13B (continued)

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Establish vocational guidance centers for vocational alumni.	3.58	1.10	3.67	1.37	3.63	1.16

TABLE 4-13B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
3.45	1.26	3.76	1.09	3.44	1.14	3.75	0.75	3.75	0.89

industry is seen as the major method of promotion (4.50), leadership workshops are the preferred vehicle for change (4.03) and follow-up studies are given a very high score for evaluation (4.37).

Leaders with trade and technical teaching backgrounds support all three methods of determining needs with notable scores. The suggestions to maintain a liaison with industry and utilize advisory committees are awarded the very high scores of 4.73 and 4.61 respectively. Industrial surveys are supported with a substantial score of 4.06. They prefer short special purpose courses over emphasizing extension education with scores of 4.30 and 4.02 respectively. Direct liaison is preferred for promotion (4.49), leadership workshops are preferred to effect change (4.03) and follow-up studies are emphasized with a score of 4.39.

Leaders with industrial arts backgrounds support direct liaison with industry with the very high score of 4.60 and advisory committees with a score of 4.20. Short special purpose courses are preferred (4.49) over extension education (4.12) to facilitate program building. Direct liaison is favored (4.26) for promoting programs and follow-up studies receive substantial support with a score of 4.41.

Leaders with other types of vocational backgrounds look to a direct liaison with industry to determine needs with a score of 4.58 and to advisory committees with a score of 4.21. Short special purpose courses are emphasized with a score of 4.38 and extension education with a score of 4.08. They also look to a direct liaison with industry for the promotion of programs (4.21), to leadership workshops to effect change (4.17), and to follow-up studies for evaluation (4.21).

Continuing occupational education by type of institution. Leaders of adult school look to an industrial liaison and advisory committees for the determination of needs with scores of 4.38 and 4.25 respectively. Short special purpose courses are given a very high score (4.63) and extension education a substantial score (4.13) for facilitating continuing occupational education. Direct liaison with industry is preferred for promotion of programs (4.38).

Correctional leaders also look to a liaison with industry and advisory committees to determine needs with scores of 4.53 and 4.42 respectively. Program suggestions are not well supported, but a direct liaison with industry for promotion of program, follow-up studies for evaluation, and leadership workshops are called for with scores of 4.16, 4.21 and 4.05 respectively.

County leaders award follow-up studies their highest score (4.64). They would determine needs through a direct liaison with industry (4.45) and advisory committees (4.18). They also support short special purpose courses with a score of 4.41 and publicizing programs through a direct liaison with industry (4.14).

High school leaders score all but one of the suggestions in this section with very high, high or substantial scores. They support the determination of needs with direct liaison with industry, advisory committees and industrial surveys with scores of 4.61, 4.53 and 4.18 respectively. They call for more short special purpose courses with a score of 4.22. They prefer to effect changes in continuing education with 100 percent funding over leadership workshops with scores of 4.18 and 4.13 respectively.

They call for the promotion of their programs through direct contacts with industry (4.39) and follow-up studies with a score of 4.37.

Junior college leaders emphasize the direct liaison with industry and advisory committees in the determination of needs with scores of 4.71 and 4.53 respectively. They call for short special purpose courses with a score of 4.24 and more flexible scheduling through extension education with a score of 4.03. They give very high scores to promoting programs with direct industrial contacts (4.45) and evaluation through follow-up studies (4.38).

State Department leaders give very high scores to four suggestions and weak or poor scores to all other items. They award a score of 4.85 to a direct liaison with industry to determine training needs, a score of 4.62 to a direct liaison with industry to publicize programs, a score of 4.54 for short special purpose courses, and a score of 4.38 for advisory committees.

Pre-service Trade and Technical Teacher Training

The keystone in any program of trade and technical education is the teacher. Quality programs cannot be assured unless they are taught by a qualified teaching force. At the present time there exists a shortage of qualified teachers.

The training of trade and technical teachers differs markedly from the training of academic teachers. They are not the traditional products of schools of education. They gain their subject area competence on a job in the world of work. When they are recruited they do not have the luxury of four or five years of teacher education prior to teaching.

In California it is customary to obtain a teaching credential on "postponement" and enroll in two core programs of nine units each offered through the Extension Division of The University of California. The successful completion of these eighteen hours entitles the teacher to a clear credential.

Since the preparation of craftsmen and technicians to teach is receiving wide-spread attention throughout the country and the need for qualified trade and technical teachers is great, the leaders in trade and technical education in California were asked for their suggestions concerning trade and technical teacher training. The suggestions in Tables 4-14A and 4-14B are samples of their responses to help the prospective teacher bridge the gap between the world of work and the world of education.

Five of the suggestions refer to emphases in the core programs of the Division of Vocational Education offered through University Extension. The overall population awards the very high score of 4.36 to observation-demonstration sessions with master (expert) teachers in training programs, and high scores were given to the other four suggestions. The need to emphasize lesson planning receives a score of 4.26. The demand for practice-demonstrations from all trainees closely follows with a score of 4.25. They call for an emphasis on teaching methodology (how to teach) with a score of 4.25 and an emphasis on the learning process (how students learn) with a score of 4.19.

Three suggestions are related to how the core programs should be offered rather than their emphases. Offering the core programs throughout

TABLE 4-14A

SUGGESTIONS FOR PRE-SERVICE TEACHER EDUCATION
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Include observation-demonstration sessions with master (expert) teachers in training programs.	4.36	0.76	4.50	0.60	4.31	0.80	4.51	0.70	4.24	0.83
Establish on-the-job programs to help new teachers.	4.28	0.84	4.38	0.79	4.25	0.89	4.35	0.77	4.32	0.80
Emphasize lesson planning.	4.26	0.87	4.00	1.11	4.37	0.80	4.35	0.81	4.08	0.81
Demand practice-demonstrations of <u>all</u> trainees.	4.25	0.93	4.00	1.11	4.41	0.83	4.12	1.09	4.08	0.83
Emphasize teaching methodology (how to teach).	4.22	0.91	3.97	1.09	4.31	0.82	4.23	0.91	4.28	0.89
Emphasize the learning processes (how students learn).	4.19	0.91	4.24	0.88	4.19	0.89	4.11	0.93	4.44	0.82
Offer core programs throughout the year.	4.05	0.95	4.06	0.97	4.18	0.91	3.83	1.04	3.96	0.86
Disperse teacher education to more locations.	3.98	1.16	3.92	1.36	3.97	1.15	4.06	1.19	4.13	0.86

TABLE 4-14A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Establish a board of examiners to evaluate the work experience of teachers and to make recommendations for needed upgrading.	3.52	1.23	3.32	1.49	3.68	1.13	3.33	1.16	3.48	1.36
Provide different teacher training for high school, junior college and correctional teachers.	3.12	1.45	3.00	1.47	3.07	1.50	3.58	1.37	3.13	1.23

TABLE 4-14B

SUGGESTIONS CONCERNING PRE-SERVICE TEACHER EDUCATION
BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Include observation-demonstration sessions with master (expert) teachers in training programs.	4.36	0.76	4.75	0.46	4.11	0.74
Establish on-the-job programs to help new teachers.	4.28	0.84	4.29	0.95	4.11	0.74
Emphasize lesson planning.	4.26	0.87	4.38	0.92	4.21	0.98
Demand practice-demonstrations of <u>all</u> trainees.	4.25	0.93	5.00	0.00	4.47	0.70
Emphasize teaching methodology (how to teach).	4.22	0.91	4.25	0.89	4.00	1.05
Emphasize the learning process (how students learn).	4.19	0.91	3.88	1.00	4.00	0.82
Offer core programs throughout the year.	4.05	0.95	5.00	1.53	4.11	0.66
Disperse teacher education to more locations.	3.98	1.16	4.13	1.13	3.95	1.03
Establish a board of examiners to evaluate the work experience of teachers and to make recommendations for needed upgrading.	3.52	1.23	3.67	1.75	3.84	1.17
Provide different teacher training for high school, junior college and correctional teachers.	3.12	1.45	2.25	1.17	2.21	1.47

TABLE 4-14B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.33	0.86	4.46	0.68	4.33	0.82	4.31	0.85	4.13	0.83
4.43	0.81	4.42	0.68	4.17	0.96	4.33	0.65	4.38	1.06
3.81	1.25	4.31	0.83	4.28	0.77	4.42	0.90	4.00	1.20
3.90	1.34	4.32	0.78	4.13	0.94	4.58	0.51	3.88	1.36
3.86	1.28	4.29	0.87	4.24	0.83	4.23	0.93	3.75	1.04
4.19	1.12	4.32	0.77	4.26	0.92	4.15	1.07	3.38	0.74
4.00	1.03	4.14	0.95	3.95	0.98	4.23	0.83	4.00	1.07
3.62	1.36	4.16	1.00	3.87	1.24	4.00	1.35	4.63	0.74
3.29	1.01	3.66	1.26	3.39	1.27	3.46	1.51	3.13	1.55
2.81	1.57	3.25	1.34	3.23	1.47	2.83	1.19	3.43	1.51

the year (rather than in the summer time) was given a substantial score of 4.05, but the suggestion to disperse teacher education to more locations received a weak score (3.98) and the call for different teacher training for high school, junior college and correctional teachers was poorly supported (3.12).

One highly scored suggestion is related to the early, critical period of teaching. Establishing on-the-job programs to help new teachers during this period receives the score of 4.28.

A suggestion to screen new teachers to determine the value of their work experience for teaching purposes receives a poor score of 3.52.

Pre-service by teaching background. Leaders with backgrounds in general education award observation-demonstration sessions with master teachers the very high score of 4.50. The emphasis on the learning process is given a high score (4.24) but emphasis on lesson planning (4.00), practice-demonstrations (4.00), and teaching methodology (3.97) are weakly scored. On-the-job programs to help new teachers, however, is given a high score (4.38).

Leaders with trade and technical teaching backgrounds award very high scores (4.41 and 4.37 respectively) to demanding practice-demonstrations from all trainees and emphasizing lesson planning. High scores are given to methodology (4.31) and the learning process (4.19). The suggestion to offer core programs throughout the year also received a high score (4.18).

Leaders with industrial arts backgrounds awarded very high scores to emphases on observation-demonstration sessions (4.51) and lesson

planning (4.35). They give high scores to emphasizing teaching methodology (4.23) and the learning process (4.11) and a substantial score to practice-demonstrations (4.12). They call for on-the-job programs to help new teachers with a score of 4.35. Dispersing teacher education to more locations receives substantial support (4.11).

Leaders with teaching backgrounds in other vocational areas award a very high score (4.44) to emphasizing the learning process. High scores were also given to emphasizing teaching methodology (4.28) and observation-demonstration sessions (4.24). The call for emphases on lesson planning and practice-demonstrations are both substantially supported with the same score of 4.09. The call for on-the-job programs to help new teachers is given a high score (4.32). Dispersing teacher education is given substantial support (4.13).

Pre-service training by type of institution. Adult school leaders give very high scores to demanding practice-demonstrations of all trainees (5.00), observation-demonstration sessions with master teachers (4.75) and lesson planning (4.38). The emphasis on teaching methodology is also highly scored (4.25). Offering core programs throughout the year is also awarded a very high score (5.00) and dispersing teacher education is given a substantial score (4.13). They also call for on-the-job programs for new teachers with a high score of 4.29.

Correctional leaders award a very high score (4.47) to practice-demonstrations from all trainees and they call for an emphasis on lesson planning with a high score (4.21). They give observation-demonstration sessions a substantial score of 4.11, but give weak scores to teaching

methodology (4.00) and the learning process (4.00). Establishing on-the-job programs to help new teachers and offering core programs throughout the year are both substantially supported with the same score of 4.11.

County leaders give high scores to emphases on observation-demonstration sessions (4.33) and the learning process (4.19). They also award a very high score (4.43) to on-the-job programs for new teachers. All other scores provide weak or poor support.

High school leaders award a very high score (4.46) to observation-demonstration sessions and high scores to other emphases in the core programs. They call for emphasis on lesson planning with a score of 4.31, practice-demonstrations with a score of 4.32, teaching methodology with a score of 4.29, and the learning process with a score of 4.32. Establishing on-the-job programs to help new teachers is awarded the very high score of 4.42. They also give high support (4.16) to dispersing teacher education and substantial support (4.14) to offering core programs throughout the year.

Junior college leaders give high scores to emphases on observation-demonstration sessions (4.33), lesson planning (4.28), the learning process (4.26) and teaching methodology (4.24). They support practice-demonstration sessions for all trainees with a substantial score of 4.13. They also call for on-the-job programs to help new teachers with a score of 4.17.

State Department leaders award very high scores to practice-demonstration sessions for all trainees (4.58) and lesson planning (4.42).

They give high scores to emphasis on observation-demonstration sessions (4.31), teaching methodology (4.23) and the learning process (4.15). They also call for on-the-job programs for new teachers and core programs throughout the year with scores of 4.33 and 4.23 respectively.

In-service Teacher Training

The problem of maintaining and improving the quality of the trade and technical teaching force after entrance into the world of education is ever present. As scientific and technological knowledge advances the knowledge and skills involved in related occupations also advances. If the knowledge/skills gap between the world of work and the world of education increases because the teaching force has not kept up to date, the employability of vocational graduates is diminished.

Vocational educators look to in-service training as one of the best methods of maintaining a qualified teaching force. The Profiles Study of trade and technical teachers discovered that the attitudes of trade and technical teachers in California toward in-service training are unmistakably favorable.²⁰ The interviews with leaders of trade and technical education in this study also strongly supported in-service training. The question with trade and technical leaders is no longer whether in-service training is necessary but how to best expedite it.

The suggestions in this final section are directed at the problems of providing in-service training for trade and technical teachers. Two suggestions relate to emphases in training, two suggestions refer to the

²⁰Barlow and Reinhart, op. cit., pp. 178f.

needed discussion of training needs, two suggestions are related to salary scale credit for training and the remaining four specify who or how the programs should be implemented.

The overall population indicates its preference for an emphasis on the latest developments in subject areas over an emphasis on instructional skills by awarding these suggestions scores of 4.55 and 4.27 respectively. (See Tables 4-15A and 4-15B.)

The problem of making the needs apparent so that more could be done calls for suggestions to improve the discussion of in-service training. To help solve this problem the leaders give a high score (4.17) to maintaining a dialogue between administrators and other vocational leaders and a substantial score (4.05) to maintaining a dialogue between administrators and teachers.

The question of salary scale credits is raised in two suggestions. A high score of 4.32 is awarded the suggestion to give salary credit for qualified work experience programs in industry but a much lower score (4.02) is given the suggestion to insist that districts provide salary credit for vocational in-service training.

Three suggestions relate to the sponsorship of in-service training. Judging from these scores trade and technical leaders prefer providing in-service programs through industry (4.39) over the local level (4.26) and the Bureau of Industrial Education (3.84). Releasing teachers for in-service training while on the job receives a score of 4.04.

In-service training by teaching background. Trade and technical leaders with teaching backgrounds in general education prefer emphasizing

the latest developments in subject area fields (4.51) to emphasizing instructional skills (4.26). They call for more dialogue with administrators with a score of 4.18 and with teachers with a score of 4.05. In the sponsorship of in-service training they give high scores to industry (4.32) and the local level (4.28).

Leaders with trade and technical backgrounds also prefer a subject area emphasis in in-service training to an instructional emphasis with scores of 4.54 and 4.26 respectively. They also rank salary credit for work experience over salary credit for in-service training with scores of 4.38 vs. 4.12. They call for more dialogue with administrators with a score of 4.17 and with teachers with a score of 4.08. The trade and technical group also give a higher score to the sponsorship of in-service training programs through industry (4.31) than either the local level (4.13) or through the Bureau (4.00). They call for a release of teachers from their school jobs to gain in-service training with a score of 4.04.

Leaders with industrial arts backgrounds award very high scores to both subject area emphasis and an instructional emphasis with scores of 4.57 and 4.49 respectively. They also give a very high score (4.38) to providing salary scale credit for work experience in industry and a high score (4.17) to releasing teachers to obtain training. They give very high scores to the sponsorship of training by industry (4.48) and at the local level (4.54) and call for more dialogue between administrators and vocational educators with a score of 4.15.

TABLE 4-15A

SUGGESTIONS FOR IN-SERVICE TEACHER TRAINING
BY TEACHING BACKGROUND

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Maintain teacher exposure to the latest developments in their subject areas.	4.55	0.76	4.51	0.60	4.54	0.78	4.57	0.98	4.67	0.64
Provide programs of in-service training through industry.	4.39	0.89	4.32	0.93	4.31	0.97	4.48	0.76	4.79	0.41
Give salary credit for qualified work experience programs in industry.	4.32	0.93	4.05	1.02	4.38	0.94	4.40	0.74	4.48	0.85
Emphasize instructional skills in in-service training.	4.27	0.84	4.26	0.79	4.26	0.81	4.49	0.89	4.25	0.90
Provide programs on in-service training at the local level.	4.26	0.94	4.28	0.76	4.13	1.07	4.54	0.61	4.57	0.75
Maintain dialogue between administrators and other vocational leaders about in-service training needs.	4.17	0.90	4.18	0.79	4.17	0.94	4.15	0.99	4.29	0.69

TABLE 4-15A (continued)

Item	Overall		General Education		Trade and Technical Education		Industrial Arts		Other Vocational	
	M	SD	M	SD	M	SD	M	SD	M	SD
Maintain dialogue between teachers and administrators about in-service training needs.	4.05	0.88	4.05	0.79	4.08	0.92	3.94	0.89	4.04	0.82
Release teachers for on-the-job in-service training.	4.04	1.07	3.95	1.12	4.04	1.08	4.17	0.95	4.04	1.26
Insist that districts provide salary credit for vocational in-service training.	4.02	1.15	3.85	1.14	4.13	1.11	3.82	1.36	4.17	0.89
Provide programs of in-service training through the Bureau of Industrial Education.	3.82	1.18	3.61	1.13	4.00	1.13	3.47	1.44	3.67	1.09

TABLE 4-15B

SUGGESTIONS CONCERNING IN-SERVICE TEACHER EDUCATION
BY TYPE OF INSTITUTION

Item	Overall		Adult		Correctional	
	M	SD	M	SD	M	SD
Maintain teacher exposure to the latest developments in their subject area.	4.55	0.76	4.75	0.46	4.58	0.61
Provide programs of in-service training through industry.	4.39	0.89	4.71	0.49	4.47	0.77
Give salary credit for qualified work experience programs in industry.	4.32	0.93	4.86	0.38	4.11	1.10
Emphasize instructional skills in in-service training.	4.27	0.84	4.43	1.13	4.26	0.87
Provide programs on in-service training at the local level.	4.26	0.94	4.00	1.53	4.05	0.97
Maintain dialogue between administrators and other vocational leaders about in-service training needs.	4.17	0.90	3.75	1.75	4.21	0.92
Maintain dialogue between teachers and administrators about in-service training needs.	4.05	0.88	3.50	1.69	4.00	0.82
Release teachers for on-the-job in-service training.	4.04	1.07	3.63	1.77	4.21	0.71
Insist that districts provide salary credit for vocational in-service training.	4.02	1.15	4.38	1.41	4.05	1.08
Provide programs of in-service training through the Bureau of Industrial Education.	3.82	1.18	3.14	2.04	3.63	1.16

TABLE 4-15B (continued)

County		High School		Junior College		State		Other	
M	SD	M	SD	M	SD	M	SD	M	SD
4.27	1.08	4.62	0.78	4.52	0.79	4.46	0.66	4.88	0.35
4.23	1.15	4.41	0.72	4.27	1.02	4.50	0.80	4.50	0.53
4.27	0.83	4.36	0.78	4.27	1.01	4.46	0.66	4.50	0.76
4.05	1.09	4.33	0.77	4.22	0.83	4.23	0.83	4.25	0.89
4.45	0.74	4.47	0.73	4.13	1.03	4.15	0.90	4.63	0.74
4.00	1.02	4.31	0.66	4.07	0.93	4.09	0.94	4.38	0.89
3.73	0.94	4.18	0.69	4.07	0.84	3.82	1.33	4.13	0.64
4.14	1.04	4.21	0.92	3.90	1.08	3.92	1.50	4.13	1.13
4.00	1.31	4.00	1.21	4.01	1.11	3.85	1.07	4.38	0.92
3.77	1.23	3.62	1.21	4.00	1.01	4.33	1.23	3.38	1.69

Leaders with teaching backgrounds in other vocational areas award a very high score (4.67) to an emphasis on subject areas and a high score (4.25) to an emphasis on instructional skills. They award a very high score (4.48) to salary credit for work experience programs in industry and a high score (4.17) for salary credit for in-service training. They also award very high scores to the sponsorship of in-service training by industry (4.79) and at the local level (4.57) and call for the releasing of teachers for in-service training with a score of 4.04. They also request more dialogue with administrators with a score of 4.29 and with teachers with a score of 4.04.

In-service training by type of institution. Adult school leaders award very high scores to five suggestions. Subject area and instructional emphases in in-service training receive scores of 4.75 and 4.43 respectively. They call for in-service training under the sponsorship of industry with a very high score of 4.71 and emphasize the need for salary credit for both work experience and in-service training with scores of 4.86 and 4.38 respectively. All other scores are in the ranges of weak and poor.

Correctional leaders award a very high score (4.58) to emphasizing development in subject areas and a high score (4.26) to emphasizing instructional skills. They call for industrial sponsorship of in-service training with a very high score (4.47) and local sponsorship with a substantial score (4.05). They ask for more dialogue with administrators with a score of 4.21. Salary scale credits for work experience and in-service training receive substantial scores of 4.11 and 4.05 respectively.

County leaders favor an emphasis on subject area developments with a high score (4.27) over an emphasis on instructional skills with a score of 4.05. They call for sponsorship of in-service training at the local level with a very high score of 4.45 and by industry with a score of 4.27 and give substantial support to an on-the-job release of teachers for in-service training with a score of 4.14.

High school leaders award a very high score (4.62) to an emphasis on subject area developments and a high score (4.33) to an emphasis on instructional skills. Both industry and the local level receive very high scores from these leaders for the sponsorship of in-service training with scores of 4.41 and 4.47 respectively, and they ask for the release of teachers with a score of 4.21. They call for more dialogue with administrators with a score of 4.31 and teachers with a score of 4.18. Salary scale credit for work experience also receives a high score (4.36).

Junior college leaders award a very high score (4.52) to an emphasis on subject area developments and a high score (4.22) to an emphasis on instructional skills. They prefer sponsorship of in-service programs by industry (4.27) to the local level (4.13). They also call for salary scale credit for qualified work experience with a score of 4.27 and ask for more dialogue with administrators and teachers with the same score of 4.07.

State Department leaders award a very high score of 4.46 to an emphasis on subject area developments and a high score of 4.23 to an emphasis on instructional skills. They call for the sponsorship of in-service

training programs by industry, the local level, and the Bureau of Industrial Education with scores of 4.50, 4.15 and 4.33 respectively. They support salary credit for qualified work experience with a score of 4.46 and ask for more dialogue about in-service training with other administrators with a score of 4.09.

Significant Differences By Teaching Background

Comparisons of MIQ scores by teaching background reveal some distinctive differences when the statistically significant (at the .05 level or less) scores are compared. (Although the statistically significant differences are not the only "significant" differences in the MIQ scores they provide a sound basis for comparisons.) Table 4-16 identifies the suggestions on the MIQ which have statistically significant scores higher or lower than the scores of the leaders with trade and technical teaching backgrounds. Since leaders with trade and technical teaching backgrounds are the majority group (55.59 percent of the sample) comparisons of leaders with other types of teaching backgrounds are compared with this dominant group.

In general, Table 4-16 indicates that leaders with teaching backgrounds in general education and industrial arts differ more from the leaders with trade and technical backgrounds than leaders with backgrounds in other types of vocational subjects. The general education group has 21 items and the industrial arts group has 20 items which differ significantly from the trade and technical group. The other vocational group has 15 items which differ significantly from the trade and technical group.

However, the number of significantly different scores is not as meaningful as the direction (higher or lower) of the scores when associated with the emphasis of the suggestions.

General education group. For example, when compared to the trade and technical group the general education group gives a lower score to the suggestion of placing vocational education under the administration of comprehensive administrators. When recruiting teachers the general educators award significantly higher scores to emphasizing ability to instruct and lower scores to emphasizing vocational competence.

They also give higher scores to the communication of teacher problems. For example, exposing vocational teachers to the problems of academic teachers and bringing problems of vocational teachers to the attention of all colleagues are both awarded higher scores.

Three suggestions for working with poverty groups also receive higher scores. Emphasizing work/study programs, eliminating educational expenses for members of poverty groups and teaching in the language of monolingual groups all receive significantly higher scores.

However, the general education group give lower scores to a number of other suggestions which raise questions among a number of vocational educators concerning their vocational commitment. For example, they give significantly lower scores to the following suggestions:

Maintain a National Advisory Committee on Vocational Education.

Establish a Department of Education and Manpower Development at the Cabinet level.

TABLE 4-16

ITEMS WITH SIGNIFICANT DIFFERENCES BETWEEN LEADERS WITH TRADE AND
TECHNICAL TEACHING BACKGROUNDS AND LEADERS WITH OTHER
TEACHING BACKGROUNDS*

Items	Significant Differences Higher of Lower Than Trade or Technical Group Scores		
	General Educa- tion	Indus- trial Arts	Other Voca- tional
Status and Prestige			
Orient counselors to the values of vocational education for students		Lower	
Participate in many community organizations as a professional vocational educator		Lower	
Federal Government			
Maintain continuity of federal support			Higher
Increase federal appropriations to the states			Higher
Maintain a National Advisory Committee on Vocational Education	Lower		
Establish a Department of Education and Manpower Development at the Cabinet level	Lower		
Isolation			
Keep vocational education in comprehensive schools			Higher
Promote interdisciplinary experimentation		Higher	Higher
Establish workshops, seminars and staff meetings to attack the problem of isolation	Lower		
Quality Vocational Staff			
Emphasize vocational competence in recruitment	Lower	Lower	

TABLE 4-16 (continued)

Items	Significant Differences Higher or Lower Than Trade or Technical Group Scores		
	General Educa- tion	Indus- trial Arts	Other Voca- tional
Increase salaries by equating a year of work experience with a year of teaching experience on the salary schedule	Lower		
Poverty			
Offer short, special purpose courses		Higher	
Emphasize work/study programs	Higher	Higher	Higher
Eliminate educational expenses for members of poverty groups	Higher		
Teach in the language of monolingual groups	Higher		Higher
New Technology			
Encourage teachers to work in industry to learn new developments	Lower		
Utilize advisory committees to up-date course content, identify new courses and evaluate equipment needs	Lower	Lower	Lower
Provide more work/study programs	Higher	Higher	Higher
Diversity and Comprehensiveness			
Utilize short special purpose courses		Higher	
Provide education for job clusters or families of occupations		Higher	
Emphasize area vocational schools		Lower	Lower
Guidance			
Utilize vocational teachers as part-time counselors	Lower	Lower	

TABLE 4-16 (continued)

Items	Significant Differences Higher or Lower Than Trade or Technical Group Scores		
	General Educa- tion	Indus- trial Arts	Other Voca- tional
Utilize an advisory system of vocational teachers for counselors	Lower	Lower	
Pre-service Teacher Education			
Demand practice-demonstrations of all trainees	Lower		
In-service Training			
Provide programs of in-service training through industry			Higher
Provide programs of in-service training at the local level		Higher	Higher
Provide programs of in-service training through the Bureau of Industrial Education		Lo er	
Emphasize ability to instruct in recruitment	Higher		
Create a clearinghouse for qualified available teachers		Lower	
Maintain a statewide recruitment program	Lower		
Teacher Relationships			
Include vocational teachers in the counseling program	Lower	Lower	
Encourage teachers to participate in vocational organizations to advance vocational education	Lower		
Expose vocational teachers to problems of academic teachers	Higher		
Bring problems of vocational teachers to the attention of all colleagues	Higher		

TABLE 4-16 (continued)

Items	Significant Differences Higher or Lower Than Trade or Technical Group Scores		
	General Educa- tion	Indus- trial Arts	Other Voca- tional
Leader Relationships			
Emphasize successful vocational programs in publicity		Higher	
Promote understanding of vocational educator's role		Lower	
Institutional Character			
Emphasize comprehensive schools			Higher
Place vocational education under the administration of vocational educators	Lower	Lower	Lower
Place vocational education under the administration of comprehensive educators	Higher		
Emphasize single purpose vocational schools (e.g., area vocational schools, vocational high schools, etc.).			Higher

Establish workshops, seminars and staff meetings to attack the problem of isolation.

Increase salaries by equating a year of work experience with a year of teaching experience on the salary schedule.

Maintain a statewide recruitment program.

Include vocational teachers in the counseling program.

Encourage vocational teachers to participate in vocational organizations to advance vocational education.

Encourage teachers to work in industry to learn new developments.

Utilize advisory committees to update course content, identify new courses and evaluate equipment needs.

Industrial arts group. In general, the leaders with teaching backgrounds in industrial arts are similar to leaders with teaching backgrounds in general education when the types of suggestions with statistically significant scores are studied. For example, they concur with the general education group in giving significantly lower scores to the following items:

Emphasize vocational competence in recruitment.

Include vocational teachers in the counseling program.

Place vocational education under the administration of vocational administrators.

Utilize advisory committees to update course content, identify new courses and evaluate equipment needs.

Utilize vocational teachers as part-time counselors.

Utilize an advisory system of vocational teachers for counselors.

They also give statistically significant lower scores to the following suggestions:

Provide programs of in-service training through the Bureau of Industrial Education.

Orient counselors to the values of vocational education for students.

Participate in many community organizations as a professional vocational educator.

Emphasize area vocational schools.

Promote understanding of vocational educator's role.

Create a clearinghouse for qualified available teachers.

Those suggestions which receive significantly higher scores from the industrial arts groups are as follows:

Promote interdisciplinary experimentation.

Provide education for job clusters or families of occupations.

Provide programs of in-service training at the local level.

Provide more work/study programs.

Utilize short special purpose courses.

Emphasize successful vocational programs in publicity.

From a comparison of statistically significant scores of the industrial arts group with the trade and technical group it appears that they give more lower scores than higher scores to suggestions which are "typically" supported by trade and technical educators. In this respect they are similar to the general education group.

Other vocational groups. Although the leaders with teaching backgrounds in other vocational areas differ least from the leaders with trade and technical teaching backgrounds some distinctive differences are apparent. For example, the type of institution they desire for vocational education is apparent from the significantly higher scores they award to suggestions that call for emphasizing comprehensive schools and the promotion of interdisciplinary experimentation. It is equally apparent from the significantly lower scores they give to suggestions emphasizing single purpose vocational schools (e.g., area vocational schools, vocational high schools, etc.) and placing vocational education under the administration of vocational educators.

They also feel more keenly about the role of the Federal Government. They award higher scores to maintaining continuity of federal support and increasing federal appropriations to the states, but give a lower score to establishing a Department of Education and Manpower Development at the Cabinet level.

Higher scores are also given to in-service training through industry and at the local level, work/study programs and teaching in the language of monolingual groups, but they give a lower score to utilizing advisory committees to update course content, identify new courses and evaluate equipment needs.

Significant Differences By Institutional Employment

Comparisons of MIQ scores by institutional employment also reveal some distinctive differences when the statistically significant (at the .05

level or less) institutional scores are compared with the overall scores in Table 4-17. It should be kept in mind, however, that some of the sample sizes are small and may not be representative of the institutional group (e.g., adult educators and State Department) although the populations of these groups are also small. On the other hand, the junior college sample influences the overall scores because of its largeness.

In general, the correctional group appears to be the most atypical and the junior college group appears to be the most similar when statistically significant institutional scores are compared with the overall scores. The correctional leaders have 19 scores which are significantly different from the overall scores and the junior college group has only three. Adult leaders have 16 scores, high school leaders have 13 scores and State Department leaders have 5 scores which are significantly different from the overall scores.

Junior college leaders. Although junior college leaders differ least from the overall sample in their MIQ scores they apparently take exception to an emphasis on schools limited to vocational objectives. They give significantly lower scores to three suggestions emphasizing area vocational schools, emphasizing single-purpose vocational schools and residential vocational schools.

State Department leaders. State Department leaders provide significantly higher scores for 5 different suggestions. With these suggestions they call for more information for parents about the advantages of vocational education, a Department of Education and Manpower Development at the Cabinet level, an understanding of the vocational educator's role,

TABLE 4-17

COMPARISON OF SIGNIFICANT INSTITUTIONAL GROUP SCORES WITH OVERALL SCORES*

Items	Significant Differences Higher or Lower than the Overall Scores				
	Adult	Correc-tional	County	High School	Junior College State
Status and Prestige Offer parents information about the advantages of vocational education.		Lower			Higher
Promote visitation of vocational programs by parents and public.	Higher				
Federal Government Increase flexibility of vocational programs to meet local needs.	Higher				
Maintain continuity of federal support.		Lower			
Increase federal appropriations to the states.	Higher	Lower		Higher	
Establish a Department of Education and Manpower Development at the Cabinet level.					Higher
Transfer the responsibility for identifying manpower needs from the Department of Labor to the Department of Health, Education and Welfare.		Lower			

*The level of significance is .05 or less.

TABLE 4-17 (continued)

Items	Significant Differences Higher or Lower than the Overall Scores					
	Adult	Correc- tional	County	High School	Junior College	State
Provide federal funds to construct and operate residential vocational schools.	Higher	Lower		Higher	Lower	
Isolation Establish policy and commitment for vocational education through school boards.	Higher					
Keep vocational education in comprehensive schools.			Higher			
Promote interdisciplinary experimentation.		Lower				
Relax course requirements to provide opportunity for students to take a greater variety of vocational courses						Lower
Quality Vocational Staff Establish advisory committees for the specific purpose of recruitment.	Higher					Lower
Emphasize formal education in recruitment.						Lower

TABLE 4-17 (continued)

Items	Significant Differences Higher or Lower than the Overall Scores					
	Adult	Correc- tional	County	High School	Junior College	State
<p>Teacher Relationships Bring vocational and academic teachers together for the integration of course content.</p>		Higher				
<p>Encourage teachers to participate in vocational organizations to advance vocational education.</p>				Higher		
<p>Encourage teachers to participate in professional organizations that cover all teaching areas.</p>			Lower			
<p>Leader Relationships Bring academic, vocational and industrial leaders together to study the relationships of school to the world of work.</p>						Higher
<p>Join with counseling staff for the solution of mutual problems.</p>	Higher					
<p>Promote understanding of the vocational educator's role.</p>						Higher
<p>Increase the rank (and salaries) of vocational leaders.</p>			Lower			
<p>Student Learning Increase efforts at articulation between schools on different levels (e.g., high school and junior college).</p>		Lower				

TABLE 4-17 (continued)

Items	Significant Differences Higher or Lower than the Overall Scores					
	Adult	Correc- tional	County	High School	Junior College	State
Program more instruction on an individual basis so that students can move quickly through familiar material.		Higher				
Establish pre-tests for advanced placement.	Higher					
Establish credit criteria for work experience.				Higher		
Provide opportunities to skip courses by examination.		Lower				
Devise methods of equating learning in occupational programs with academic programs.		Higher				
Institutional Character Emphasize comprehensive schools.		Lower	Higher			
Emphasize single-purpose vocational schools (e.g., area vocational schools, vocational high schools, etc.).			Lower	Higher	Lower	
Diversity and Comprehensiveness Emphasize comprehensive schools.		Lower				
Promote education for job clusters or families of occupations.			Higher	Higher		

TABLE 4-17 (continued)

Items	Significant Differences Higher or Lower than the Overall Scores					
	Adult	Correc- tional	County	High School	Junior College	State
Emphasize area vocational schools.		Higher		Higher	Lower	
Guidance			Higher			
Maintain follow-up studies of graduates and drop-outs.						
Initiate more dialogue with counseling staff.		Lower				
Utilize vocational teachers as part-time counselors.			Lower			
Make vocational counselors available to students in the classroom.				Higher		
New Technology						
Build direct liaisons with key people in industry.	Higher					
Encourage teachers to work in industry to learn new developments.	Higher					
Utilize more modern equipment through loan, lease or industry-based programs.	Higher					
Provide in-service training for teachers to keep up to date in trade and technical competencies.						Higher

TABLE 4-17 (continued)

Items	Significant Differences Higher or Lower than the Overall Scores					
	Adult	Correc- tional	County	High School	Junior College	State
Utilize advisory committees to up- date course content, identify new courses and evaluate equipment needs.	Higher		Lower			
Provide more work/study programs.				Higher		
Conduct industrial surveys to determine specific training needs.			Lower			
Work closely with the State Depart- ment of Employment to keep abreast of manpower needs.					Higher	
Poverty						
Devote more curricula to basic education.	Higher					
Eliminate educational expenses for members of poverty groups.		Lower				
Develop more skill centers.		Higher	Lower			
Pre-service Teacher Education						
Include observation-demonstration sessions with master (expert) teachers in training programs.	Higher					
Demand practice-demonstrations of <u>all</u> trainees.	Higher					

TABLE 4-17 (continued)

Items	Significant Differences Higher or Lower than the Overall Scores					
	Adult	Correc- tional	County	High School	Junior College	State
Provide different teacher training for high school, junior college and correctional teachers.						Lower
In-service Teacher Training						
Give salary credit for work experience programs in industry.						Higher

bringing academic, vocational and industrial leaders together to study the relationships of school to the world of work and in-service training.

High school leaders. High school leaders award 10 suggestions significantly higher scores than the overall population. They support increasing federal appropriations to the states and federal funds for residential schools with higher scores. Contrary to the junior college leaders they award higher scores to schools limited to vocational education. They emphasize vocational organizations with a higher score and favor the State Department of Employment with a higher score. They also give higher scores to credit criteria for work experience, instruction in job cluster, more work/study programs and counselors in the classroom.

County leaders. County leaders differ from the overall population with 13 significantly different scores. They clearly lean toward comprehensive institutions by awarding two such suggestions higher scores and by giving lower scores to suggestions calling for single-purpose schools and skill centers. Advisory committees receive lower scores whether they are used to meet the challenge of the new technology or recruit a quality teaching staff. They also give lower scores to urging participation in inclusive organizations for educators, emphasizing formal education in recruitment, industrial surveys to determine training needs, using vocational teachers as part-time counselors and increasing the rank and salaries of vocational leaders. They award higher scores to instruction by job clusters and to the follow-up of drop-outs.

Adult leaders. Where adult leaders differ from the overall population they score all suggestions higher. They call for increased

flexibility, increased funds and funds for residential vocational schools from the federal government with higher scores than the overall population.

In teacher training they award higher scores to observation-demonstration sessions with master teachers, practice-demonstrations for all trainees, and salary credit for work experience programs to train teachers in industry.

To respond to the challenge of the new technology they favor building a liaison with key people in industry, encouraging teachers to work in industry, utilizing more modern equipment and drawing upon advisory committees.

They award higher scores to basic education for members of poverty groups and pre-tests for advanced placement of students in order to recognize learning already achieved.

Their higher scores also indicate more favor toward establishing policy and commitment for vocational education through school boards, promoting visitation of vocational programs, advisory committees for the recruitment of teachers, and joining with the counseling staffs for the solution of mutual problems.

Correctional leaders. A profile of significant scores of correctional leaders reveal a number of distinctive points of view. For example, they tend to support specifically vocational schools with higher scores for suggestions which emphasize skill centers and area vocational schools and lower scores for suggestions which emphasize comprehensive schools. The fact that they do not receive federal appropriations for vocational

programs may account for the lower scores given to five suggestions concerning the federal government. They give lower scores for suggestions which call for continuity of federal support, increases in federal appropriations, federal funds for residential schools and identifying manpower needs through the Department of Health, Education and Welfare.

Correctional leaders are much less inclined to provide recognition for student learning through examination to skip classes and increased articulation between schools, than they are to equate learning in occupational programs with academic programs and to program more instruction on an individual basis to move students more easily through familiar material. The fact that much vocational training in correctional institutions is on an individual basis (because inmates cannot be easily geared to semester systems) may account for this preference.

Paradoxically correctional teachers award a higher score to bringing academic and vocational teachers together for the integration of course content but they give a lower score for the promotion of interdisciplinary experimentation.

Other suggestions which receive lower scores from correctional leaders are for providing different teacher training for high school, junior college and correctional teachers, offering parents more information about the advantages of vocational education, relaxing course requirements to provide opportunity for students to take a greater variety of vocational courses, eliminating educational expenses for members of poverty groups and initiating more dialogue with counseling staff.

Institutional characteristics. It is apparent from the examination of statistically significant MIQ scores that the institutional factor does have an influence upon preferred suggestions of trade and technical leaders in the solution of major issues. The preferences for comprehensive schools vs. vocational schools, the interest in role of the Federal Government, the type of teacher recruitment and training as well as emphases in instruction, are evidently related to the needs and problems of each type of institution and the role "press" of the leaders. Although the descriptions of this study point to these relationships it does not explore them in depth.

Summary

In general, the scores on the MIQ tend toward the high ("most helpful") end of the rating scale. This is understandable since the suggestions originated with the leaders. Also, a forced ordering was not employed. However, there were discernable differences in the scores for every issue and more differences when the responses were analyzed with respect to the teaching background and type of institutional employment of the leaders.

Overall scores. The status and prestige problem of trade and technical education can be effectively met, as the leaders view it, by working with counselors, parents and students and through publicity. Most important to them is orienting counselors to the values of vocational education for students. But more orientation in vocational education is also needed for all students and their parents (even at elementary and junior high school levels). The leaders also call for more publicity about the advantages of vocational programs and the nature of these programs.

The four most important suggestion concerning the role of the Federal Government involve increased flexibility and continuity of federal support, increased funds and an earlier allocation of funds.

To combat vocational education's isolation from other forms of education, the leaders call for more publicity through all available media to reach the general public, especially the parents. They also feel, however, that policy and commitment for vocational education must come from the school boards and that vocational education must be kept in comprehensive institutions.

In-service training receives the highest score as a suggestion for building quality into the teaching staff. Next in importance are suggestions concerning the recruitment of teachers. For recruitment, they emphasize vocational competence over ability to instruct; but both are highly scored. They also desire equating work experience with teaching experience on the salary schedules, more teachers guidance during the early period of teaching and a clearinghouse for qualified and available teachers.

The leaders believe that the relationship of trade and technical teachers with their colleagues can be improved by including vocational teachers in counseling programs, by bringing vocational and academic teachers together for workshops, by integrating course content and by participating in professional, general purpose organizations, to publish and to speak about vocational education.

The most highly rated suggestions for improving leader relationships recognize the need for bringing differing groups of people together for study, problem-solving or training. For example, they want to bring

academic and vocational leaders together with industrial leaders; and they want to join with the counseling staff for the solution of mutual problems. They would also like to join academic leaders in the problem-solving processes of the whole school, but are much less enthusiastic about bringing academic leaders into the problem-solving processes of vocational education.

The leaders believe that the role of the vocational leader needs better understanding, higher rank and higher salaries. They feel that the national focus on vocational education should be emphasized at every opportunity.

The most popular suggestions for an increased recognition of student learning, regardless of how or where achieved, are increased efforts at articulation between schools, more instruction on an individual basis to allow for acceleration, examinations for advanced placement and for skipping courses, and credit criteria for work experience.

To develop an institutional "character" which supports vocational education trade and technical leaders desire comprehensive institutions with an increased vocational staff, the administration of vocational education by vocational educators and an increased emphasis upon occupational skills for the underprivileged.

Trade and technical leaders feel that diversity and comprehensiveness can be built into vocational education by keeping educational institutions comprehensive, by developing curricula that relate to both immediate and long range employment objectives, by providing training for clusters of occupations on one hand and short, special purpose courses on the other

hand. They also call for the utilization of industrial experts to diversify faculty and curricula.

The suggestions for improving vocational guidance are strongly supported by trade and technical leaders. Follow-up studies and placement services for graduates receive the highest scores. Counselors are singled out for more in-service training, for more dialogue with vocational educators and for their presence in the classroom. Vocational teachers are singled out for service as part-time counselors and as advisors to counselors. Students are singled out for more contacts with tradesmen.

Suggestions for meeting the challenge of the new technology emphasize the relationship of trade and technical education with industry. The leaders want to maintain a liaison with key persons in industry, conduct industrial surveys and coopt industrialists as members of advisory committees and as instructors. They also want teachers to keep up to date by working in industry and participating in in-service training. They feel that the programs of trade and technical education also call for more modern equipment and more work/study courses.

Suggestions for dealing with the evasive problem of relating vocational education of poverty groups call for more short, special purpose courses and more work/study programs. The leaders also favor suggestions to work with community groups and publicize training opportunities.

According to trade and technical leaders, we need to maintain a liaison with industry to promote training, work through advisory committees and conduct follow-up studies to improve continuing occupational education. Programs must emphasize flexibility and utilize short, special purpose

courses. They also feel that leadership workshops for the planning of change are necessary to keep abreast of the changes in continuing education.

The general conception of what is required in pre-service teacher training, as specified by the leader scores, are observation-demonstration sessions with master teachers, training in lesson planning and methodology and practice-demonstration sessions in instruction. The leaders also desire that teacher training programs be conducted throughout the year and programs to help new teachers be conducted on the job.

Judging by the scores, the leaders are asking industry and local districts to sponsor in-service teachers training. They want salary incentives for teachers to induce them to obtain both in-service training and work experience in industry. They also believe that teachers ought to be released for on-the-job training. Above all, they feel that teachers should be exposed to the latest developments in their subject areas as well as training to improve their instructional skills. To keep abreast of in-service training needs, however, there must be communication between administrators, vocational leaders and teachers.

Comparisons by teaching background and by type of institutional employment. There are distinctive differences in the MIQ scores when they are analyzed by the teaching background and by the type of institutional employment of the leaders. In general, leaders with teaching backgrounds in general education and industrial arts differ more from the leaders with trade and technical backgrounds than leaders with backgrounds in other vocational subjects. In addition, when the general education and

the industrial arts groups are significantly different from the trade and technical group, their scores are usually lower.

The leaders with teaching backgrounds in other vocational subjects are more similar to the trade and technical group. However, when they differ from the trade and technical group, their scores are usually higher.

Comparisons by the institutional employment of the leaders also reveal some distinctive differences. The preferences are evidently related to the needs and problems of each type of institution and the pressures upon the leadership role in the institution. Although the correctional leaders stand out in the number and type of significantly different scores from the overall scores, each type of institutional leader has some distinguishing characteristics in his approach to major issues.

CHAPTER V
LEADERS TODAY AND TOMORROW

CHAPTER V

LEADERS TODAY AND TOMORROW

Vocational education is undergoing change in California. Since the Vocational Education Act of 1963 vocational education has been in a period of expansion and adaptation. Both the expansion and the adaptation of vocational education in the educational institutions of California have been changing the character of the leadership for trade and technical education.

The expansion of vocational education in California can be seen by the fact that in 1963 about 50 persons in California had full-time administrative responsibility for trade and technical education; but by 1968 this number had increased to about 300 persons. During this period many new positions were created for trade and technical administrators. Some of the heterogeneity of the current leadership for trade and technical education can undoubtedly be attributed to the desperate need to find leadership. Leaders for trade and technical education were not selected from trade and technical subject areas. In fact, a number of administrators of vocational programs do not have backgrounds in vocational education.

Adaptive changes in the institutional character of vocational education in California are also responsible for the changing profile of trade and technical leaders. New patterns for trade and technical education are emerging and old ones are declining. Some of them are the result of conscious efforts by vocational educators at the national, state and local levels. Many, however, are the result of natural and unplanned adaptations

to new situations. New types of trade and technical programs and even new institutions are emerging which cater to distinctive types of student populations not reached before. The changing character of trade and technical education is calling for different types of leadership. As a result the profile of the trade and technical leader of today is different from what it was in the past and the profile will be increasingly different in the future.

Subgroup Characteristics

Although we have no studies to document the trend we strongly suspect that the heterogeneity of trade and technical leaders in California is increasing. Chapter I describes four distinct groups of leaders for trade and technical education. Although the traditional trade and technical group comprise the majority of our sample (55.59 percent) the general education group (16.43 percent), the industrial arts group (14.67 percent) and the other vocational group (10.14 percent) comprise a significant proportion of the leadership. Different career patterns are discernable for each of these groups when their teaching backgrounds, education, work experience and credentials are examined.

The most common career route to a position of leadership in trade and technical education begins in the world of work as a craftsman or technician, continues with a teaching position in the world of education, and advances into the coordination, supervision and/or administration of vocational education. Those who follow the traditional trade and technical

career route tend to have more work experience, less formal education (especially when they begin to teach) and obtain more limited, special purpose credentials and fewer comprehensive, general purpose credentials.

The general education group has little or no work experience in trade and technical subject areas, has taught academic rather than trade and technical subjects, has the most formal education and obtains the least number of credentials. Their credentials are almost always comprehensive in scope.

The industrial arts group has less work experience than the traditional trade and technical group, have taught industrial arts courses, have considerable formal education, and the largest number of credentials of any group. Their credentials are a mixture of general purpose and special purpose credentials.

Leaders from other vocational areas generally have work experience in vocational subject areas other than trade and technical and they maintain a high level of formal education. They obtain a mixture of general purpose and special purpose credentials although they acquire fewer credentials than the industrial arts or trade and technical groups.

Contending Interest Group

The present and future characteristics of trade and technical leaders can be further assessed by relating the division of leaders into subgroups to what we know about natural communities. In particular, attention should be focused on (1) the emergence of contending interest groups, (2) the creation and protection of elites (persons in the decision-making echelons of administration) and (3) the development of administrative ideologies.

The existence of contending interest groups in trade and technical education has always been apparent in California, but the increased heterogeneity of its leadership (resulting from the growth and adaptation of trade and technical education) has made them more apparent.

Their future existence is virtually assured by the institutional pluralism of the state. Each institution with a program of trade and technical education has its own peculiar history, special needs and problems, distinctive administrative ideologies and particular patterns of recruitment. This institutional pluralism provides a "home" for a variety of contending interest groups.

We can expect that the contending interest groups will continue to bid for dominant influence within trade and technical education. As natural processes they will continue to protect their identity, control the conditions of existence, stimulate the normal push and pull and bid for dominance in the issues that emerge and in the distribution of power. In this report we have attempted to describe the contending interest groups from an assessment of the differing career routes and institutional backgrounds of the sample. A realistic projection of the leadership for trade and technical education in the future should not ignore the contending interest groups.

We can further predict that the pluralism which is evident within the leadership of trade and technical education will be safeguarded through the creation and protection of elites. Institutions with programs in trade and technical education will continue to maintain their distinctive administrative ideologies through the selective recruiting of their leadership to build up the self-consciousness and confidence of their present and

potential leaders. In this manner elites play a vital role in the creation and protection of values.

The development of administrative ideologies is both a conscious and unconscious process of communication and self-defense. Just as doctrinal orthodoxies help natural communities maintain social order, so, too, the administrative elites in educational institutions establish and maintain official "philosophies" which set parameters around trade and technical education. These help to build a homogeneous staff and ensure institutional continuity. Sometimes they are created and manipulated self-consciously, but most administrative ideologies emerge in spontaneous and unplanned ways, as natural aids to organizational security. A well-formulated doctrine is remarkably handy for boosting internal morale, communicating the bases for decisions, and rebuffing outside claims and criticisms. Although an in-depth identification and analysis of these ideologies is not the purpose of this research the responses of the leaders to the suggestions in the MIQ provide numerous clues to their identification and meaning.

Work-Oriented - School Oriented

Two different orientations to leadership in trade and technical education are observable in the descriptive characteristics collected by the BDQ. The work oriented leaders, as personified in the traditional trade and technical group, approach their job with considerable work experience, teach in a vocational subject area and obtain limited, special purpose credentials. The school oriented leaders, as characterized by the general education group, build their careers by relying on formal educa-

tion. They are the products of schools of education, have no work experience, teach academic subjects and obtain general purpose credentials.

These two basic background orientations to trade and technical education may be considered "ideal types" on the extreme ends of a continuum with considerable variation in between. For example, the industrial arts group and the other vocational group more typically combine both work orientations and school orientations in their careers.

One of the problems which work oriented leaders face is that the educational institutions of California place a premium on formal education for career advancement. Work oriented leaders eventually discover the dead end in advancement to the higher echelons of public school administration without the formal education required for higher degrees and general purpose credentials. It appears unlikely that the academically oriented public school systems in California will open up its higher echelons of administration to leaders in trade and technical education without the general purpose credentials and higher degrees even though trade and technical leaders sometimes chaff under the existing limitations. (For example, consider the suggestions in the MIQ which called for higher status for trade and technical leaders, equating work experience with teaching experience on the salary schedule and understanding the role of the vocational educator.)

Trade and technical leaders are not unaware of what it takes to ascend the higher echelons of administration. Tables 1-16, 1-17 and 1-18 document considerable upgrading of formal education. Increasingly, they achieve positions with authority to make decisions instead of positions where they may only make recommendations. (See Table 1-4.) However, the

extra burden to acquiring advanced degrees in a career that has already demanded considerable time in work experience (median of 10.31 years) and teaching experience (median of 7.82 years) is often considered unrealistic and out of range.

Furthermore, the cleavage between vocational and the academic educators has mediated against obtaining advanced degrees by members of the traditional trade and technical group. In fact, earning advanced degrees has often been considered a betrayal by colleagues. Stated one doctoral candidate, "It would have been highly unpopular for me to work for a doctorate a few years ago. However, it is no longer considered a sell out by my peers."

In the future we can expect to see more and more trade and technical educators obtain the formal education necessary for advanced degrees and the general purpose credentials necessary to place them in the decision-making echelons of public school administration. Although work experience in a vocational subject area may not be mandatory in all situations there is little doubt that it is of considerable advantage in most situations.

Membership in Organizations

The generous participation of trade and technical leaders in professional and non-professional organizations has been generally observed throughout California although it has remained undocumented. We now have the information to document the extent of their membership in organizations.

The leaders report an overall median of 8.9 memberships per person with a median of 4.3 memberships in local organizations, 3.0 memberships in state organizations and 2.6 memberships in national organizations. Eighty-five percent of this sample report memberships in five or more organizations and 41.5 percent report memberships in ten or more organizations. Less than one percent (two persons) did not report any membership.

It is also apparent that professional organizations dominate the organizational affiliations of trade and technical leaders. This is especially true at the national and state levels. For example, 83.2 percent of the leaders belong to one or more professional educational groups at the national level, 95.5 percent belong to professional organizations at the state level and 67.8 percent belong to professional organizations at the local level. It is evident that trade and technical leaders give organizational support to their profession.

A closer look at their organizational affiliations indicates that they support both exclusive (limited to vocational educators) organizations and inclusive (all educators) organization. For example, almost as many leaders have memberships in NEA (47.5 percent) as in the AVA (48.6 percent) and in the CTA (63.9 percent) as in the CIEA (70.3 percent). This would further indicate that a charge of exclusiveness in organizational affiliations is not well founded.

The study of organizational memberships among trade and technical leaders in California lends credence to the general observation and recent research findings that persons with "successful," upward mobile career patterns give greater support to organizations than persons with "unsuccessful," horizontal or downward mobile career patterns. For example, trade and tech-

nical leaders join more organizations than trade and technical teachers (median of 8.9 vs. a median of 5.6). Further support for this proposition comes from the discoveries that an increase in the number of memberships is also associated with increases in education, number of credentials and salary.

The data now available on the organizational memberships of trade and technical teachers and leaders calls for additional studies of the social participation of trade and technical educators. Studies which go beyond the number of types of organizational memberships to examine the participation within organizations and the meanings of this participation should now be made. The relationship of social participation in organization to career characteristics is of special interest.

Major Issues and Major Emphases

The 150 suggestions offered by trade and technical leaders in California for the solution of 15 major issues reveal the major emphases and characteristics of their thinking about vocational education in general and trade and technical education in particular. Since the suggestions came from the leaders themselves (i.e., a randomly selected group of thirty leaders) and were evaluated by the entire sample (N=239), the data from the MIQ provides an insight into what is uppermost in the thinking of trade and technical leaders in California.

A person who is familiar with vocational education will find many expected, "characteristic" suggestions for the solution of issues, but what trade and technical educators do not suggest is also a part of the picture. Any subgroup of a population is not aware of the whole picture,

prefers to overlook relevant factors and has its distinctive bias. Trade and technical leaders are no exception. Some of the major emphases in the suggestions of the leaders are identified and discussed below with our commentary.

Social status. Vocational educators, even as they work, cannot avoid constant confrontation with the problem of status. Status is frequently the problem when parents do not want their children enrolled in a vocational program. It is often at issue when faculties divide themselves into academic and vocational subgroups. It is sometimes involved when guidance personnel direct students into other than vocational courses. It is at issue when vocational departments do not get their fair share of curricula offerings, financial support, representation on committees, building space and adequate equipment. It is out of these kinds of persistent frustrations that Grant Venn asks, "How can vocational and technical education achieve the status and prestige it needs to perform its proper and vital role in technological society?"¹

Robert Dubin provides us with a definition of status that can be applied to a particular organization:

It is a set of visible, external makings that systematically rank individuals and groups in relations to each other, and that includes all the members of the organization some place in the scheme of rankings.²

From this definition we can see that status is a product of the inter-action

¹Grant Venn, Man, Education and Work (Washington, D.C.: American Council on Education, 1964) p. 138.

²Robert Dubin, Human Relations In Administration: The Sociology of Organization (Englewood Cliffs: Prentice-Hall, Inc., 1951) p. 254.

of social differentiation and social evaluation in which honor (or prestige) is provided according to a system of social ranking.

Judging from their scores it is clear that the leaders have a fairly good idea of what they want to do about the problem of low status. Their program is one of information and salesmanship. They believe that if people know about vocational education and its values that their attitudes about it will change. They also have a clear identification of their target groups. Although they would like to reach the entire public they especially want to reach the students, their parents and the counselors.

There is no doubt that knowledge about vocational education and its benefits to students is essential to any change the attitudes that effect status, but it is naive to assume that knowledge about vocational education will effect the necessary changes in its status. Knowledge has both the quality of fact and the quality of value.³ It is the value of knowledge that supports the "inconsistencies" of social systems. For example, a "devout" academician, whose whole world has been built around the academic disciplines, will resist vigorously any message which throws doubt upon the values of an academic education. Inconsistencies though illogical are functional in a social system. Our social systems and our social institutions are filled with people for whom it is functionally advantageous to interpret knowledge with a particular set of values.

³ For a discussion of these two qualities see Kenneth E. Bouldin, The Image (Ann Arbor, University of Michigan Press, 1956).

Furthermore, the status of vocational education is an integral aspect of social stratification because of a common dependence upon occupational ranking, and systems of stratification are inevitable and impervious to sudden change.⁴ The likelihood of any immediate change in the status of vocational education due to a structural change in the system of social stratification is highly unlikely. To assume that information about occupational training or occupations to which vocational education is related will measurably change the status of vocational education by changing the structure of the stratification system is unrealistic.

Information programs about vocational education are needed and should be encouraged but they should not be coupled with false hopes about the status problems. In our opinion vocational educators would be better off if they would settle to their own satisfaction the values of their profession and relieve themselves of the anxiety of not being fully accepted.

Role of the Federal Government. Leaders at the local level are obviously more concerned about the operational problems of federal support of local programs. They call for increased flexibility of vocational programs, more continuity in federal support and the earlier allocation of funds. Although the Vocational Education Act of 1963 did much to improve the problems related to the categorical support of specific vocational programs the leaders still feel that much more can be done to provide for flexibility in meeting their vocational objectives. Secondly, whenever they embark on a vocational program and find that the objectives of the program cannot be

⁴For discussions of the inevitability and change of social stratification systems see Bernard Barber, Social Stratification: A Comparative Analysis of Structure and Process (New York: Harcourt, Brace and Co., 1957), pp. 12-16; 478-502.

realized because of some change in emphasis at the national level, they chaff at the lack of continuity. Furthermore, the late allocation of funds to the districts often means that districts cannot plan vocational programs in advance as they plan other programs without extending themselves beyond the funds that are locally available.

It is interesting that leaders of trade and technical education call for the solution of these operational problems before they ask for more money for trade and technical programs. This indicates that they feel keenly about these three practical problems.

We suspect that the weak and poor scores given to six other suggestions reflect the feeling that they are less immediate, less practical and more distant needs. Suggestions to maintain a National Advisory Committee on vocational education, establish a Department of Education and Manpower Development at the Cabinet level and maintain continuous study of vocational education at the national level do not have the same immediate, close range importance to local leaders. This myopic posture is understandable but should not be interpreted as indifference.

It should also be kept in mind that some of the suggestions for improving the role of the Federal Government (e.g., residential schools) are relatively new suggestions. Although there is an active community of trade and technical educators in California where the discussion of major issues is an ongoing phenomenon, there has not been extensive discussion for all suggestions. We suspect that some of the more recent suggestions will have greater acceptance at a later date.

Isolation. "Vocational and technical education have been isolated from the mainstream of education by Federal statute, by local and

state administration, by professional organization, and by public indifference," states Grant Venn.⁵ This isolation has been indelibly impressed upon the public school institutions of California and the nation through years of historical development.⁶ The problem of breaking out of the "box" is formidable now that the pattern has been set.

Trade and technical leaders in California have three major proposals for the solution of the problem. First, they suggest more publicity and information about vocational programs. Second, they want policy and commitment for vocational education established by school boards. Thirdly, they want to keep vocational education in comprehensive schools.

The emphasis on comprehensive institutions has been generally realized in California although vigilance is needed to keep it. Nevertheless, isolation within comprehensive institutions is all too common. Where isolation exists it is accomplished by subcommunities, organizational divisions, and the division of facilities within comprehensive institutions. Although placing vocational education within comprehensive institutions is a definite advantage it is not a single solution.

More publicity and information about vocational education is the same solution that is recommended for solving the problem of low status and meets some of the same difficulties here. In brief, information and publicity does not necessarily change attitudes. In fact, it may even function to accentuate the differences and the distance between vocational education and

⁵Venn, Ibid., p. 141

⁶For a discussion of the historical background see Grant Venn, Ibid., Chapter 2.

academic education. The problem is simply more complex than the dissemination of information.

Establishing a favorable policy and commitment for vocational education through the decisions and statements of school boards relies upon formal and legal fiat. Although formal decrees help effect change they are usually not made until they have been already substantially completed informally. This problem has its analogy in the problem of racial desegregation. The Supreme Court has undoubtedly helped the problem by its decisions in this area, but it did not solve the problem. Similarly, the isolation of vocational education cannot be solved by decrees alone; the purposes of the decrees must be implemented and embodied in the social structure of the institution.

Beyond these three highly scored suggestions are a number of suggestions with lower scores which call for a variety of techniques to bring educators into working relationships with each other and to make more vocational courses available to students. Such things as interdisciplinary experimentation, team teaching and workshops are directed at doing something in the social structure to ease the isolation.

No problem as historically imbedded in the public educational institutions as this one will be easily solved. But all of these suggestions have a potential for easing the problem of isolation.

Institutional character. Suggestions concerning the institutional character of vocational education provide us with some definite insights into the type of institutions trade and technical leaders desire. In awarding their highest score to the suggestion of emphasizing compre-

hensive institutions and their lowest score to emphasizing single-purpose vocational schools, the leaders are condemning the separate but equal approach to vocational education as bad theory and bad practice. They are undoubtedly fearful that apartness will identify it as a second-class kind of education in the mind of the public and in the educational community.

It is also obvious that trade and technical leaders would like to have a larger piece of the action. They want to expand their vocational staffs and their occupational offerings. A significant number also want to include more underprivileged persons in their programs with an emphasis on occupational skills.

The high score given to placing vocational education under the administration of vocational educators suggests that other types of leaders may not be considered as knowledgeable, appreciative or as easy to work with in trade and technical education. It also suggests that trade and technical leaders desire to strengthen their hand in the schools. They may be unmindful that it will also firm up the divisions within the comprehensive institutions.

In general, it appears that trade and technical leaders want vocational education in comprehensive institutions, but that they want a larger piece of the action and a firmer hold on it. It would be surprising if we found it to be any other way.

We know very little about how institutions change their character from academic to vocational or vice versa. We do know that decisions affecting institutional development are critical decisions. They frequently involve the recruitment of personnel, the training of personnel, the repre-

sentation of internal interest groups and cooperation with other institutions. We also know that institutions develop a character over a long period of time and institutional change comes slowly. But we have relatively few studies of how institutions develop their academic or vocational character.⁷

Therefore, at the present time we can only say that we know what the leaders want, that any change in their present situation will probably come slowly, that it will change the social structure of the institution when it does come, but that factors effecting the vocational character of public educational institutions are largely unexplored.

Personnel relationships. Although the relationship between vocational educators and academic educators varies considerably from campus to campus throughout California there are enough problems at the teacher and leader levels to be cause for concern. To solve such problems at both levels the leaders offer suggestions to bring vocational and academic personnel together to solve mutual problems, integrate course content, etc. Suggestions at both levels are also offered to bring vocational educators together with members of the counseling staffs. However, it is interesting to note that in each case they are more willing to join with others to solve vocational education's problems as they relate to other areas than they are willing to bring others into the area of

⁷For one such study see Burton R. Clark, The Open Door College (New York: McGraw-Hill, 1960).

vocational education to solve internal problems. Nevertheless, it is evident that the leaders are advocating more togetherness in solving mutual problems.

Another suggestion of interest involves the introduction of a third party, namely, industrial leaders. This suggestion, which is highly scored for both teachers and leaders, introduces the reality of the world of work into the discussion of the educators. We suspect that the trade and technical leaders see an advantage for vocational education in this type of third party and the possibility of developing a more industrially relevant curricula.

Leaders evidently see teachers as an extension of vocational education's muscle and voice. For example, they would encourage teachers to join vocational organizations to advance vocational education, to publish and speak about vocational education and to join general purpose professional organizations for educators.

For their own part, leaders suggest that they could be more effective if all educators had a better understanding of the vocational educator's role and if their rank (and salary) was increased. They also call for more publicity and more emphasis on the national focus upon vocational education.

These highly scored suggestions reflect a healthy belief and aggressive commitment to vocational education which is to be expected in any healthy professional group. Some of these suggestions are certain to meet resistance (e.g., increased rank for vocational leaders and the inclusion of vocational teachers in the counseling program), but that is also to be expected among the goals of any aggressive professional group. It is especi-

ally encouraging to observe that the leaders are anxious to engage in dialogue with their professional colleagues. It is difficult to fault them in this desire. They should be encouraged.

Recognition of student learning. The problem of recognizing student learning is destined to be a continuing, long-term problem for vocational education. The system for transferring learning from course to course, school to school and level to level has been developed, but no plan has been devised to accept learning regardless of where or how it has been obtained. Because the system places a premium on academic, in-school learning vocational education is frequently depreciated in the existing credit system. Because of the difficulty of obtaining transfer credits for vocational courses students are advised to pass up vocational courses to avoid an educational dead end. If they elect a vocational or technical course the student often finds a "lose three turns and return to Go" card blocking his re-entry into the mainstream. There is even more reluctance in the educational establishment to give credit for learning that is obtained outside the system.

The most popular suggestions for increasing the recognition of student learning are increased efforts at articulation between schools, more instruction on an individual basis to allow for acceleration, examinations for advanced placement and for skipping courses, and credit criteria for work experience.

It is easier for vocational educators to recognize vocational knowledge and skills than to deal with the problem of obtaining credit for academic knowledge. Although trade and technical leaders can do more

than they are now doing within vocational education the problem is accentuated when academic knowledge is evaluated for accreditation. The methods now utilized effectively block many vocational students with academic knowledge and proficiency from entry and advanced placement in general academic programs.

The methods for the recognition of student learning are available and the problem is solvable where the will to solve them is present. But since the cleavage between academic subcultures and the vocational subcultures are prevalent in the educational institutions of California the problem of recognition of student learning is destined to be a continuing, long-term problem for leaders of trade and technical education.

Diversity and comprehensiveness. It is no longer sufficient for California and the nation to pride itself in the fact that it makes free public education available to all. It is increasingly evident that we must make available the type of education for which all students can benefit. When we only make general education available to all students we are not doing our job as educators. This concern is expressed at the high school level by Irvin Lathrop and Wilbur Farr:

In California, 40 percent of all youth between the ages of 18-35 who enter the labor force do so with a high school education or less. The need for training and upgrading in skilled and semi-skilled occupations is obvious. There is today at the high school level, in many instances, an over emphasis on college preparatory programs. This is contradictory to the fact that a majority of high school youth cannot and will not pursue a college career leading to the professions. There is a need for strong educational programs for all

students regardless of their ultimate education objective.⁸

Grant Venn speaks of the need on the post-high school level:

In the years immediately ahead at least a quarter of the nation's youth will be needed in occupations for which a baccalaureate (or higher) degree is necessary and proper preparation. During the same period at least half of the nation's youth must see employment in occupations for which one to three years of education and training beyond high school are necessary and proper...

The issue, then, is basically: for what student number and abilities will higher education opportunities be made available in the years ahead?...

Diversity and comprehensiveness must be key ideas in the development of higher education...⁹

When trade and technical leaders discussed the problem of diversity and comprehensiveness in California they reaffirmed their commitment to comprehensive institutions and proceeded to talk about the pressing problem of diversity and comprehensiveness within vocational education. To accomplish the latter they emphasized the needs to develop curricula that relate to both immediate and long range employment objectives and to provide training for clusters of occupations on the one hand, and short, special purpose courses on the other hand. They also call for utilization of industrial experts to diversify faculty and curricula.

⁸Irvin Lathrop and Wilbur Farr, A Study of the Relationship of Industrial Arts Education to Vocational Trade and Technical Education in California (Long Beach: California State College at Long Beach, 1968), p. 1

⁹Venn, Op. Cit., pp. 145-146.

However, what is not reflected in the overall data is the fact that leaders in individual institutions view their responsibilities to the different student populations differently. Since the status of each institution and its self-image varies with the institution educators seldom see themselves being "all things to all people." Building diversity and comprehensiveness within the vocational programs of trade and technical education can therefore be approached by providing institutions that relate to a distinctive student population or by increasing the attractiveness of individual institutions to a wider range of student populations.

Although both of these objectives are worthy of support it will undoubtedly be easier to develop institutions which are geared to specific student populations than to overcome the problems of providing broad appeal to all student groups within a single institution. At present some school districts are creating institutions which direct their program at specific populations (e.g., skill centers). This procedure circumvents the resistances to inclusive comprehensive programs under one roof, but it also endangers the commitment to comprehensive institutions. It leaves the leaders of trade and technical education on the horns of an unpleasant dilemma. The "sticky" problem of meeting the immediate need for diversity and comprehensiveness within trade and technical education while maintaining a commitment to comprehensive education involves the leaders in California with critical decisions that may plague them for years to come.

Poverty groups. Occupational training is frequently seen as the best single approach to meeting the needs of poverty groups. The advocates

of occupational training for poverty groups emphasize that employment provides group members with financial resources which are the keys to the solution of many other problems, occupies their unproductive leisure time, provides them with a sense of dignity, changes their outlook on life, etc., etc. The national focus on occupational training for poverty groups indicates that the legislature is impressed with the validity of such arguments and wants such programs established.

But the difficulties in implementing the desire for occupational education with this group of people are manifold. Not the least of these is the historical development of vocational education in California which places it within a public school system which has been traditionally geared to the middle class. The lower socio-economic groups have been the drop outs of these institutions and are now the very people which need special attention. Much has been written to identify the different life styles and values of poverty subcultures and to describe their conflict with the life styles and values of middle class educators and students. Educators have studiously avoided assignments to schools in poverty areas. They have also made it evident that they prefer to move their institutions toward the higher levels of the social structure rather than toward the lower levels.

Vocational educators have "benefited" indirectly, if not directly, from the lack of assimilation of poverty groups into the public schools. They have inherited students from the middle class in the screening processes of social and cultural disassimilation and borrowed status from association with skilled rather than the unskilled occupations. Although

vocational educators have demonstrated some success in occupational training programs for poverty groups, it would be untrue to assert that there is always a ready and eager attraction to these groups.

The difficulties of meeting the needs of poverty groups is probably the most difficult phase of providing diversity and comprehensiveness. It requires that leaders specify and recast the general aims of public schools and adapt them, without serious corruption, to the acceptable goals and parameters of institutional character and convenience. Wherever the prevailing leadership of California's educational institutions cannot adapt to the poverty population, separate institutions are established which are isolated from the mainstream of middle class public schools.

Trade and technical leaders in California appear to be unaware of the institutional "solution" that is evolving for the occupational training of poverty groups. (They are convinced that more short, special purpose courses and work/study programs are needed but are not certain about many other suggestions.) Evidently the institutional question is still unresolved because their two lowest scores were given to emphases on traditional programs and skill centers.

Guidance. Suggestions for improving vocational guidance are strongly supported by trade and technical leaders. Follow-up studies and placement services for graduates receive the highest scores. Counselors are singled out for their presence in the classroom. Vocational teachers are singled out for service as part-time counselors and as advisors to counselors. Students are singled out for more contacts with tradesmen.

It is difficult to find an area related to vocational education about which vocational educators feel more keenly. It has been thirty years since vocational educators dramatically expressed their interest in guidance and issued a challenge backed by financial assistance to work cooperatively in the interest of those to be served by vocational education. Furthermore, vocational educators have insisted on making some financial provisions for guidance in every piece of vocational education legislation passed since 1938. States Kenneth Hoyt, "With this background, an uninformed observer might logically conclude that the guidance and vocational education movements must be very happy with each other. Unfortunately, this has never been the case."¹⁰

The estrangement exists today because misunderstandings¹¹ about vocational guidance abound and the expectations of vocational educators¹² have not been fully met. In our opinion three causative factors provide the major explanation. In the first place, neither the vocational educators or the counselors have had much control of the cultural bias which favors academic education and the mystical connotation of the term "college" as a "good thing." It is unrealistic to assume that counselors are any more successful than vocational educators in changing the social and cultural order.

¹⁰Kenneth Hoyt, "The Challenge of Guidance to Vocational Education," (paper read at the annual meeting of the American Vocational Association, Miami Beach, Florida, December 6, 1965).

¹¹Ibid.

¹²Kenneth Hoyt, "The Challenge of Vocational Education to Guidance," (Iowa City, Iowa), (Mimeographed.)

Secondly, counselors, like all other persons, tend to engage in those activities where they feel they can succeed and to avoid activities in which they perceive a high risk of failure. Therefore, counselors spend more time with the academic students because of their academic backgrounds and the availability of appropriate tools to meet the needs of college bound youth, and they spend less time with vocational students because of their lack of background with the world of work and the relative scarcity of appropriate tools to meet their needs.

Finally, vocational educators and counselors are not together on their conceptions of vocational decision-making. Vocational educators commonly think of vocational choice as a matching of individual abilities with the requirements of an occupation in a relatively simple, uncomplicated manner. They commonly assume that young people "choose, prepare for, enter upon, and progress in an occupation" in the sense that Frank Parsons first defined the guidance function in the first decade of the twentieth century. Counselors, on the other hand, think of vocational choice as a process that extends over considerable time and involves the whole person. In brief, members of the guidance profession customarily view vocational choice as a process that is much more time consuming and involved than do vocational educators.

There undoubtedly are certain phases of the guidance process which could be enhanced with the participation of vocational education in the guidance process, but much of the resistance on the part of counselors stems from a fear of consequences resulting from the lack of mutual

understandings and common definitions. Perhaps the most hopeful sign among the suggestions of the trade and technical leaders is a call for more dialogue with the counseling staff.

New technology. There is always a lag between the technological developments in industry and the response of social institutions to the challenge of the new technology. The vagueness of the educational response to the challenge of the new technology--or, indeed the absence of a commitment to make a response--is disastrous for vocational education and the nation. Donald Michael has stated the issue well:

The problem involves looking ahead five, ten, twenty years to see what are likely to be the occupational and social needs and attitudes of these future periods; planning the intellectual and social education of each age group in the numbers needed, motivating young people to seek . . . certain types of jobs and to adopt the desirable and necessary attitudes; providing enough suitable teachers; being able to alter all of these as the actualities in society and technology indicate . . .

If we do not find the answers to these questions soon, we will have a population in the next ten to twenty years more and more out of touch with . . . realities, ever more the victims of insecurity on the one hand and ennui on the other, and more and more mismatched to the occupational needs of the day. If we fail to find the answers, we can bumble along, very probably heading into another disaster . . .¹³

It is difficult to fault the industry-oriented posture of the trade and technical leaders so strongly revealed in the suggestions of the MIQ. They want to maintain a liaison with key persons in industry,

¹³Donald Michael, Cybernation: The Silent Conquest (Santa Barbara California: Center for the Study of Democratic Institutions, .962), pp. 41-42.

conduct industrial surveys and coopt industrialists as members of advisory committees and instructors. They also want teachers to keep up to date by working in industry and participating in in-service training. They feel that the programs of trade and technical education also call for more modern equipment and more work/study courses.

If trade and technical leaders in California can carry out their desires expressed in these suggestions their record will be enviable. If key industrialists actually become involved in the schools; if teachers really keep up to date in their subject areas; if industrial needs are actually studied systematically; if modern equipment can be obtained; etc.; etc.; then California can continue to maintain its leadership in trade and technical education.

Continuing occupational education. The need for continuing occupational education is frequently stressed in California and throughout the nation. Yet, the expansion of occupational education in adult education programs has not kept pace with the need. States the Advisory Council on Vocational Education:

The relatively small increase in expenditures and enrollments between 1965 and 1966 suggests that emphasis on adult education programs has not been commensurate with the need. The competition for tax dollars has probably caused many States and districts to be reluctant to assume that financial responsibility for expanding their adult programs. However, adult education is becoming increasingly important. At the rate of technological change increases, there is a corresponding increase in the need for training and retraining the adult population to meet the new occupational requirements. Therefore, special emphasis, considering the variety of alternative methods, needs

to be structured for meeting the adult education purposes.¹⁴

In general, the suggestions of the leaders of trade and technical education in California addressed themselves to two types of problems: (1) strengthening the relationship between industry and education and (2) meeting the need for institutional change and adaptation. To meet the first type of problem they call for a direct liaison with industry, the utilization of advisory committees, publicizing programs in industrial settings and conducting follow-up studies in industry. To meet the second type of problem they call for more short, special purpose courses, utilizing the more flexible structures of extension (adult) education and conducting workshops to plan for change.

The first type of problem is easier to meet than the second type of problem. The industrial community is generally interested and cooperative in working with vocational education. The educational community is less amenable to adaptation and change.

The "relatively small increase in expenditures and enrollments" reported by the Advisory Council is not surprising. Neither is the comment that "the competition for tax dollars has probably caused many states and districts to be reluctant to assume the financial responsibility for expanding their adult programs." This kind of observation and commentary is frequently made about adult (continuing) education.

¹⁴Advisory Council of Vocational Education, The Bridge Between Man and His Work. U.S. Department of Health, Education and Welfare. Washington: Government Printing Office, 1968, p. 262.

The lack of growth and the often precarious existence of adult education has been traced to the marginality of adult education in the educational establishment. About a decade ago, when Burton Clark was studying adult education in California, he declared:

Among the most widespread problems that beset adult education administrators are certainly those arising from the pressures of marginality. Decisions are made and programs built in a pervading awareness that the adult education enterprise has too little money, too few facilities, and too tenuous a hold on its clientele to gain support for its aims or recognition for its programs.¹⁵

The same type of observation is being made by those who systematically research adult education today. A. A. Liveright concluded his extensive research by stating:

By and large the traditional institutions and faculty members concerned with continuing education look upon it as a low priority, somewhat peripheral educational activity, and there are almost no institutional arrangements set up specifically to provide continuing education.¹⁶

Judging from the findings of our research it appears that trade and technical leaders in California have a fairly good understanding of what must be done to strengthen continuing occupational education, but they are being frustrated in their attempts to respond to the need. Marginality is a formidable problem that will undoubtedly plague the response of adult

¹⁵Burton Clark, The Marginality of Adult Education (Chicago: Center for the Study of Liberal Education for Adults, 1958), p. 1. See also Adult Education in Transition: A Study of Institutional Insecurity (Berkeley, University of California Press, 1958), pp. 56-66.

¹⁶A. A. Liveright, "Some Observations of the Status of Adult Education in the U. S. Today," Adult Education 16, 4 (Summer, 1966), p. 24.

education institutions in attempting to meet the need of continuing occupational training. On the other hand, adult education has a lot going for it in the symbiotic relationship with business and industry. At no time in the history of the world have man, his education, and his work received more concentrated attention than they are receiving right now. We believe the final conclusion of the Liveright study states the situation correctly. "Despite the many problems and inadequacies, the climate and the auspices for a creative explosion in the field of continuing education have never been better."¹⁷

Trade and technical teachers. The trade and technical teacher is a unique type of teacher. His uniqueness stems from the fact that he is not recruited from the teacher training institutions, but from the world of work. His subject area competency is acquired on the job--not in the classroom. He enters teaching with extensive work experience, but with less formal education than his academic colleagues.¹⁸ In brief, he is not the traditional product of teacher training institutions.

The trade and technical teacher is the keystone in any program of building quality into trade and technical education. For this reason the recruitment and training of trade and technical teachers is considered in three of the major issues identified and discussed by California's leaders in trade and technical education.

¹⁷Ibid., p. 244.

¹⁸Melvin L. Barlow and Bruce Reinhart, Profiles of Trade and Technical Teachers: Comprehensive Report (Los Angeles: Division of Vocational Education, 1968), pp. 178-179.

The recruitment of the trade and technical teacher is based on the assumption that it is easier to teach a technician to teach than it is to train a teacher in the necessary technical competence. Wherever the objective is to train for employability in the world of work, this assumption is widely accepted and there is little to indicate that either the teachers or the leaders of trade and technical education would have it any other way. Actual work experience at the journeyman level remains a keystone in the building blocks of a sound recruitment program for trade and technical teachers.

Furthermore, both teachers and leaders in California concur that in-service training to maintain an exposure to latest developments in subject area fields ranks above everything else to build quality into the teacher force. A questionnaire utilized with a random sample of 185 teachers in California rank "participating in a program of in-service training" higher than any other item on the entire questionnaire.¹⁹ Likewise, in the current study of leaders the promotion of in-service training is ranked higher than any other suggestion in one set of ten suggestions and maintaining teacher exposure to the latest developments in their subject area is the highest ranked suggestion in another set of ten suggestions. Hence, trade and technical educators maintain that journeyman quality must be recruited in new teachers and maintained by in-service training.

¹⁹Ibid., pp. 178-179. See also Bruce Reinhart, "Perceptions of Trade and Technical Teachers About In-service Training," Journal of Industrial Teacher Education, Vol. 5, No. 4, pp. 29-51.

The art and science of teaching is a secondary but necessary quality for a trade and technical teacher. But the short training periods do not allow the "luxuries" of social, historical and philosophical backgrounds to his newly found profession. His immediate needs are for teaching methods, lesson planning procedures, demonstrations by master teachers, practice-demonstrations by the trainees and on-the-job programs to help new teachers. Therefore, the pedagogical training emphasizes the "how to" requirements of teaching.

Although there are strong arguments for the enrichment of teacher training with less utilitarian aspects of professional development a realistic appraisal of the problems involved mediate against it. First, the teachers are practically oriented. They are recruited from practical careers in the world of work for their practical knowledge and skill and their "products" are employable graduates of their programs. Because of their practical orientation to life there is little motivation for the non-utilitarian aspects of teacher training. Secondly, their teacher training is practical training by necessity. Their immediate needs to learn how to instruct and to keep up-to-date in their subject area fields take precedence. Finally, demands upon trade and technical teachers to obtain the traditional type of teacher training would most certainly result in a desperate shortage of trade and technical teachers. Hence, the need for teachers must be balanced with the incentives to teach.

In our opinion, the uniqueness of the trade and technical teacher stems from his vocational competence.²⁰ The infusion of an increasing number of trade and technical teachers into the public schools of this nation is an asset to the academic community. They provide the products of public education with a more comprehensive education if not a more "liberal" education. They build a bridge between the student and the world of work and assist him in the necessities of earning a living upon graduation. The contributions of the trade and technical teacher far outweigh the liabilities.

What is of utmost concern to trade and technical education is that the competence of the trade and technical teacher be recognized, appreciated and allowed to make its fullest contribution to American education. Where this competence is valued, respected and rewarded the teacher finds great satisfaction in teaching. Where it is seen as something less than the skills of his academic colleagues, problems are likely to arise. In brief, his competence in the world of work is at the core of his self concept. When he feels that this is not valued, he feels that he is not valued and vice versa.

We strongly urge that the incentive systems encourage the teachers by rewarding his work experience and in-service training needs to maintain this competence. Although the mechanics for providing the incentives vary with the school system and the creative imaginations of the adminis-

²⁰For a further discussion of the uniqueness of the trade and technical teacher see Bruce Reinhart, "Trade and Technical Teachers: A Unique Teaching Force," Journal of Secondary Education (November, 1968).

trators, trade and technical teachers should not be expected to fit the mold of academic teachers. Programs of in-service training and work experience should be tailor-made to meet the legitimate needs of trade and technical teachers to maintain and build upon their distinctive competence.

Mission and Role

In this report we have found it advantageous to distinguish between subgroups of the leadership population. We have therefore identified the traditional trade and technical group, the general education group, the industrial arts group and the other vocational group. We have described their different career patterns, their different backgrounds and their different points of view concerning the major issues confronting trade and technical education.

The implications of an heterogenous body of trade and technical leaders has important implications for the mission and role of trade and technical education in California.²¹ The question, What shall we do? and What shall we be? are abiding, persistent questions for educational institutions. These questions are both consciously and unconsciously answered in the day to day decisions of California's leaders in trade and technical education.

In describing the mission of an institution Philip Selznick states:

²¹The term "mission" as used here does not necessarily bear on goal-setting. Here we are dealing with the institutional definition of mission in the sense that this represents an adaptive structuring of aims that cannot be predetermined on a technological basis. The term "mission" goes beyond the technology of making an organization "work."

....leaders must take account of (1) the internal state of the polity: the striving, inhibitions, and competence that exists within the organization; and (2) the external expectations that determine what must be sought or achieved if the institution is to survive.²²

Internally an institution must set goals with an eye to the capabilities and expectations of the irrepressible demands of the forces within it. However, it must also set goals which are accepted by internal demands if significant deprivations are to be avoided. Day to day decisions made in the context of internal polity and external expectations determine the character of each institution.

In the U.S. military establishment it has become common to speak of both "roles" and "missions." This usage incorporates an important insight. The mission of an organization cannot be adequately defined without also determining (a) its basic methods, the main tools for ways of acting with which it should be identified, and (b) its place among organizations that carry on related activities. These are key elements of an organization's role, and when they are determined they go a long way toward setting the limits within which a mission can be defined.

The heterogenous character of the population which is "calling the shots" for trade and technical education in California strongly suggests that the basic methods, the main tools for ways of acting...., and its place among organizations that carry on related activities varies from group to group. The significantly different scores for suggestions to deal with the major issues of trade and technical education, for example, are

²² Philip Selznick, Leadership in Administration (White Plains, New York: Row and Peterson, 1957), p. 67.

most important when related to the considerations of mission and role. It should be obvious that leaders with teaching backgrounds in general education differ in their conceptions of the mission and role from leaders who have traditional trade and technical backgrounds.

It can be expected that the heterogeneity of trade and technical education will increase in California. Growth will continue to call forth leaders with increasingly varied backgrounds and distinctive points of view in California's decentralized system of public education. Although the California Plan for Vocational Education, the control which the State Department of Education exercises on the reimbursement of local programs, credential requirements, etc. will continue to demand certain conforming behaviours, the autonomy of individual institutions will provide ample protection to the development of differing climates and distinctive characteristics of vocational education. The isolation and protection of elites by the school districts will guarantee even more diverse points of view for trade and technical education in the future. Although the dissipation of homogeneity will undoubtedly cause friction between subgroups of leaders, we are inclined to think of this as good for trade and technical education because it provides a basis for the testing of both principles and practices.

A P P E N D I X

BASIC DESCRIPTION QUESTIONNAIRE

"Profiles of Trade and Technical Leaders"

A Project Conducted

by the

Division of Vocational Education

UCLA

in cooperation with

The Bureau of Industrial Education

California State Department of Education

Directions

Please check (✓) your answers in the spaces provided or print **PRINT** your answers in the boxes or lines where written answers need to be supplied.

Incidentally, the numbers along the right hand margin are to help in computing answers. Please ignore them when filling out this questionnaire.

Return to:

Dr. Bruce Reinhart, Project Supervisor
Division of Vocational Education
UCLA, Moore Hall 123
Los Angeles, California 90024

334-336

PROFILES OF TRADE AND TECHNICAL LEADERS

Basic Description Questionnaire

1. Please check (✓).

Mr. () Mrs. () Miss () Dr. ()

1-23

Please PRINT the following:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

First Name

--

Middle Initial

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Last Name

Title

2. Address:

--	--	--	--	--	--	--	--

Number

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Street

24-44

3.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

City

45-62

63-65 CAL

66 x

4.

--	--	--	--	--

Zip Code

67-71

Name of Employing Institution

72-73 x

74 1

(Reserved for tabulating)

--	--	--	--

75-78

--

79

80 1

5. Do you supervise, coordinate, direct or act as consultant for trade and technical programs?
 Yes ()
 No ()

6. What is your official title?
 Consultant () 1-1
 Coordinator () -2
 Dean () -3
 Director () -4
 President () -5
 Principal () -6
 Specialist () -7
 Supervisor () -8
 Other (specify) _____ () -9

7. What percentage(s) of time does your position require in the following categories? (If you have more than one position, describe the major position only.)
 Administration, supervision and coordination ()% 2-4
 Teaching ()% 5-6
 Other (specify) _____ ()% 7-8
 _____ 100 %

8. What type of institution employs you?
 Correctional institution () 9-1
 County Board of Education () -2
 Local school district (high school, junior college or unified) () -3
 State Department of Education () -4
 Other (specify) _____ () -5

9. Indicate all the trade and technical subjects for which you have responsibility. 10 x
 Aircraft () 11
 Apparel () 12
 Automotive () 13
 Building () 14
 Cosmetology () 15
 Data processing () 16
 Drafting () 17
 Electricity/electronics () 18
 Food () 19
 Graphic arts () 20
 Health (para-medical, nursing) () 21
 Metal (sheet metal, machine shop, welding) () 22
 Public service (fire and police science) () 23
 Other (specify) _____ () 24 N

25 x

- 10. How old are you? () years 26-27
- 11. How old were you when you began to teach? () years 28-29
- 12. How old were you when supervision and/or administration became your major task? () years 30-31
- 13. Indicate your sex. 32 x
 - Male () 33-1
 - Female () -2
- 14. Check your marital status.
 - Never married () 34-1
 - Married () -2
 - Separated () -3
 - Divorced () -4
 - Widowed () -5
- 15. What is your religious affiliation?
 - Catholic () 35-1
 - Jewish () -2
 - Protestant () -3
 - Other () -4
 - None () -5
- 16. Indicate your ethnic background.
 - White
 - Spanish surname () 36-1
 - Other white () -2
 - Non-white
 - American Indian () -3
 - Chinese, Japanese or Korean . () -4
 - Negro () -5
 - Other non-white () -6
- 17. What is the current annual full-time salary for your position? \$ _ _ _ _ 37 x
38-42
- 18. How many months does your contract cover?
 - 9 months () 43-1
 - 10 months () -2
 - 11 months () -3
 - 12 months () -4



19. What additional income did you receive last year from educational sources? (If no additional income, write "NONE."). . . \$ _ _ , _ _ _ 44-48

20. What additional income did you receive last year from non-educational sources? (If no additional income, write "NONE.") . \$ _ _ , _ _ _ 49-53

21. Indicate the years of FULL-TIME teaching experience prior to entering supervision and/or administration () years 54 x 55-56

22. What single category best describes your teaching background?
Agricultural () 57-1
Business () -2
General education () -3
Health () -4
Home economics () -5
Industrial arts () -6
Trade and technical () -7
Other (specify) _____ () -8

23. Check the type of community in which your school is located. 58-59
Does not apply () -01
Independent town or city (not part of a metropolis)
Less than 2,500 () -11
2,500 - 9,999 () -12
10,000 - 49,999 () -13
50,000 - 99,999 () -14
100,000 - 499,999 () -15
500,000 or more () -16
Metropolitan community
Less than 2,500 () -21
2,500 - 9,999 () -22
10,000 - 49,999 () -23
50,000 - 99,999 () -24
100,000 - 499,999 () -25
500,000 or more () -26

24. Indicate the years of FULL-TIME work experience in subjects related to vocational education. (Write "NONE" if the question does not apply to you.) () years 60 x 61-62



D. Other aspects of your work with persons not accounted for in the analysis above _____

E. Please account for 100% of your time spent in individual effort.

- 1. Observation, inspection, examination (%) 37-39
- 2. Reading and answering mail (%) 40-42
- 3. Examining reports (%) 43-45
- 4. Preparing and writing reports, orders, memos . . . (%) 46-48
- 5. Reading technical publications (%) 49-51
- 6. Writing for publications (%) 52-54
- 7. Thinking and reflection (%) 55-57
- 8. Mathematical computation (%) 58-60
- 9. Preparing charts, tables and diagrams (%) 61-63
- 10. Operation or use of instruments, machines, tools, charts, inspection forms (%) 64-66

Total (100%)

Please check your totals!

F. Other aspects of your individual effort not accounted for adequately in the analysis above _____

67-73 x

74 2

(Reserved for tabulating)

--	--	--	--	--

75-79

80 5

29. Are you currently enrolled for more formal education?

No	()	68-1
Junior college courses	()	-2
Junior college degree	()	-3
College or university courses (adult or extension only)	()	-4
College or university courses (do not include adult or extension)	()	-5
Bachelor degree	()	-6
Master degree	()	-7
Doctor degree	()	-8

69-73 x
74-79 dup
80 2

30. What degree(s) do you have?

None	()	1
Associate of Arts	()	2
Associate of Science	()	3
Bachelor of Arts	()	4
Bachelor of Education	()	5
Bachelor of Science	()	6
Bachelor of Vocational Education	()	7
Master of Arts	()	8
Master of Education	()	9
Master of Science	()	10
Doctor of Education	()	11
Doctor of Philosophy	()	12
Other (specify) _____	()	13
_____		14 T

31. Are you a member of any NATIONAL educational organizations? (Do not include professional fraternities.)

Adult Education Association of U.S.A.	()	15 x
American Association of School Administrators	()	16
American Industrial Arts Association	()	17
American Technical Education Association	()	18
National Council of Local Administrators (also L.A.V.E.P.A.)	()	19
National Education Association	()	20
Other (specify) _____	()	21
_____		22 N
_____		23-25 x
_____		26 T

32. Are you a member of any other NATIONAL organizations? (Do not include professional fraternities.) 27 x

Specify _____ () 28 N
_____ 29 T

33. Are you a member of any STATE educational organizations? 30 x

- California Association of School Administrators () 31
 - California Association of Secondary School Administrators () 32
 - California Council for Adult Education () 33
 - California Industrial Education Association () 34
 - California Junior College Administrators Association () 35
 - California Junior College Faculty Association () 36
 - California Teachers Association () 37
 - California Vocational Association () 38
 - Other (specify) _____ () 39 N
- _____ 40-43 x
_____ 44 T

34. Are you a member of any other STATE organizations? 45 x

Specify _____ () 46 N
_____ 47 T

48 x

35. Are you a member of any of the following kinds of groups at the local level?

Church and religious associations
Specify _____ () 49

Civic and political action groups
(e.g., City Planning Commission, Anti-Smog Committee, Property Owners, Community Welfare Council, Civil Defense, etc.)
Specify _____ () 50

Educational and cultural groups
(e.g., National Congress of Parents and Teachers, Theater Group, etc.)
Specify _____ () 51

Labor organizations
(e.g., AFL-CIO, etc.)
Specify _____ () 52

Military and veteran organizations
(e.g., U.S. Navy Reserve, American Legion, etc.)
Specify _____ () 53

Professional educational groups
(e.g., faculty associations, shop teachers organizations, etc.)
Specify _____ () 54

Professional fraternities
(e.g., Epsilon Pi Tau, Phi Delta Kappa, etc.)
Specify _____ () 55

Recreational clubs
(e.g., Sportsman Club, Camera Club, Sierra Club, YMCA, FFA, etc.)
Specify _____ () 56

Service clubs
(e.g., Rotary, Lions, Kiwanis, Elks, Chamber of Commerce, etc.)
Specify _____ () 57

Youth and children's organizations --
leaders and sponsors (e.g., Boy Scouts, Four-H Club, YMCA, etc.)
Specify _____ () 58
59 T

60-73 x
74-79 dup
80 3

36. Indicate the unexpired California credential(s) you currently hold.

	Clear	Partial Fulfillment
<u>Basic Teaching</u>		
Adult Education	() 1	() 38
General Elementary	() 2	() 39
General Secondary	() 3	() 40
Industrial Arts and Occupational Subjects	() 4	() 41
Special Secondary in Industrial Arts	() 5	() 42
Special Secondary in Nursing Education	() 6	() 43
Special Secondary Limited in Industrial Arts	() 7	() 44
Special Secondary Limited Part-time in Industrial Arts Education	() 8	() 45
Special Secondary Vocational - Class A	() 9	() 46
Special Secondary Vocational - Class B	() 10	() 47
Special Secondary Vocational - Class D	() 11	() 48
Standard Designated Subjects (Full-time)	() 12	() 49
Standard Designated Subjects (Part-time)	() 13	() 50
Standard Teaching with Specialization in Elementary	() 14	() 51
Standard Teaching with Specialization in Junior College	() 15	() 52
Standard Teaching with Specialization in Secondary	() 16	() 53
Other (specify) _____	() 17	() 54
<u>Special Services</u>		
Health and Development	() 18	() 55
Pupil Personnel Services	() 19	() 56
Standard Designated Services with a Specialization in Health	() 20	() 57
Standard Designated Services with a Special- ization in Pupil Personnel Services	() 21	() 58
Other (specify) _____	() 22	() 59
<u>Coordination</u>		
Authorization	() 23	() 60
Special Secondary Vocational - Class C	() 24	() 61
Other (specify) _____	() 25	() 62
<u>Supervision</u>		
Authorization	() 26	() 63
Special Subjects Supervision - Class A	() 27	() 64
Special Subjects Supervision - Class B	() 28	() 65
Standard Supervision	() 29	() 66
Other (specify) _____	() 30	() 67
<u>Administration</u>		
Elementary Administration	() 31	() 68
General Administration	() 32	() 69
Secondary Administration	() 33	() 70
Secondary Administration in Trade and Industrial Education	() 34	() 71
Standard Administration	() 35	() 72
Other (specify) _____	() 36	() 73

37 x 74-79 dup
80 4



WORK ANALYSIS FORMS

Management Positions

Adapted From

Work Analysis Forms

Published by

Carroll L. Shartle and Ralph M. Stogdill
Bureau of Business Research
College of Commerce and Administration
The Ohio State University
Copyright 1957

The purpose of this analysis is to determine the relative proportions of your time spent in various kinds of work. Please consider your entire range of duties from day to day during the past month. Attempt to account for as much of your time as possible in terms of: (A) time spent in various types of contacts with persons, (B) time spent in various types of individual effort and (C) time spent in major responsibilities.

For Utilization in

"Profiles of Trade and Technical Leaders"

A Project Conducted

by the

Division of Vocational Education

UCLA

in cooperation with

The Bureau of Industrial Education

California State Department of Education

WORK ANALYSIS FORMS

Name _____
 Last First Middle

Part I

Methods of Discharging Responsibilities

- A. What percent of your total working time do you spend in contacts with persons? (Including committee meetings, person-to-person conversations, telephone conversations, liaison, making speeches, meeting with outside groups, and so on.) (%) 1- 3
- B. What percent of your total working time do you spend in individual effort? (Including observation, reading, thinking, computation, writing, dictation, use of instruments, forms and equipment.) (%) 4- 6
- Total (100%)

- C. Please account for 100% of your time spent with persons. In the space after each item, please write the approximate percentage of time spent in the work method described.
1. Attending committee meetings and conferences . . . (%) 7- 9
 2. Consulting superiors about technical matters . . . (%) 10-12
 3. Consulting superiors about personnel matters . . . (%) 13-15
 4. Consulting peers (members at same echelon) (%) 16-18
 5. Consulting subordinates about their work, training, advancement, benefits, etc. (%) 19-21
 6. Consulting subordinates about their personal problems, grievances, discipline, absences, etc. . . . (%) 22-24
 7. Consulting persons other than superiors, peers, or subordinates (%) 25-27
 8. Teaching, instruction, training (%) 28-30
 9. Making speeches, addresses, talks (%) 31-33
 10. Attending meetings of outside groups (%) 34-36
- Total (100%)

347 Please check your totals!

D. Other aspects of your work with persons not accounted for in the analysis above _____

E. Please account for 100% of your time spent in individual effort.

- 1. Observation, inspection, examination (%) 37-39
- 2. Reading and answering mail (%) 40-42
- 3. Examining reports (%) 43-45
- 4. Preparing and writing reports, orders, memos . . . (%) 46-48
- 5. Reading technical publications (%) 49-51
- 6. Writing for publications (%) 52-54
- 7. Thinking and reflection (%) 55-57
- 8. Mathematical computation (%) 58-60
- 9. Preparing charts, tables and diagrams (%) 61-63
- 10. Operation or use of instruments, machines, tools, charts, inspection forms (%) 64-66

Total (100%)

Please check your totals!

F. Other aspects of your individual effort not accounted for adequately in the analysis above _____

67-73 x

74 2

(Reserved for tabulating)

--	--	--	--	--

75-79

80 5

Part II

Proportion of Time Devoted to Major Responsibilities

The purpose of this analysis is to determine the relative proportions of your time devoted to major administration and operative responsibilities, disregarding the methods of accomplishment. After each item, please write the approximate percentage of time spent in the responsibility described.

- 1. Inspection of the Organization -- Observing to determine conditions. (%) 1- 3
- 2. Investigation and Research -- Gathering and preparing data. (%) 4- 6
- 3. Planning -- Developing short-term and long-range plans (%) 7- 9
- 4. Preparation of Procedures and Methods -- Outlining methods for the operation of plans. (%) 10-12
- 5. Coordination -- Integrating and coordinating activities and operations. (%) 13-15
- 6. Evaluation -- Evaluating reports, decisions, performance, results. (%) 16-18
- 7. Interpretation -- Clarifying and explaining. (%) 19-21
- 8. Supervision of Technical Operations -- Supervising the work of subordinates. (%) 22-24
- 9. Personnel Activities -- Selecting, training, disciplining, etc. (%) 25-27
- 10. Public Relations -- Informing the public to create understanding and good will. (%) 28-30
- 11. Professional Consultation -- Giving technical advice. (%) 31-33
- 12. Negotiations -- Purchasing, selling, negotiating agreements, etc. (%) 34-36
- 13. Scheduling, Routing and Dispatching -- Determining time, place and sequence of operations. (%) 37-39
- 14. Technical and Professional Performance -- Use and application of technical equipment and professional techniques. (%) 40-42

Total (100%)

Please check your totals!

PROFILE INFORMATION

43 x

1. What type of organization do you work for?

- Adult school () 44- 1
- Correctional institution () - 2
- County office () - 3
- High school () - 4
- Junior college () - 5
- Junior college district office () - 6
- State Department of Education () - 7
- Unified or high school district office () - 8
- Other (specify) _____ () - 9

2. Check ONE of the four descriptions which BEST describes your position.

- Responsibility for two or more vocational areas with authority to direct and control programs () 45- 1
- Responsibility for two or more vocational areas with authority to recommend changes . () - 2
- Responsibility for one vocational area with authority to direct and control programs . . () - 3
- Responsibility for one vocational area with authority to recommend changes () - 4

46-73 x

74-79 dup
80 6



MAJOR ISSUES QUESTIONNAIRE

"Profiles of Trade and Technical Leaders"
 Division of Vocational Education at UCLA
 in cooperation with
 Bureau of Industrial Education
 California State Department of Education

Description

Fifteen major issues in trade and technical education are included in this questionnaire. Nine of these issues were identified by Grant Venn in his book, Man, Education and Work, and adapted for use here. Six additional issues were identified by trade and technical leaders when interviewed in California.

Ten different suggestions are offered for the solution of each major issue. The suggestions were made by leaders in trade and technical education in California.

Directions

Read the statement of the issue at the beginning of each section and for each suggestion which follows DRAW A CIRCLE around one of the five numbers on a scale of least helpful (1) to most helpful (5).

Least helpful					Most helpful
1	2	3	4	5	

Skip any section if you really believe that it is not a problem.

NAME _____

(last)

(first)

(middle)

Status and Prestige

The absence of status and prestige for vocational and technical education has been widely observed.

- | Least helpful | | | | | Most helpful | |
|---------------|---|---|---|---|--------------|--|
| 1 | 2 | 3 | 4 | 5 | | |
| 1 | 2 | 3 | 4 | 5 | 1. | Maintain speakers' bureau to disseminate information about vocational education. |
| 1 | 2 | 3 | 4 | 5 | 2. | Promote visitation of vocational programs by parents and public. |
| 1 | 2 | 3 | 4 | 5 | 3. | Establish positive attitudes toward work in pre-vocational education at the elementary and junior high levels. |
| 1 | 2 | 3 | 4 | 5 | 4. | Offer programs of vocational orientation for the total student body. |
| 1 | 2 | 3 | 4 | 5 | 5. | Publicize advantages (financial rewards, style of life, etc.) of graduates with occupational training. |
| 1 | 2 | 3 | 4 | 5 | 6. | Offer parents information about the advantages of vocational education. |
| 1 | 2 | 3 | 4 | 5 | 7. | Publicize successful vocational programs via radio and television. |
| 1 | 2 | 3 | 4 | 5 | 8. | Orient counselors to the values of vocational education for students. |
| 1 | 2 | 3 | 4 | 5 | 9. | Participate in many community organizations as a professional vocational educator. |
| 1 | 2 | 3 | 4 | 5 | 10. | Establish area councils to develop regional strategies to promote vocational education. |
| | | | | | 11. | Other suggestions _____ |
| | | | | | | _____ |
| | | | | | | _____ |

Role of Federal Government

The effectiveness of the Federal Government in vocational education is a frequently discussed topic.

- | Least helpful | | | Most helpful | | | |
|---------------|---|---|--------------|---|-----|---|
| 1 | 2 | 3 | 4 | 5 | | |
| 1 | 2 | 3 | 4 | 5 | 1. | Increase federal appropriations to the states. |
| 1 | 2 | 3 | 4 | 5 | 2. | Maintain continuous national study of vocational education. |
| 1 | 2 | 3 | 4 | 5 | 3. | Transfer the responsibility for identifying manpower needs from the Department of Labor to the Department of Health, Education and Welfare. |
| 1 | 2 | 3 | 4 | 5 | 4. | Maintain continuity of federal support. |
| 1 | 2 | 3 | 4 | 5 | 5. | Increase flexibility of vocational programs to meet local needs. |
| 1 | 2 | 3 | 4 | 5 | 6. | Establish a Department of Education and Manpower Development at the Cabinet level. |
| 1 | 2 | 3 | 4 | 5 | 7. | Maintain a National Advisory Committee on vocational education. |
| 1 | 2 | 3 | 4 | 5 | 8. | Combine all vocational legislation administered by the Office of Education into one act. |
| 1 | 2 | 3 | 4 | 5 | 9. | Provide federal funds to construct and operate residential vocational schools. |
| 1 | 2 | 3 | 4 | 5 | 10. | Allocate funds to the districts earlier in the year. |
| | | | | | 11. | Other suggestions _____ |

Isolation

It is frequently charged that vocational and technical education has been isolated from the mainstream of education.

- | | | | | | | |
|---|---|---|---|---|-----|--|
| 1 | 2 | 3 | 4 | 5 | 1. | Establish workshops, seminars and staff meetings to attack the problem of isolation. |
| 1 | 2 | 3 | 4 | 5 | 2. | Keep vocational education in comprehensive schools. |
| 1 | 2 | 3 | 4 | 5 | 3. | Establish policy and commitment for vocational education through school boards. |
| 1 | 2 | 3 | 4 | 5 | 4. | Promote interdisciplinary experimentation. |
| 1 | 2 | 3 | 4 | 5 | 5. | Relax course requirements to provide opportunity for students to take a greater variety of vocational courses. |
| 1 | 2 | 3 | 4 | 5 | 6. | Interchange academic and vocational instructional staffs between all areas wherever feasible. |
| 1 | 2 | 3 | 4 | 5 | 7. | Maintain vocational information programs for parents. |
| 1 | 2 | 3 | 4 | 5 | 8. | Require all teachers and administrators to take courses in a broad range of subjects. |
| 1 | 2 | 3 | 4 | 5 | 9. | Publicize vocational programs through all available media. |
| 1 | 2 | 3 | 4 | 5 | 10. | Establish more team teaching combining both academic and vocational teachers. |
| | | | | | 11. | Other suggestions _____ |

Quality Vocational Staff

The shortage of qualified teachers is a frequent complaint.

- | Least helpful | | | | | Most helpful | | |
|---------------|---|---|---|---|--------------|--|--|
| 1 | 2 | 3 | 4 | 5 | | | |
| 1 | 2 | 3 | 4 | 5 | 1. | Establish advisory committees for the specific purpose of recruitment. | |
| 1 | 2 | 3 | 4 | 5 | 2. | Maintain a statewide recruitment program. | |
| 1 | 2 | 3 | 4 | 5 | 3. | Emphasize vocational competence in recruitment. | |
| 1 | 2 | 3 | 4 | 5 | 4. | Emphasize formal education in recruitment. | |
| 1 | 2 | 3 | 4 | 5 | 5. | Emphasize ability to instruct in recruitment. | |
| 1 | 2 | 3 | 4 | 5 | 6. | Concentrate on teacher guidance during the early period of teaching to reduce teacher "drop outs." | |
| 1 | 2 | 3 | 4 | 5 | 7. | Increase salaries by equating a year of work experience with a year of teaching experience on the salary schedule. | |
| 1 | 2 | 3 | 4 | 5 | 8. | Initiate a survey for qualified potential teachers by occupational area. | |
| 1 | 2 | 3 | 4 | 5 | 9. | Promote in-service training to increase teacher competence. | |
| 1 | 2 | 3 | 4 | 5 | 10. | Create a clearinghouse for qualified available teachers. | |
| | | | | | 11. | Other suggestions _____ | |
| | | | | | | _____ | |
| | | | | | | _____ | |

Teacher Relationships

Trade and technical teachers often report a less than satisfactory relationship with their academic colleagues.

- | | | | | | | |
|---|---|---|---|---|-----|---|
| 1 | 2 | 3 | 4 | 5 | 1. | Emphasize comprehensive education to unite vocational and academic faculties. |
| 1 | 2 | 3 | 4 | 5 | 2. | Bring the problems of vocational teachers to the attention of all colleagues. |
| 1 | 2 | 3 | 4 | 5 | 3. | Expose vocational teachers to problems of academic teachers. |
| 1 | 2 | 3 | 4 | 5 | 4. | Encourage teachers to participate in professional organizations that cover all teaching areas. |
| 1 | 2 | 3 | 4 | 5 | 5. | Encourage teachers to participate in vocational organizations to advance vocational education. |
| 1 | 2 | 3 | 4 | 5 | 6. | Bring vocational and academic teachers together for the integration of course content. |
| 1 | 2 | 3 | 4 | 5 | 7. | Include vocational teachers in the counseling program. |
| 1 | 2 | 3 | 4 | 5 | 8. | Offer workshops for teachers (both academic and vocational) and industrial leaders to improve the preparation of graduates for the world of work. |
| 1 | 2 | 3 | 4 | 5 | 9. | Encourage teachers to publish and speak about vocational education. |
| 1 | 2 | 3 | 4 | 5 | 10. | Increase the social contacts of vocational teachers with academic teachers. |
| | | | | | 11. | Other suggestions _____ |
| | | | | | | _____ |
| | | | | | | _____ |

Recognition for Student Learning

All student learning, regardless of how or where it is being achieved, is not being given credit.

- | Least helpful | | | | | Most helpful | | |
|---------------|---|---|---|---|--------------|---|--|
| 1 | 2 | 3 | 4 | 5 | | | |
| | | | | | 1. | Intensify efforts to identify and evaluate knowledge acquired out of school. | |
| 1 | 2 | 3 | 4 | 5 | 2. | Establish organizational "machinery" in every district to study the problem of non-accredited learning. | |
| 1 | 2 | 3 | 4 | 5 | 3. | Enroll students "on probation" to prove their non-credit knowledge. | |
| 1 | 2 | 3 | 4 | 5 | 4. | Establish credit criteria for work experience. | |
| 1 | 2 | 3 | 4 | 5 | 5. | Increase efforts at articulation between schools on different levels (e.g., high school and junior colleges). | |
| 1 | 2 | 3 | 4 | 5 | 6. | Establish pre-tests for advanced placement. | |
| 1 | 2 | 3 | 4 | 5 | 7. | Provide opportunities to skip courses by examination. | |
| 1 | 2 | 3 | 4 | 5 | 8. | Recognize knowledge acquired out of school as "delayed credit" to be awarded at the conclusion of the program of study. | |
| 1 | 2 | 3 | 4 | 5 | 9. | Devise methods of equating learning in occupational programs with academic programs. | |
| 1 | 2 | 3 | 4 | 5 | 10. | Program more instruction on an individual basis so that students can move quickly through familiar material. | |
| | | | | | 11. | Other suggestions _____ | |
| | | | | | | _____ | |
| | | | | | | _____ | |

Institutional Character

The type of institution (single-purpose vs. comprehensive) conditions the type of vocational education that is offered.

- | | | | | | | |
|---|---|---|---|---|-----|---|
| 1 | 2 | 3 | 4 | 5 | 1. | Emphasize comprehensive schools. |
| 1 | 2 | 3 | 4 | 5 | 2. | Emphasize single-purpose vocational schools (e.g., area vocational schools, vocational high schools, etc.). |
| 1 | 2 | 3 | 4 | 5 | 3. | Increase the emphasis on basic education with the underprivileged. |
| 1 | 2 | 3 | 4 | 5 | 4. | Increase the emphasis on occupational skills with the underprivileged. |
| 1 | 2 | 3 | 4 | 5 | 5. | Place vocational education under the administration of vocational educators. |
| 1 | 2 | 3 | 4 | 5 | 6. | Place vocational education under the administration of comprehensive educators. |
| 1 | 2 | 3 | 4 | 5 | 7. | Expand the base of related general education in vocational programs. |
| 1 | 2 | 3 | 4 | 5 | 8. | Increase the emphasis on specific occupational skills in vocational programs. |
| 1 | 2 | 3 | 4 | 5 | 9. | Increase the participation of academic staff in areas related to vocational programs. |
| 1 | 2 | 3 | 4 | 5 | 10. | Increase vocational staff to expand occupational offerings. |
| | | | | | 11. | Other suggestions _____ |
| | | | | | | _____ |
| | | | | | | _____ |

Leader Relationships

Leaders of trade and technical education (administrators, deans, supervisors, directors, coordinators, etc.) often report a less than satisfactory relationship with their academic colleagues.

- | Least helpful | | | | | Most helpful | | |
|---------------|---|---|---|---|--------------|---|--|
| 1 | 2 | 3 | 4 | 5 | | | |
| | | | | | 1. | Bring academic colleagues into the problem-solving processes of vocational education. | |
| | | | | | 2. | Join with academic colleagues in the problem-solving processes of the whole school. | |
| | | | | | 3. | Promote understanding of the vocational educator's role. | |
| | | | | | 4. | Emphasize successful vocational programs in publicity. | |
| | | | | | 5. | Join with the counseling staff for the solution of mutual problems. | |
| | | | | | 6. | Bring academic, vocational and industrial leaders together to study the relationships of school to the world of work. | |
| | | | | | 7. | Increase the rank (and salaries) of vocational leaders. | |
| | | | | | 8. | Provide a greater number of leadership training programs. | |
| | | | | | 9. | Emphasize sensitivity training in the in-service training of vocational educators. | |
| | | | | | 10. | Emphasize national focus upon vocational education at every opportunity. | |
| | | | | | 11. | Other suggestions _____ | |
| | | | | | | _____ | |
| | | | | | | _____ | |

New Technology

There has been a vague educational response to the challenge of the new technology -- or, the absence of a commitment to make a response.

- | | | | | | | | |
|--|--|--|--|--|-----|--|--|
| | | | | | 1. | Conduct industrial surveys to determine specific training needs. | |
| | | | | | 2. | Utilize advisory committees to update course content, identify new courses and evaluate equipment needs. | |
| | | | | | 3. | Build direct liaison with key people in industry. | |
| | | | | | 4. | Work closely with the State Department of Employment to keep abreast of manpower needs. | |
| | | | | | 5. | Provide in-service training for teachers to keep up to date in trade and technical competencies. | |
| | | | | | 6. | Encourage teachers to work in industry to learn new developments. | |
| | | | | | 7. | Bring resource people from industry to assist in classroom instruction. | |
| | | | | | 8. | Utilize more modern equipment through loan, lease or industry-based programs. | |
| | | | | | 9. | Restructure traditional subject areas into "families" of occupational skills. | |
| | | | | | 10. | Provide more work/study programs. | |
| | | | | | 11. | Other suggestions _____ | |
| | | | | | | _____ | |
| | | | | | | _____ | |

Guidance

Many persons in vocational education and guidance decry the wide gap between what is needed and what is done in vocational guidance.

Least helpful			Most helpful		
1	2	3	4	5	
1	2	3	4	5	1. Initiate more dialogue with counseling staff.
1	2	3	4	5	2. Utilize vocational teachers as part-time counselors.
1	2	3	4	5	3. Utilize an advisory system of vocational teachers for counselors.
1	2	3	4	5	4. Make vocational counselors available to students in the classroom.
1	2	3	4	5	5. Establish employment standards for vocational students to parallel the transfer standards for academic students.
1	2	3	4	5	6. Provide more student contacts with tradesmen.
1	2	3	4	5	7. Maintain placement services for all graduates.
1	2	3	4	5	8. Maintain follow-up studies of graduates and drop-outs.
1	2	3	4	5	9. Provide in-service training in vocational guidance for counselors.
1	2	3	4	5	10. Introduce more vocational exploration in elementary schools.
					11. Other suggestions _____

Poverty

Much federal legislation has been aimed at the poverty populations of our country.

1	2	3	4	5	1. Devote more curricula to basic education.
1	2	3	4	5	2. Develop more skill centers.
1	2	3	4	5	3. Emphasize traditional rather than special programs.
1	2	3	4	5	4. Emphasize work-study programs.
1	2	3	4	5	5. Eliminate educational expenses for members of poverty groups.
1	2	3	4	5	6. Publicize training opportunities through radio and television.
1	2	3	4	5	7. Offer short special purpose courses.
1	2	3	4	5	8. Teach in the native language of monolingual groups.
1	2	3	4	5	9. Utilize mobile counseling units in poverty areas.
1	2	3	4	5	10. Join community groups concerned with solving poverty problems.
					11. Other suggestions _____

Diversity and Comprehensiveness

Diversity and comprehensiveness must be key ideas in the development of vocational education.

- | Least helpful | | | | Most helpful | |
|---------------|---|---|---|--------------|--|
| 1 | 2 | 3 | 4 | 5 | |
| | | | | | 1. Emphasize area vocational schools. |
| | | | | | 2. Emphasize comprehensive institutions. |
| | | | | | 3. Utilize industrial experts to diversify faculty and curricula. |
| | | | | | 4. Introduce team teaching combining vocational and academic teachers. |
| | | | | | 5. Disperse vocational courses into industrial settings. |
| | | | | | 6. Incorporate general education in vocational courses. |
| | | | | | 7. Provide education for job clusters or families of occupations. |
| | | | | | 8. Utilize short special purpose courses. |
| | | | | | 9. Stress general practices over specific techniques. |
| | | | | | 10. Develop curricula that relates to both immediate and long range employment objectives. |
| | | | | | 11. Other suggestions _____ |
| | | | | | _____ |
| | | | | | _____ |

Pre-service Teacher Education

Education to prepare craftsmen and technicians to teach is receiving wide-spread attention.

- | | | | | | |
|--|--|--|--|--|--|
| | | | | | 1. Disperse teacher education to more locations. |
| | | | | | 2. Offer core programs throughout the year. |
| | | | | | 3. Establish a board of examiners to evaluate the work experience of teachers and to make recommendations for needed up-grading. |
| | | | | | 4. Emphasize the learning process (how students learn). |
| | | | | | 5. Include observation-demonstration sessions with master (expert) teachers in training programs. |
| | | | | | 6. Emphasize teaching methodology (how to teach). |
| | | | | | 7. Demand practice-demonstrations of <u>all</u> trainees. |
| | | | | | 8. Emphasize lesson planning. |
| | | | | | 9. Provide different teacher training for high school, junior college and correctional teachers. |
| | | | | | 10. Establish on-the-job programs to help new teachers. |
| | | | | | 11. Other suggestions _____ |
| | | | | | _____ |
| | | | | | _____ |

In-service Teacher Training

In-service education to increase trade and technical teacher competencies has been requested by administrators and teachers.

- | Least helpful | | | Most helpful | | | |
|---------------|---|---|--------------|---|-----|--|
| 1 | 2 | 3 | 4 | 5 | | |
| 1 | 2 | 3 | 4 | 5 | 1. | Release teachers for on-the-job in-service training. |
| 1 | 2 | 3 | 4 | 5 | 2. | Maintain dialogue between teachers and administrators about in-service training needs. |
| 1 | 2 | 3 | 4 | 5 | 3. | Maintain dialogue between administrators and other vocational leaders about in-service training needs. |
| 1 | 2 | 3 | 4 | 5 | 4. | Emphasize instructional skills in in-service training. |
| 1 | 2 | 3 | 4 | 5 | 5. | Maintain teacher exposure to the latest developments in their subject area. |
| 1 | 2 | 3 | 4 | 5 | 6. | Provide programs of in-service training through the Bureau of Industrial Education. |
| 1 | 2 | 3 | 4 | 5 | 7. | Provide programs of in-service training at the local level. |
| 1 | 2 | 3 | 4 | 5 | 8. | Provide programs of in-service training through industry. |
| 1 | 2 | 3 | 4 | 5 | 9. | Insist that districts provide salary credit for vocational in-service training. |
| 1 | 2 | 3 | 4 | 5 | 10. | Give salary credit for qualified work experience programs in industry. |
| | | | | | 11. | Other suggestions _____ |
| | | | | | | _____ |
| | | | | | | _____ |

Continuing Occupational Education

The need for continuing occupational education has been hampered by the inability of education to change its form, content and scope.

- | | | | | | | |
|---|---|---|---|---|-----|---|
| 1 | 2 | 3 | 4 | 5 | 1. | Conduct leadership workshops on the planning of change in continuing education. |
| 1 | 2 | 3 | 4 | 5 | 2. | Keep continuing occupational programs up to date with advisory committees. |
| 1 | 2 | 3 | 4 | 5 | 3. | Maintain direct liaison with industry to determine continuing occupational training needs. |
| 1 | 2 | 3 | 4 | 5 | 4. | Maintain direct liaison with industry to publicize continuing occupational courses. |
| 1 | 2 | 3 | 4 | 5 | 5. | Establish more short special purpose courses for continuing occupational education. |
| 1 | 2 | 3 | 4 | 5 | 6. | Conduct industrial surveys to identify modifications in the curricula of continuing occupational education. |
| 1 | 2 | 3 | 4 | 5 | 7. | Conduct follow-up studies on graduates and drop-outs. |
| 1 | 2 | 3 | 4 | 5 | 8. | Provide 100 percent federal support for innovative programs in continuing education. |
| 1 | 2 | 3 | 4 | 5 | 9. | Utilize the more flexible structures of extension education for continuing education. |
| 1 | 2 | 3 | 4 | 5 | 10. | Establish vocational guidance centers for vocational alumni. |
| | | | | | 11. | Other suggestions _____ |
| | | | | | | _____ |
| | | | | | | _____ |