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VOCATIONAL EDUCATION STUDENT KNOWLEDGE OF AND ATTITUDE TOWARD LABOR ORGANIZATIONS

The Ohio State University

Ph.D. 1982

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VOCATIONAL EDUCATION STUDENT

KNOWLEDGE OF AND ATTITUDE TOWARD LABOR ORGANIZATIONS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
David Alan Edwards, B.A., M.Ed.

* * * * *

The Ohio State University
1982

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Technical Education
To the memory of my parents,
Harold Kenneth and Dorothy Cummings Edwards,
and
to my mother-in-law, Iva H. Stoll,
with admiration and appreciation
for her stalwart support.
ACKNOWLEDGMENTS

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A word of appreciation is due the many Trade and Industrial Education supervisors, instructors and students in the State of Ohio without whose generous cooperation this study could not have been undertaken.

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CHAPTER I

INTRODUCTION & RATIONALE

In one way or another, we are all affected by labor unions. The young person preparing to enter the labor force will have to decide whether or not to join a union, and which union to join—if he or she decides to join at all. The person entering business either as an owner or in some sort of managerial position will probably have to deal with at least one union, and perhaps with several. As consumers and citizens, we are affected by union problems [Marshall & Rungeling, 1976, p. iii].

The profound effects of labor unions on the American economy and the American style of life have been well documented. The coal strike of 1978 is but one example. When a particular segment of American society exerts a powerful impact, it behooves citizens to understand it. This means that citizens ought to be aware of the structure, function and dynamics of labor organizations. This position is clearly supported by the National Task Force on Economic Education (Wagner, 1963), which asserted that the role of labor unions in labor-management relations is a topic about which everyone should have some understanding.

Vocational education students are being prepared for employment, many in fields and geographical locations
where a knowledge of labor unions and their activities is essential. In the past, however, most public high school students have possessed only a limited understanding of the labor unions with which many were soon to be involved. This lack was noted by Doherty (1964) who, after completing a survey of public senior high schools, stated that:

> by and large students in the public schools receive an inadequate, often distorted and sometimes biased picture of the role of labor unions and the practice of industrial relations [p. 86].

Scoggins (1966), in a study of California schools, drew much the same conclusion. He further stated that teachers as well as students appeared to have very little understanding of or interest in labor unions and their effect upon an industrial society.

At a time when labor disputes are almost daily in the news, citizens should possess sufficient knowledge of the role of labor unions to enable them to examine the issues objectively. Because of their imminent entry into the work force, vocational education students in particular need this information. If, after graduation, they plan to pursue certain trades which are highly unionized (requiring apprenticeship, for example), union membership may be prerequisite. In addition, those who eventually become owners of their own businesses may hire union members.
There have been no investigations undertaken to discover what vocational education students know and think about labor unions. It is not known whether professional vocational educators have recognized any need to direct significant amounts of time and resources toward including the study of the role of labor unions in their courses of study. This lack of data in regard to vocational education student knowledge of and attitude toward unions is an unfortunate omission in view of the timeliness of the topic.

Statement of the Problem

A significant number of vocational students in trade and industrial education programs will work in occupations that are highly unionized. Therefore, vocational education programs should include considerable information on unions in their curricula (Davis, 1976; Doherty, 1964; Foegen, 1968; Johnston, 1953; Poe & Vent, 1959).

Vocational education teachers and curriculum planners need to be aware of the degree to which vocational education students understand unions and their organization. This study will determine the knowledge of labor organizations of a sample of vocational education students. If, as a result of this study, vocational education students are found to have less than what program planners feel to be the minimum understanding
of unions, then additional emphasis on labor organizations would be appropriate for inclusion in vocational curricula.

The review of literature reflects the frequently voiced opinion that the public schools are providing students with a negatively biased view of labor unions. This is said to take the form of some negative material (Babin, 1975; Sloan, 1975) but most often to be simply the result of placing no emphasis at all on the topic (Babin, 1975; Doherty, 1964; Edwards, 1975; Foegen, 1968; Hogeboom, 1975; Johnston, 1953; Poe & Vent, 1959; Scoggins, 1966; Sloan, 1975;). If the subject of labor unions is being mistreated or ignored as the review of the literature suggests, then it would be appropriate to ascertain the attitude toward labor unions of vocational education students. This study will determine the attitude toward labor unions of a sample of vocational education students.

An analysis of current events suggests an ever increasing need for insights into labor relations. Consequently, the problems which concerned Doherty in 1964 would now bear even closer scrutiny, at a time when many vocational education students are preparing themselves for careers which are highly unionized. An understanding of the fundamentals of labor organizations would be a valuable aid to those who must decide whether union
membership would be of personal benefit to them, considering their backgrounds, personal ideologies, career goals, and the particular situations in which they find themselves.

The Bureau of Labor Statistics has broadly classified thirty-four industry categories into percentage groups according to the degree of union organization (Directory of National Unions and Employee Associations, 1979). Many of these broad industry categories represent career goals for which vocational education students are being specifically trained in industrial education and construction courses. The following are those occupational categories in which vocational education students are traditionally trained, grouped according to the degree that workers are unionized:

75 Percent and Over:
- Transportation
- Construction
- Mining

50 Percent and Over:
- Transportation Equipment
- Primary Metals
- Apparel
- Manufacturing

25 Percent to 49 Percent:
- Food and Kindred Products
- Fabricated Metals
If vocational students aspire to work in these trades, they may have some contact with a labor union, either as members or working alongside those workers who are members. Accordingly, it is important to determine the knowledge and attitude of today's vocational education students in regard to unions, and the relationship of knowledge and attitude to selected demographic variables. The gathering of these data will make it possible to provide documentary information which will be useful to teachers, curriculum developers, and program planners in providing vocational instruction that is most responsive to student needs. Studies are required which will identify important relationships between student knowledge of and attitude toward unions and selected demographic, social and educational program variables.

**Purpose of the Study**

The purpose of this study is to identify high school level trade and industrial education students' knowledge of and attitude toward labor unions. This study will examine the extent to which these subjects possess an understanding of unions and their organization, the collective bargaining process, and the conditions of working under a contract. It will also examine their mental sets, or attitudes, with respect to unions.
The following major research questions are asked in this study:

1. To what degree do students have a knowledge of:
   (a) the nature of labor unions?
   (b) the organization of unions?
   (c) the creation and development of a contract?
   (d) the conditions of work under a contract?
2. What is the nature of student attitude toward unions?
3. What is the relationship between student knowledge of and attitude toward unions?
4. What are the relationships of selected demographic, social, and educational program variables to student knowledge of and attitude toward unions?

Significance of the Study

This study is clearly important in light of the demands faced by citizens in today's society. The previously cited comments by Marshall, Rungling, Wagner, Doherty, and Scoggins testify to the fact that all people in the United States are, or will be, affected by union activity.

Hogeboom (1975) states,

Today the majority of American workers are either blue-collar or non-managerial white-collar workers,
so that the entrepreneurial myth notwithstanding, America is a nation of employees [p. 4].

Bureau of Labor Statistics figures for the year 1978, the last year for which statistics are available, indicate that union and employee association memberships account for 22.2 percent of the total labor force. This represents a slight decline from the 23.4 percent recorded in 1976 (Directory of National Unions and Employee Associations, 1980). In absolute numbers, however, membership rose from 24.2 million in 1976 (Directory of National Unions and Employee Associations, 1979) to 24.4 million in 1978 (Directory of National Unions and Employee Associations, 1980). This rise is significant considering that the recorded absolute numbers of members remained the same, 24.2 million, from 1974 through 1976 (Directory of National Unions and Employee Associations, 1979).

While these figures indicate a relatively small percentage of the total labor force, the sheer magnitude of the numbers involved and the power represented therein attest to the influence of labor unions.

It is generally accepted that the schools have both a general education and an employment preparation function as they assist young people in effecting the transition from youth to adulthood. The bulk of the research identified by the review of the literature was found to address the general education function. Specifically, the
landmark studies have focused on a comprehensive sampling of students with respect to their general knowledge of and attitude toward unions.

While part of the significance of this study derives from the reported deficiencies of the general education thrust of the schools, there is a more important justification. It stems from the fact that no studies of equal stature could be located which address the needs of vocational education students, a group which soon will be confronted with decisions requiring insight into the role of labor organizations.

Furthermore, the importance of the study is heightened by the fact that as contrasted to the general unionization level of the North American workforce (22.2 percent, Directory of National Unions and Employee Associations, 1979), the potential for union membership among graduates of vocational programs is considerably higher. Adding even more support is the fact that the proportion of nonagricultural employees who are union and association members is 26.8 percent (Directory of National Unions and Employee Associations, 1980). These groups of occupations comprise a sizable portion of the trade and industrial education portion of vocational education and probably represent a high unionization potential.

It has been well documented that the textbooks and much of the supplemental materials used in the schools to
teach about labor relations are biased in favor of management and have a definite anti-union flavor (Doherty, 1964; Scoggins, 1966; Sloan, 1975).

Vocational education students, those in trade and industrial education in particular, will be entering the labor force following high school graduation. Therefore, the question of whether trade and industrial education students possess a biased view (or any view, for that matter) of labor unions needs to be answered. There have been no significant studies of this nature which investigate sub-groups in high schools as the target population.

The value of providing up-to-date information attaches additional significance to this study, in that the most recent study pertaining to student knowledge of labor unions was reported in 1964. This researcher has not found any additional studies to fill the eighteen-year interval.

In a recent survey of secondary economics teachers who had been involved in a series of workshops conducted by a World of Work Economic Education Project, 77 percent indicated that they would stress manpower, labor relations, the trade union movement and its history (Dawson, 1975). This is a definite change in attitude as compared to what Scoggins (1966) and Doherty (1964) found a decade and more ago when teachers showed little interest
in the subject. In light of this apparent awakening of interest in unions and also the labor movement among teachers, this study serves an important purpose in documenting the knowledge of and attitude toward labor unions of vocational education students who are about to enter the labor force.

The dominant legal force that shapes vocational education today is Public Law 94-482 (Education Amendments of 1976). This document, which is the result of a massive drive on the part of concerned individuals, associations, and advisory groups, specifies two major criteria for the evaluation of vocational education. They are: (1) student placement and (2) employee/employer satisfaction.

By providing descriptive data as to what students currently know, part of the significance of this study rests on its potential for guiding curriculum developers and program planners toward a systematic inclusion of those knowledges of labor and labor practices which have relevance to job placement. Similarly, additional significance is derived from the likelihood that once such knowledges are built into the curriculum, students will be able to make more informed occupational choices. This would be a positive contribution to their sense of personal satisfaction and, in all probability, to that of their employers.
The methodology employed in this study was used to identify both knowledge and attitude as well as their relationships to factors which appear to have potential for influencing knowledge and attitude. A specific sub-group, high school senior-level trade and industrial education students, was the target population for the study.

Definition of Terms

In the interest of clarity and understanding, definitions are provided for the following terms as they are used in this study.

Trade and industrial education: "An organized educational program of specialized instruction which is planned to develop basic manipulative skills, safety judgment, technical knowledge, and related occupational information for the purpose of fitting persons for initial employment, upgrading or retraining in any industrial, service, or technical occupation [Ohio State Department of Education, Division of Vocational Education, 1976]."

Trade and industrial education students: Those individuals who are enrolled in high school senior-level courses of study which fall under the classification of trade and industrial education.

Union: An association of employees organized in order to gain more strength in dealing with employers for the
purpose of promoting and protecting the interests of workers.

**Knowledge of labor unions**: Knowledge of labor unions which is possessed by an individual as measured by the criterion instrument used in this study (Appendix E).

**Attitude toward labor unions**: Attitude toward labor unions which is held by an individual as measured by the attitude instrument used in this study (Appendix F).

Delimitations

1. The scope of this study is restricted to those secondary schools in Ohio which have both vocational machine trades and auto mechanics courses.

2. The subjects for the study were drawn only from those vocational machine trades and auto mechanics trade and industrial education students who were in their senior year of high school.

Limitations

1. This study can be generalized only to the senior vocational machine trades and auto mechanics trade and industrial education students in the State of Ohio in secondary schools where both courses are offered.

2. The knowledge instrument had content validity only.

3. Three schools in the original sample would not participate and were replaced by further random drawings.
CHAPTER II
REVIEW OF THE LITERATURE

Rationale for Determining Student Knowledge of and Attitude Toward Labor Unions

The influence of labor unions upon the economic system, politics and everyday life in the United States is an indisputable fact. Union requests and requirements must be taken into consideration before decisions can be reached in the operation of commercial or industrial enterprises.

Labor unions, the factor which is of concern here, are either directly or indirectly involved in the home budget, the job market, transportation, legislation, and in political issues, all of which are important parts of the American way of life [Le Blanc, 1971, p. 11].

The goal of the educational system is the preparation of students for the total social and economic milieu with which they will be confronted upon graduation. In view of this fact, it would seem to follow that schools would engage in the dissemination of information involving the various facets of industry (Le Blanc, 1971). This information would, of necessity, include labor unions.
Organized labor, however, receives sparse attention in our schools (Sloan, 1975). Perhaps this was not surprising in the early days of the labor movement, but today labor unions are, and are likely to continue to be, an important part of American life. Statistics indicate that union membership has risen from three million workers in 1933 to nearly seven times that number in 1973. Further, it is presently estimated that one out of every three high school students will join a labor union. Assuming that the number of unionized workers continues to increase, the more important it will be that all high school students become aware of the American Labor movement [O'Leary & Hanson, 1973, pp. 2-3].

Employment is the goal of the vast majority of today's youth. In the first year following high school graduation, 90 percent of the boys and 72 percent of the girls who do not go on to college will be somebody's employees (Scoggins, 1966). This is significant in view of the fact that one of the most important aspects of employment in our country today is the existence of organized labor (Seidman, 1962).

The United States, with virtually all production employees in "big" and "middle" industry organized, may be the most highly unionized country in the free world (Fortune, 1951). Nearly all young workers who find employment in manufacturing, transportation, communication and trade in the foreseeable future will encounter unions in their places of work (Brown, 1945).

Furthermore, although workers have always constituted a majority in the United States, they have received
scarcely any attention at all in most textbooks. High visibility, on the other hand, has been given to the elite--economic, social and political (Hogeboom, 1975). If educational goals are to be reached, educators must take the initiative toward a better understanding of the various functions of society and the points of view from all sides, including those of organized labor (Poe & Vent, 1959).

The literature which was reviewed indicates that most of the studies and articles on labor relations as a topic in secondary schools were written with respect to its integration into the social studies curriculum. A study by Le Blanc (1971) arbitrarily places the responsibility for the study of labor relations upon the industrial arts curriculum. This, however, is a notable exception.

The review of related literature revealed that there has been some attention given to the desirability of including the study of industrial relations in the secondary schools. The fact that business leaders, union officials and educators have been in agreement in the belief that the nation's youth, the employees of tomorrow, should be well-informed concerning labor relations is thoroughly documented in Fisher's (1963) monumental 954-page study.

Schulz (1951), in a survey of community opinion, discovered that neither unionists, management nor the
general public, in spite of other differences of opinion, suggested that labor relations not be included in the secondary school curriculum. Obviously, these groups could recognize the controversial nature of the subject, but were willing to acknowledge the need to overlook differences for the good of educational goals and objectives.

Secondary students have had little or no exposure to labor relations and are not yet likely to have formed any firm opinions. College-age youth, on the other hand, are likely to have drawn their own conclusions, whether positive or negative. Therefore, the treatment of labor relations in the secondary schools is of the utmost importance (Foegen, 1968).

Tomorrow's industrial relations climate, for better or worse, is inevitably being built today. By design or default, the schools are forming the next generation of union leaders and members, government officials and employees, managers, customers and taxpayers. Ignoring how this is done is risky business [Foegen, 1968, p. 329].

The main goal of vocational education is the preparation of students for employment; therefore, it is imperative that they be acquainted with the circumstances and conditions under which they will work. In some industrial settings, the railroads being a prime example, there is almost complete unionization. In other branches of industry, at least 80 percent of the blue collar workers are unionized (Seidman, 1962).
Doherty (1964) expressed strong concern for the needs of vocational students in regard to the lack of instruction in labor-management relations. In the vocational high schools he visited, some provided no instruction at all on the topic and others gave it only brief and perfunctory attention. He wrote, "No group of students has such an immediate need for thorough instruction in industrial and labor relations and no group I know of gets less [Doherty, 1964, p. 8-9]."

There exists evidence in the literature that others are in accord with Doherty in the recognition of the importance of the vocational student's understanding of labor relations. Davis (1976), in a paper presented at the National Bicentennial Conference on Vocational Education, states that he would teach a component of economic education.

It is indispensable toward a fuller understanding of the whole world of work if one also understands the dynamics of labor, industry and commerce. Economic illiteracy in this country borders on the abysmal among rank and file citizens. Vocational educators, themselves, should probably upgrade their understanding in this area where necessary.... Finally, students should get a full understanding of labor-management relations in the public and private sector of our economy [Davis, 1976, p. 126].

Sheppard (1949), in support of a course of study in industrial and labor relations in the social studies program of the vocational high school, asserted that while
students are taught the skills and abilities they will need in obtaining and keeping a job,

that job has social and political, as well as economic content. Just as the school and its society have been central in the demands made upon young people, so, after the termination of school, will the job be central. Social problems must be faced and social choices made in the work life of the adolescent. The problems and choices of the adolescent worker will shape the behavior of that individual as an adult worker [pp. 3-4].

Edwards (1975), in the National Vocational Education Personnel Development Seminar, expressed the view that most vocational education programs are conducted as if trade unions were nonexistent.

If this is indeed the case, then one would question whether vocational students possess, in any measure, knowledge and understanding of labor and industrial relations. In regard to this question, Foegen (1968) stated, "Considering the subject's importance, it has not been widely researched [p. 329]."

Taking into account the dynamic industrial economy of the United States, the rapidly growing unions, and the interest which those unions take in public education, the relationship between labor and education offers virtually limitless potential for scholarly research (Dawson, 1961, p. 269). However, "present knowledge of the treatment of this topic is fragmentary and haphazard [Fisher, 1963, p. 470]."
The implications are clear that a genuine need exists for sophisticated, scientifically controlled studies which would deal with the investigation of labor relations as a topic for study in the secondary schools, specifically in the vocational education curriculum. The lack of in-depth discussion, much less documented information, pertaining to labor relations in regard to the vocational curriculum has provided the impetus for the investigation of the problem.

Related Research

Four studies, several loosely conducted surveys and a number of articles and current writings were located which deal with labor relations as a subject in the secondary school curriculum.

In 1964, a survey was conducted by Doherty at the School of Industrial and Labor Relations at Cornell University which presented the status of the teaching of industrial relations in American high schools at that time. Although the study was, according to Doherty, "somewhat impressionistic [p. v]" and "by no means an exhaustive or rigorously scientific study [p. 3]," it does provide the only nationwide look at the status of the teaching of labor relations in the schools.

Doherty scrutinized high school social studies instruction in industrial and labor relations for the
purpose of evaluating the treatment of the topic in the schools, appraising the merits of instructional materials in use and arriving at a determination of students' concepts of labor relations, whether accurate or inaccurate.

He visited schools and interviewed teachers and supervisors, examined instructional materials, and distributed a questionnaire to a representative sample of teachers in 111 schools. Seventy-four of the schools were urban; twenty-four, suburban; and thirteen were rural or centralized. The classifications of the high schools and the number in each classification were: comprehensive, fifty-two; academic, twenty-nine; and vocational, thirty. Doherty's conclusions were that "...by and large, students receive an inadequate, often distorted, and sometimes biased picture of the role of labor unions and the practice of industrial relations [Doherty, 1964, pp. 86-87]."

In *Labor in Learning: The Public School Treatment of the World of Work*, Scoggins (1966) of the Institute of Industrial Relations at The University of California at Los Angeles reported the results of a similar survey conducted in Los Angeles County. He sought to ascertain what students in the secondary schools were learning about being an employee. Rather than being concerned with the specific occupational goals of the students, the basic
question was in regard to what they were being taught about the "responsibilities, regulations, problems, rights and benefits of being a wage or salary earner [p. 1]."

Scoggins also maintained that there should be due emphasis upon the history and future of work. Specifically, he searched for answers to the following.

(1) How is the American labor movement, its history, contributions, problems, and ambitions presented in the required textbooks and courses of social studies in the public schools? (2) Are adequate space and explanation devoted to the legislation regulating labor-management relations at the present time? (3) Is social and economic security legislation presented in an understandable and unbiased manner? (4) Is the role of government in the domestic economy of the nation described? (5) Is the present and future presented as a period of continuing problems and of evolving pragmatic solutions [pp. 4-5]?

Scoggins selected the county of Los Angeles for his survey because it was large and the high schools had a reputation for being better than average. Instructional materials such as textbooks, instructional guides, pamphlets, and films were examined. Teachers and other involved individuals such as publishing company salesmen were also interviewed in an effort to acquire additional insights (Scoggins, 1966).

The study was divided into three parts, the first being an examination of textbooks. Scoggins selected the social science textbooks in widest use in the Los Angeles County public schools. These included eighteen American
History textbooks, ten American Government textbooks, and five American Problems textbooks. They were read and analyzed.

The last two parts of the study dealt with teachers of social studies and with students enrolled in social studies courses. These two latter areas bore a similarity to Doherty's study in that they were conducted mainly by interview and observation.

Scoggins concluded that his study revealed not only serious shortcomings in the treatment of the labor movement but also an additional problem: "What is most distressingly missing in the classroom is not just the basic information. It is the will to teach the subject of labor and the will to learn it [Scoggins, 1966, p. 91]."

He brought his investigation to a close with the following observation.

The answer to my original question, in spite of questionnaires, interviews, check lists and tally sheets, remains equivocal. Young people are being taught, albeit with a melodramatic emphasis, what it means to be an employee in the crafts or laboring class--up to 1935. They are not being taught, at least in their social studies classes, information which can realistically be applied, and which I deem vital, to their contemporary expectations of entering the work force [pp. 91-92].

Seven years later, Sloan (1973) conducted a study of twenty-seven widely used American History and American Government textbooks in an effort to determine whether there had been any change in their treatment or mistreatment of organized labor in America. He concluded
that textbooks "have gone a long way--but certainly not all the way--to correct that situation both quantitatively and qualitatively [Sloan, 1975, p. 6]."

Sloan suggested that there is reason to believe that the attitudes of the teachers themselves may have been the actual obstruction to the teaching of labor history and collective bargaining (Sloan, 1973).

A study by Babin (1975) looked at several kinds of bias in textbooks, including bias against labor unions. An evaluation was made of 1,719 textbooks by 211 readers during a period of six months. Accounting for much of the bias against labor unions was the tendency to ignore their existence altogether; however, the remainder consisted of strong negative statements concerning unions.

Dawson (1961) examined doctoral studies which had been completed before 1961 on some aspect of the relationship between the labor movement and public education. He found at least thirty-four, nine of which emphasized union attitudes and activities in regard to public schools. The subject of one doctoral study and an integral element of a second was the teaching of labor topics in secondary schools.

The first was that of Gammill (1952), who investigated the effects of the study by high school students of subject matter relating to industrial relations upon their attitudes toward these relations. He asserted that
industrial strife, collective bargaining and employer-employee relations are controversial issues in most communities. It was his belief that it would be helpful to teachers, who often hesitate to introduce controversial topics, to be given information in regard to the changes in attitude which they could expect as a result of introducing these topics in communities which often have strong prejudices against one side or the other. In addition, Gammill further supported labor-management relations studies for the reason that industrial relations create problems which are of vital concern to everyone.

The second, Johnston (1953), also affirmed the importance of labor as a topic in the curriculum. Johnston expressed strong disapproval of the avoidance of controversial issues in the schools and felt that trade unions as well as other groups deserve consideration. Johnston feared that the contribution of labor to America's history has not received the recognition that it merits and that the current interests of workers are also being overlooked in the curriculum. Textbooks and teachers alike were taken to task as Johnston agreed with the complaints of labor that its contributions to society are virtually ignored.

As one solution to these deficiencies, Johnston suggested that the intellectual and moral content of the
various occupational groups be afforded a significant place in the vocational education program. He advised that the individual needs of the students, as well as community needs, be taken into consideration, for what happens in the schools affects labor and labor affects all other institutions.

Brackenbury (1948), investigating the knowledge and beliefs of high school seniors concerning industrial relations, sought the answers to the following questions.

1. What are the beliefs of high school seniors concerning various controversial issues in industrial relations?
2. What is the relation of seniors' knowledge to their beliefs?
3. What is the relation of the knowledge and beliefs of seniors to the following factors:
   a. The industrialization of the area in which they live?
   b. Their age?
   c. Their sex?
   d. Various organizations to which their parents belong?
   e. The occupation of their parents?
   f. Their own occupational aim?
   g. Various newspapers taken in their home?
   h. Various magazines taken in their home?
   i. The number of newspapers and magazines taken in their home?
   j. Various social science courses they have taken?
   k. The number of social science courses they have taken?
   l. Their grade point average?
   m. Their intelligence quotient [p. 1]?

The design of the study included first the determination of what facts about industrial relations
were important for students to have knowledge of. They were:

I. Unions
II. Management
III. Relations between Union and Management
IV. Our Economic Order (capitalism, wages, prices, workers, etc.) [p. 11]

The two measuring instruments were also constructed; one for knowledge factors and one for determining the degree to which the subjects' beliefs agreed with management or with labor as manifested by their answers to controversial questions concerning labor relations.

These two instruments were administered to one thousand high school seniors in seven midwestern cities. The results of the study were based on the 844 usable replies. A set of scores consisting of (1) a knowledge score, (2) a belief score, and (3) a consistency score were recorded for each subject. Using the Pearson product-moment correlation coefficient, the relationships between any one of the scores and the other two were evaluated. Analysis of variance and the product-moment correlation coefficient were used to analyze the relationship of the knowledge and belief scores to each of the thirteen factors.

Brackenbury reported five findings as to the relationship between knowledge and beliefs.

1. The high-school seniors who marked the instruments tend to agree in their beliefs more with management leaders than they do with labor leaders.
2. There is a slight but definite tendency on the part of those seniors who possess the most knowledge to agree more in their beliefs with management than do those seniors who are less well informed.

3. Those seniors who marked sets of belief items most consistently tend to possess more knowledge, and agree in their beliefs more with management than do the more inconsistent seniors.

4. No significant relationships were discovered between the number of belief items omitted and knowledge, beliefs or consistency in beliefs.

5. Seniors tend to mark belief items containing terms they do not understand inconsistently with their overall belief score [p. 37].

Of the thirteen factors, only three were significantly related to all four categories of the knowledge instrument.

The three factors which are significantly related to all four divisions are sex, grade points, and intelligence quotients. Of each division, boys possess more knowledge than do girls. Seniors with the higher grade points and intelligence quotients are better informed than are those with lower grade and intelligence quotients [p. 74].

When the relationships among the thirteen factors and the beliefs of high school seniors were investigated, eight factors were found to be significant.

These eight factors are (1) the industrialization of area, (2) age, (3) parents' organizations, (4) parents' occupations, (5) newspapers, (6) magazines, (7) number of newspapers and magazines, and (8) social science courses [Brackenbury, 1948, p. 98].

Fisher (1963), in a massive work consisting of two volumes and 954 pages, determined what information should be included in the study of labor-management relations. Additionally, he obtained data regarding the techniques
and methodologies which ought to be used in secondary social studies courses in order to facilitate the mergence of the subject into the contemporary social studies curriculum. Besides the aforementioned problem itself, the purpose of the study was the development of resource units on labor-management relations suitable to be taught in secondary social studies courses. These learning units were intended to provide learners with the knowledge of and appreciation for the value of understanding the interaction of labor and management.

In order to obtain the data for analysis, stratified, area-probability and random sampling methods were used. Fisher's techniques were those of correspondence, interview, and documentary analysis as he sought to learn the reasons for teaching labor-management relations in the secondary schools. What should be taught and how and where it should be taught, as well as whether teaching materials are obtainable, the degree of teacher training necessary, and evaluation techniques were additional issues to be resolved with the use of the data gathered. Fisher reached seven conclusions from the analysis of the data.

1. Labor-management relations instruction should be provided in the public secondary schools of this country, and more attention should be devoted to this problem than has been given in the past.
2. Information about collective bargaining, the history of labor and business, and economic
concepts should be included in a study of labor-management relations.

3. The specific instructional method or combination of methods to be employed should be determined by the individual teacher, but the problems approach might have the greatest value.

4. Teachers, generally, are not well prepared to teach about labor-management relations.

5. Materials for labor-management relations instruction are generally available.

6. A number of devices for evaluating labor-management relations understandings are available, but these are somewhat outdated and need revision.

7. No English language materials appeared to have been especially prepared for tenth grade world history courses with respect to labor-management relations in foreign countries [Abstract, pp. 2-3].

Le Blanc (1971), perceiving the need for the development of a unit of instruction on American labor unions, designed instructional content for seventh and eighth grade industrial arts students. As a secondary objective to his study, an evaluation of the instructional unit was carried out through information assessment and attitude assessment.

In order to measure comprehension of the materials presented in the instructional unit, a multiple-choice criterion instrument and a multiple-choice attitude assessment instrument were developed. These instruments were used in pilot studies resulting in data which facilitated revisions of the instructional unit, the criterion instrument, and the attitude assessment instrument. Revisions were made "in accordance with accepted testing procedures [Le Blanc, 1971, p. 35]."
These revised evaluation instruments were then used as a pre-test before the instructional unit was taught. Following the presentation of the instructional unit, they were used in post-test evaluation. The design of the study was the nonequivalent control group design with both a pre-test and a post-test.

The total sample was comprised of 170 industrial arts students in the seventh and eighth grades in three junior high schools. Treatment and control groups were derived from randomly assigned classes within the schools.

The general conclusions of the Le Blanc study were:

1. The instructional product developed for this study was found to be successful in teaching an elementary understanding of labor unions to seventh and eighth grade students in an industrial arts setting.
2. Instruments constructed for the purposes of this study were effective in assessing knowledge and attitudes of subjects as a result of being exposed to the instructional unit on labor unions.
3. Instruments did not show any evidence that seventh and eighth grade students reacted differently as a result of being exposed to the instructional unit on labor unions.
4. There was a significant shift in attitude of those subjects who were exposed to the instructional product. Treated groups displayed a more positive attitude toward labor unions after the completion of the instructional unit [p. 65].

Potential Factors of Influence

A student's life obviously consists of more than attending school and being exposed to materials which are structured for learning situations. Students are members
of families, social groups and various organizations. They watch television, attend movies, read magazines and newspapers and are thus exposed to any number of outside learning situations. All of these areas influence their perception of the world around them.

Barton (1941), Secretary of the United States Chamber of Commerce Labor Relations Committee observed that:

the subject of management-labor relations as it presently exists is not something in a vacuum. It rather involves everyday life—the everyday life of all of us.

Such problems are inherently interesting. They are discussed everywhere—in places of business, in the family circle, in newspapers, in magazines, on trains, and on airplanes [p. 50].

Additional support for the belief that students' experiences outside the school contribute to their knowledge of and attitude toward labor-management relations came from Gammill (1952), who stated that the final conclusion of his investigation was:

that the sentiment toward labor and toward management is quite likely to be a matter of the local situation. Furthermore, the particular situation, the particular teacher, the particular group and the local community are all factors which must be considered in dealing with the changes which take place in labor and management attitudes [p. 128].

Stanley (1948) also acknowledged that mass communications influence the attitudes and knowledge of people toward labor and management relations but also added that public knowledge of labor unions comes mainly from inadequate and biased coverage by the media.
Views concerning labor-management relations are also arrived at in the environment of the home (Hughes, 1948). Superficial issues such as appearance and courtship patterns aside, the opinions of young people appear almost as carbon copies of those of their parents (Scoggins, 1966). These opinions may of course be colored by a variety of factors.

The Le Blanc (1971) study, which developed instruments for the assessment of knowledge and attitude of students in regard to labor unions, made thirteen recommendations for further research, five of which are relevant to this study.

1. Further research is required to determine if parent involvement or non-involvement with labor unions significantly affects their child's attitude toward and comprehension about labor unions.

2. Further research is required to determine if socioeconomic background of students has a significant effect on performance on a unit such as the one used in this study...

6. Since this study dealt exclusively with male students, future research should be conducted to determine if the findings of this study would be sustained with female subjects...

10. Additional research should be conducted in relation to the type of site used for conducting studies using union materials. For example, urban areas could be compared with rural areas or a situation in a vicinity of a strong union could be contrasted to a situation where no organized union is in the immediate vicinity.

11. It is left to future research to determine if and how the teacher's attitude towards labor unions affects the attitudes of students who are exposed to his teaching [pp. 65-68].
More than 20 years prior to the Le Blanc study, Brackenbury (1948) selected a number of factors which he believed to have impact on the beliefs and attitudes of individuals concerning industrial relations. The following is a list of Brackenbury's thirteen factors.

1. The industrialization of the area in which they live
2. Their age
3. Their sex
4. Various organizations to which their parents belong
5. The occupation of their parents
6. Their own occupational aim
7. Various newspapers taken in their home
8. Various magazines taken in their home
9. The number of newspapers and magazines taken in their home
10. Various social science courses they have taken
11. The number of social science courses they have taken
12. Their grade point average
13. Their intelligence quotient

Related Literature Concerning What Should Be Taught

If the public secondary school is to impart to the students information regarding industrial relations (unions in particular), what specifically should be included in this curriculum?

This problem was addressed by Kærnes (1948) in his study, Evolving Concepts of Industrial Education in the Thinking of Organized Labor. He stated that:

Labor has insisted that the public school's only course is to maintain a neutral position with regard to labor-management conflict. At the same time, it has demanded that, in the area of social studies and in vocational subjects especially, the public schools teach in an
unbiased manner the history and problems of the labor movement, the contributions that wage earners have made to American industrial progress, the problems of industrial relations, and the principles of unionism and collective bargaining [p. 364].

In *An Educational Policy for Organized Labor in the State of Colorado*, Schulz (1951) supported some of the areas of emphasis to which Karnes had earlier referred. Schulz also indicated additional areas which he considered deserving of attention. Regarding the desires of labor as to these areas, Schulz reported:

The union population wants collective bargaining presented as an accepted industrial practice. The unionists want vocational students to understand, among other collective bargaining functions, the operation of union contracts, the employment of grievance procedures within a plant and negotiation of wage agreements [p. 316].

Keane (1948) surveyed 220 labor leaders in New England to ascertain their views on what prospective young workers should know about labor unions and labor relations. Forty-nine percent of those from whom information was requested responded. Twenty topics were isolated as those having the most immediate value to a worker who is unfamiliar with the industrial setting.

Topic No. 6 The objective of progressive unionism in relation to wages, hours, working conditions, and employment

Topic No. 38 The nature and extent of workers' problems concerning wages and income, in their relation to standards of living in this country
Topic No. 22  The development of union leadership and of democratic practices within the labor unions of the United States

Topic No. 46  The need for, and development of, legislation dealing with workers' problems of industrial insecurity, unemployment, occupational health hazards, need for pensions, etc.

Topic No. 55  The harmful and undesirable effects on wage-earners, employers, and society which are caused by inadequate wages in industry

Topic No. 60  The anti-union tactics of employers--company unions, propaganda, discrimination, violence, espionage, etc.

Topic No. 2  The rise and continued progress of unionism in the United States, following World War I and during the "New Deal"

Topic No. 13  The nature, extent, and effects of unemployment on workers, employers, and society in general

Topic No. 15  The aims and methods of progressive labor management in American industry

Topic No. 26  The development of individual bargaining and collective bargaining among workers in industry

Topic No. 50  The collective pressure weapons available to organized labor in labor disputes--the strike, the boycott, restrictive practices, etc.

Topic No. 69  The welfare measures adopted by labor unions to promote the well-being of workers

Topic No. 5  Labor's alertness to prevent racketeering within its ranks
Topic No. 21  The extent of unionism among workers throughout the United States

Topic No. 27  The nature of labor unions; how they may be defined and the broad basis for their classification

Topic No. 43  The business methods of progressive unionism in relation to collective bargaining, trade agreement, and restrictive practices

Topic No. 44  The legislative and political programs of organized labor groups

Topic No. 61  The measures taken by unions, employers, and the government for securing shorter work-periods in American industry

Topic No. 71  The need for, and development of, legislation dealing with workers' problems of wages and income

Topic No. 76  The economic and industrial conditions in industry which operate to cause unemployment [p. 101]

The literature is lacking in statements by business leaders concerning what specifically should be taught about unions and labor relations. Business leaders are apparently more in favor of citizens understanding basic economic principles rather than specific information about the workers who earn wages from employers. Fisher (1963), in The Teaching of Labor-Management Relations in the Public Schools, repeated this view by stating:

Most of the literature by business leaders or representative of their viewpoints...has stressed the necessity for greater emphasis in the area of general economic education, of which the study of labor-management relations is but a part [p. 95].
The results of a study by Overman (1954) exemplified the viewpoints of business as found in the literature. His study listed forty-nine principal concepts which were rated in descending order of importance as a result of the responses of 268 policy-making executives. None gave major consideration to labor-management relations. The concepts which Overman's subjects ranked as the top five were:

A free enterprise system must include a free market, open competition, the right to private property, adequate profits and wages as incentives, and minimum regulations (instead of control or ownership) by government.

The American free enterprise system produces a higher standard of living for more people than does any other system.

Any substantial rise in real wages for workers in general can be achieved only through an increase in productivity.

The true measure of wages is not money income but goods and services wages can buy.

A function of government is to insure competition and fair play, not to own, control, or manage any major industry [p. 186].

The only notable exception in the literature of business interests in which specific reference was made to labor relations was represented by Gardiner (1947), vice-president of a woolen company, who stated:

Both the student who becomes identified with union relations, and the student who joins management's ranks, performs a service for the same group of people--the workers.
Industrial-relations education should teach that management and labor have a large area of common interests \[p. 509\].

**Specific Units of Study**

Examples of units of study on labor-management relations detailing specific information to be taught were located in order to discover what, in general, is the information which students are expected to know at the secondary level.

In order to develop a course of study which would be appropriate for teaching senior vocational high school students in the New York schools about labor and industrial relations, Sheppard (1949) reviewed existing course outlines which were available. The researcher used four tentative course outlines developed by the Research Department of the New York State School of Industrial and Labor Relations as the preliminary guide for developing her course content. She also examined a course of study developed for the schools of Fall River, Massachusetts, and one which was developed for apprentices by the Bureau of Industrial and Technical Education of the New York State Education Department.

The lack of available source materials made it necessary for Sheppard to draw upon her own experience to some degree. Along with that, she attempted to undertake a synthesis of courses of study which had previously been developed for use at the senior high school level.
The course of study which she developed consisted of six units, the first being an orientation to the general subject area, presenting basic needs of both worker and employer. The second unit dealt with the historical background and the third with legislation. Unit Four covered the collective bargaining procedure and the kinds of unions and businesses which participate therein. The subject of human relations in industry was covered in Unit Five, and problems and issues in industrial and labor relations constituted the sixth and final unit. The goal of the Sheppard course of study was to provide students with a clear idea of the ways in which they will be affected by labor-management relations when they become employees.

A year earlier, Brackenbury (1948) experienced much the same difficulties as Sheppard had in determining the scope and limits of the subject matter. He found that there were virtually no high school textbooks for the study of industrial relations. Of the large number of references which he examined, only two were found which could be termed high school textbooks. Two others, considered by Brackenbury to be instrumental in delimiting the field, were American Labor (Harns, 1938) and Industrial Relations and the Social Order (Moore, 1946).

The paucity of high school textbooks for the study of industrial relations led Brackenbury to investigate the
industrial relations programs of colleges and universities. Of these, the program offered by the Industrial Relations Center of the University of Chicago received the most precise examination. Course descriptions and outlines, tests, bibliographies and other materials from the various institutions were carefully studied. Additionally, Brackenbury utilized a report by Harbison, entitled "Survey of Research in Labor-Management Relations at Princeton, Harvard, Yale, Pennsylvania, and M.I.T.," which he found helpful in gaining knowledge in regard to research which was then current.

Brackenbury's outline of the field of industrial relations at the high school level which was completed as a result of his investigations was as follows:

I. Unions
   A. Organization and Types
   B. Methods and Practices
   C. Facts and Events
   D. Personalities
   E. Federal Legislation

II. Management
   A. Organization and Types
   B. Methods and Practices
   C. Facts and Events
   D. Personalities
   E. Federal Legislation

III. Relations between Unions and Management
   A. Methods and Practices
   B. Terms and Concepts
   C. Facts and Events
   D. Personalities

IV. Our Economic Order (capitalism, wages, prices, employment, workers, etc.)
   A. Organization and Types
   B. Methods and Practices
   C. Terms and Concepts
   D. Facts and Events
   E. Federal Legislation [p. 11]
The Department of Vocational Education of the University of Arkansas in conjunction with the Arkansas State Department of Education developed a self-instructional unit entitled Labor Unions and Organizations (1971) as a teacher's guide to be used with secondary vocational students. The objectives of the unit are listed as:

1. To provide students with a basic understanding of labor unions and their role in the work force.

2. To provide the students with a realization of how labor unions affect individual workers.

3. To provide actual or simulated experiences with labor unions that will help students increase their understanding and appreciation of the function of unions in our society [p. 1].

The topics selected as most essential for study were the history and development of labor unions, the various types of unions and their organization, the practice of collective bargaining and the features of a union contract (wage rates, hours, seniority rights, grievance procedures, etc.).

In 1975, the Bureau of Occupational and Career Curriculum Development of the New York State Education Department published Industrial and Labor Relations, a curriculum for providing systematic instruction in labor-management relations for apprentices.

Working under a grant at the New York State School of Industrial and Labor Relations at Cornell University,
Professor Felician F. Foltman supervised the development of content. This content was then arranged in self-contained instructional packages which were identified as modules. The understanding of labor unions and their role in the industrial setting was the objective of the unit of study. Included in the modules were orientation to unions, American labor union history, union structure, employer-employee-union relations, collective bargaining and the processes of negotiation and arbitration. It will be noted that these topics conform closely to those which comprise the courses of study heretofore described.

Le Blanc (1971), in a systematic effort to determine the scope and parameters of the instructional content for a unit on labor unions, used many of the same techniques for arriving at subject content as those employed by Brackenbury (1948) and Sheppard (1948).

Le Blanc's first efforts toward the acquisition of materials were carried out in the form of a letter of inquiry. Eighty-five copies of the letter were mailed to major labor unions and other organizations which were thought to be potential sources of information and materials. The results were indeed gratifying.

Organizations responded with information concerning their histories, organizational structures, goals, activities, and leaders. They supplied Le Blanc with a
wealth of materials in a broad variety of mediums, including books, magazines, pamphlets, films, slides, tapes, stickers and posters.

These materials constituted an excellent resource file which Le Blanc used in addition to a large number of materials from non-union sources. Twenty-five labor-management texts were an additional supplement.

An examination of these materials was carried out and guidelines were established for their selection. First, it was established that in facts presented and level of sophistication, the materials had to be suitable to the use for which they were intended.

Second, because the students for whom the instructional unit was designed were expected to know little or nothing about labor unions, the information had to begin with fundamentals.

Third, it was decided that no more than five class periods could be allotted to the actual learning package. This restriction was due to a desire to prevent the experimental study from interfering with other course activities.

Six major themes were isolated as those which most satisfactorily conformed to the general guidelines as established by Le Blanc. One of these major themes, labor legislation, was eliminated due to the fact that various aspects of it could be incorporated into other sections
where it would be more meaningful. It was decided that to devote an entire section to legislation would require a great quantity of time in order to make it understandable.

Therefore, the remaining five themes which met the general guidelines were utilized as the core around which the information and materials were to be organized. They were "(1) what unions are, (2) how unions are organized, (3) obtaining a contract, (4) working with the contract, and (5) future of labor unionism [Le Blanc, 1971, p. 26]."

Summary

The following five statements represent a summary of the review of literature relevant to this investigation.

1. There exists a concern as to whether graduating high school seniors possess accurate, timely, unbiased information in regard to labor organizations and their contributions to American society. No recent studies have investigated this matter.

2. It was found to be the belief of management, labor organizations, and the general public that the high school should be responsible for presenting information on labor-management relations in an unbiased manner.

3. Vocational education students were singled out as being in particular need of information
concerning labor unions due to their imminent entry into the nation's work force. Moreover, it was thought that the information must not be distorted in any way, neither pro- nor anti-union.

4. There is a general consensus in the literature that various influencing factors outside the structured learning environment of the school may significantly affect student comprehension of and attitude toward labor unions. It has been advocated that there be further research into these relationships.

5. An inquiry into what should be taught, through the study of what has been written on the subject and the examination of curricula which have been developed, revealed four commonalities. These major areas of consensus as to what should be taught were: (1) an explanation of unions and their history, (2) types of unions and their organization, (3) the collective bargaining process, and (4) the responsibilities of both labor and management under the contract.

The review of related research and literature points up the importance of the knowledge and understanding of labor organizations as a part of every student's knowledge base. It would seem to follow, then, that it is necessary to determine the present state of student knowledge of and
attitude toward labor unions. This study investigated the knowledge and attitude of trade and industrial education students in regard to labor organizations and their relationships to selected demographic, social and educational program variables. Based upon this comprehensive review of the literature, the following major research questions would seem appropriate.

**Research Questions**

The following research questions are based on the stated purpose of this study and on the information derived from the review of the literature.

1. To what degree does the trade and industrial education student possess specific knowledge of:
   (a) the nature of labor unions?
   (b) the organization of labor unions?
   (c) the creation and development of a contract?
   (d) the condition of work under a contract?

2. What is the attitude of the trade and industrial education student toward labor unions?

3. What is the relationship between the trade and industrial education student knowledge of and attitude toward labor unions?
4. Are student knowledge of and attitude toward labor unions related to the geographic location (urban or rural) of the vocational program?

5. Are student knowledge of and attitude toward labor unions related to the type of school (comprehensive or joint vocational school) in which the vocational program is offered?

6. Are student knowledge of and attitude toward labor unions related to the kind of vocational program (machine trades or auto mechanics) in which the industrial education student is enrolled?

7. Are student knowledge of and attitude toward labor unions related to the various organizations to which the trade and industrial education student's parent(s) belong?

8. Are student knowledge of and attitude toward labor unions related to the occupations of the trade and industrial education student's parent(s)?

9. Are student knowledge of and attitude toward labor unions related to whether a daily newspaper is taken in the home of the trade and industrial education student?

10. Are student knowledge of and attitude toward labor unions related to various magazines taken
in the home of the trade and industrial education student?

11. Are student knowledge of and attitude toward labor unions related to the various social science courses the trade and industrial education student has taken?

12. Are student knowledge of and attitude toward labor unions related to the union background of the junior vocational teacher?

13. Are student knowledge of and attitude toward labor unions related to the union background of the senior vocational teacher?

14. Are student knowledge of and attitude toward labor unions significantly related to the junior vocational teacher's knowledge of and attitude toward labor unions.

15. Are student knowledge of and attitude toward labor unions significantly related to the senior vocational teacher's knowledge of and attitude toward labor unions.
CHAPTER III
RESEARCH PROCEDURE

Overview of Procedure

This study involved the use of a classroom-administered survey instrument to determine student knowledge of and attitude toward labor unions. In addition, data were collected to test relationships of student knowledge of and attitude toward labor unions to other selected demographic characteristics of the students. The data were analyzed using descriptive statistics. Coefficients of correlation between knowledge and attitude were determined and analyzed. Additionally, the analytical procedures employed analysis of variance, the two-sample $t$-test, and the one-sample $t$-test to determine differences between groups.

Population and Sample

The target population for the study consisted of students enrolled in vocational trade and industrial education courses who were seniors in secondary schools in Ohio during the 1979-1980 school year. The population was further defined as those students in two types of
programs—machine trades and auto mechanics. These two taxonomies were selected for the following reasons: (1) Both programs are offered in nearly all schools with trade and industrial education programs; and (2) machine trades are highly unionized while the auto mechanics trade is very seldom unionized. (See Appendix A for a list of schools in the State of Ohio offering machine trades and a list of those offering auto mechanics programs in their curricula. Most schools appear on both lists.)

For this study, the sampling unit was a school offering secondary vocational trade and industrial education courses in both machine trades and auto mechanics. (See Appendix B for a listing of schools in the State of Ohio having both machine trades and auto mechanics courses in their curricula.) The secondary sampling unit, especially for the purpose of analysis, was a secondary vocational trade and industrial education student enrolled in either machine trades or auto mechanics classes.

There were 93 secondary schools in Ohio which offered courses in both machine trades and auto mechanics during the 1979-1980 school year. This figure was obtained from the Trade and Industrial Education records of the Ohio State Department of Education in Columbus, Ohio.

For the purposes of the study, the State of Ohio was divided into Standard Metropolitan Statistical Areas.
(urban) and the Balance of the State (rural). "The general concept of a metropolitan area is one of an integrated economic and social unit with a recognized urban population nucleus of substantial size (Standard Metropolitan Statistical Areas, 1975, p. iii)." (See Appendix C for the list of Ohio counties grouped according to their Standard Metropolitan Statistical Areas and Appendix D for the list of the Standard Metropolitan Statistical Areas in the State of Ohio.)

The urban and rural classification of the schools was accomplished by first determining, through the use of the Directory: Programs, Faculty and Staff, 1978-1979 School Year (Ohio State Department of Education, Division of Vocational Education, 1979), the county in which each school was located. Then the list of Standard Metropolitan Statistical Areas by counties, as taken from Standard Metropolitan Statistical Areas (1979), was consulted in order to classify each school as either urban or rural. (See Appendix D.)

The secondary schools in the State of Ohio with vocational trade and industrial education courses in both machine trades and auto mechanics, as determined by the list of these schools provided by the Ohio Department of Vocational Education (shown in Appendix B), were classified into comprehensive high schools and joint vocational schools.
The schools can be classified into these categories by using the Directory: Programs, Faculty and Staff, 1978-1979 School Year (Ohio State Department of Education, Division of Vocational Education, 1979), which lists each program as an integral part of a joint vocational school or as an adjunct to a secondary comprehensive high school.

A simple random sampling technique was employed in selecting the samples required for the study. This entailed the assigning of a number to each of the vocational schools in each category, placing each of these numbers on a separate card, and then randomly drawing the cards, one category at a time.

A 20 percent sample was drawn to represent Standard Metropolitan Statistical Area Comprehensive High Schools, Standard Metropolitan Statistical Area Joint Vocational Schools, and Balance of State Joint Vocational Schools. All of the schools in the Balance of State Comprehensive High Schools category were contacted to participate because of the small number of schools in this category. Two of these schools declined, however, leaving only three schools in the category. For each of the remaining categories, cards were randomly drawn in order to bring the total to 20 percent. The 20 percent random sample yielded 42 classes to be surveyed and all completed and returned the questionnaires and survey instruments.
The number of schools which were drawn as determined by the 20 percent random sample are shown in Table 1. The class size of these machine trades and auto mechanics courses ranged from six to twenty-two.

**TABLE 1**

**SCHOOL CATEGORIES AND NUMBER OF SCHOOLS DRAWN AS DETERMINED BY SAMPLE SIZE**

<table>
<thead>
<tr>
<th>Type of School</th>
<th>Urban Sample</th>
<th></th>
<th>Rural Sample</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of schools</td>
<td>Percent of Total</td>
<td>No. of schools</td>
<td>Percent of Total</td>
</tr>
<tr>
<td>Joint Vocational Schools</td>
<td>8</td>
<td>20%</td>
<td>4</td>
<td>20%</td>
</tr>
<tr>
<td>Comprehensive High Schools</td>
<td>6</td>
<td>20%</td>
<td>3</td>
<td>60%*</td>
</tr>
</tbody>
</table>

*Because of the low number of schools in this category, 100 percent of them (5) were asked to participate. Two declined to participate, thereby bringing the sample size in this category to 60%.

The number of instructor responses in each of the two school categories is shown by location and trade area in Table 2. All of the instructor responses were usable.
### TABLE 2

**INSTRUCTOR RESPONSES BY TYPE OF SCHOOL, LOCATION, AND TRADE AREA**

<table>
<thead>
<tr>
<th></th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Classes Sampled</td>
<td>Number of Classes Sampled</td>
</tr>
<tr>
<td></td>
<td>Junior Instructor Responses</td>
<td>Junior Instructor Responses</td>
</tr>
<tr>
<td></td>
<td>Senior Instructor Responses</td>
<td>Senior Instructor Responses</td>
</tr>
<tr>
<td><strong>Joint Vocational School Programs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto Mechanics</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Machine Trades</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td><strong>Comprehensive High School Programs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto Mechanics</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Machine Trades</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>
The total number of instructors responding is shown in Table 3.

| TABLE 3 |
|-----------------|--------|
| NUMBER OF INSTRUCTORS CONTACTED AND NUMBER RESPONDING |
| Total senior teachers to be surveyed | 42 |
| Total senior teachers responding | 41 |
| Total junior teachers to be surveyed | 42 |
| Total junior teachers responding | 38 |

If a school which had been drawn listed more than one class of seniors in machine trades or auto mechanics, the class which was listed first in the Directory: Programs, Faculty and Staff, 1978-1979 School Year (Ohio State Department of Education, Division of Vocational Education, 1979) was selected.

Three of the schools which were drawn but declined to participate were replaced by further random drawings.

Data Collected

In order to accomplish the objectives of this study, three types of information were obtained from vocational trade and industrial education students enrolled in senior machine trades and auto mechanics courses. An index of student knowledge concerning labor unions, an index of
student attitude concerning labor unions, and specific demographic variables which describe specific student characteristics were the data collected. The index of student knowledge was obtained by the administration of multiple-choice questions covering the information which a graduating senior should know about labor unions (Appendix E). The index of student attitude was derived from the administration of a Likert Scale attitude instrument given to the group (Appendix F). The demographic information was gathered along with the data from the knowledge and attitude instruments through the use of a form designed for the purpose (Appendix G).

The knowledge and attitude instruments were also administered to the instructors of the students who participated in the study. The instructors were not asked to complete the demographic information questionnaire; instead, they answered a short questionnaire concerning their experience with labor organizations (Appendix G). The junior instructors, who had taught the participating students during the previous year, were also asked to complete the set of instructor instruments.

Data-Gathering Instruments: The Knowledge Instrument

The instruments selected for use in this study were those which were developed and used by Le Blanc at Purdue University in 1971.
Le Blanc's multiple-choice criterion instrument for measuring student knowledge of labor unions (1971) closely parallels the four knowledge areas which were identified in Chapter Two. A fifth section developed by Le Blanc, The Future of Labor Unions, was not used in this study due to lack of support in the literature.

The instrument was the result of Le Blanc's extensive efforts to determine what constitutes adequate student knowledge of labor unions. (See Chapter Two.) The initial instrument consisted of one hundred twenty-five items; twenty-five per section.

Le Blanc conducted pilot studies subjecting the instrument to item analysis. In order to ensure content validity, he carried out a thorough comparison of the questions on the criterion instruments with the content of the knowledge areas. As a result, twenty-five of the original questions were excluded from the instrument.

Each of the multiple-choice questions which comprised the instrument had four alternative answers, only one of which was correct. Sufficient time was given in the Le Blanc study to allow each student to complete the responses, so that the total number of the correct responses in each division of the instrument represented the score for that division.

A Kuder-Richardson Formula 20 was used on the scores derived from the administration of the criterion
instrument to the 131 subjects in the Le Blanc study. The reliability estimate was .92.

The present study followed the same procedure as that which was used by Le Blanc in arriving at the student knowledge index/score. A Kuder-Richardson Formula 21 was used on the scores derived from the administration of the knowledge instrument. The reliability estimate obtained was .78. The instrument used to measure student knowledge of the four areas found to comprise the fundamental concepts concerning labor unions is shown in Appendix E.

Data-Gathering Instruments: The Attitude Instrument

Finding no available attitude assessment instrument, Le Blanc developed his own by reviewing those studies dealing with the area of work attitudes. One-half of the 110 statements resulting from his investigation referred to labor unions and the other half referred to management.

Consequently, a serious shortcoming was revealed which was promptly rectified. In Le Blanc's own words:

Upon initial usage of the assessment instrument it was found that students were confused by the similarities of the wording in the union statements and that used in the management statements. The result of this confusion was that subjects, responding to statements in the instruments, believed that the researcher was trying to "trick" them by using the same question in different parts of the instrument to see if they would give an identical answer each time. Therefore, the instrument was subjected to a complete reorganization. The management questions and ambiguous statements were deleted, leaving fifty items related to labor unions. Twenty-five of these
items were considered to be pro-union and twenty-five were anti-union (pp. 32-33).

The second revision was made, following the administering of the instrument to teachers, graduate students, and members of an international craft union. The resulting instrument, now containing twenty pro-union and twenty anti-union statements, was used in the pilot studies.

Subsequently, further refinement took place, with the result that the instrument which was used in the final stage of Le Blanc's study consisted of thirty-two statements, sixteen of which were pro-union and sixteen anti-union. Each statement could be answered through the selection of a response from a five-point scale ranging from "(A) strongly agree" to "(E) strongly disagree."

A numerical value of five points for the "(A)" response down through one point for the "(E)" response constituted the scoring procedure on positive (pro-union) statements. The reverse of this numerical scale was used for the negative (anti-union) statements.

The present study followed precisely Le Blanc's procedure for arriving at the student attitude index/score. The attitude instrument in its final form, which was used in this study, is shown in Appendix F.
Data-Gathering Instruments: The Questionnaire

The questionnaire developed for the present study for gathering data on selected demographic, social and educational program variables was included with the knowledge and attitude instruments for student responses. These variables were based on the foregoing review of literature and were classified as follows.

(a) Locale in which students are enrolled in school, Standard Metropolitan Statistical Area (urban) or Balance of State (rural).

(b) Type of school which students attend (comprehensive or vocational high school).

(c) Kind of Program in which students are enrolled (auto mechanics or machine trades)

(d) Various organizations to which their parents belong.
   1. A labor union
   2. Lions Club
   3. Rotary Club
   4. Kiwanis Club
   5. Chamber of Commerce
   6. Farm Bureau
   7. National Farmers Organization
   8. None of the above

(e) The occupations of their parents.
   1. Professional persons
2. Farmers
3. Wholesale and retail dealers
4. Proprietors, managers and other officials
5. Clerks and kindred workers
6. Skilled workers and foremen
7. Semi-skilled workers
8. Farm laborers
9. Construction workers

(f) Whether a daily newspaper is taken in their home.

(g) Various magazines taken in their home.

1. Time
2. Newsweek
4. Reader's Digest
5. Labor union journal or newspaper
6. Agriculture magazine
7. None of the above

(h) Various social science courses they have taken.

1. History (other than U.S., which is required)
2. Government (other than that which is required)
3. Economics
4. Social or American Problems
5. Sociology or Human Relations
6. None of the above
(i) Their vocational teacher’s union background or lack thereof.
(j) Their vocational teacher’s knowledge of labor unions.
(k) Their vocational teacher’s attitude toward labor unions

The questionnaire, along with a separate questionnaire for instructors, is shown in Appendix G.

Collection Plan

To obtain cooperation from the schools which were selected by the previously outlined sampling procedure, the investigator, in the spring of 1979, telephoned either the school superintendent, the vocational director, or the trade and industrial education supervisor of each of the selected schools to explain the study and request their participation.

A follow-up letter was mailed to each person who had verbally agreed to participate. (See Appendix H.) Included were sample copies of instruments to be administered to students and instructors. A school response form was enclosed in order that the school could provide the researcher with the name of the contact person and the date on which the tests could be administered. A stamped, addressed envelope was provided for the reply. This school response form is shown in Appendix I.
A packet of materials was then prepared for each of the participating machine trades and auto mechanics instructors. Included in the packet were sufficient testing materials for the number of students enrolled in the class as well as for the instructors, who would also be completing the instruments.

Specific directions were provided for the administration of the instruments. It was asked that they be handed out with minimum comment and that the instructor read the directions aloud to avoid any misunderstandings on the part of the students. These directions are shown in Appendix J.

It was also asked that a generous amount of time be allowed for the administration of the instruments so that students would have time to finish. It was possible for both instruments to be administered in a time span of one hour and thirty minutes. Alternatively, however, the knowledge instrument could be administered on one day and the attitude instrument on the following day.

After the instruments had been administered, the instructors returned the packets in the postpaid mailer which was provided.

Data Analysis Plan

The data which were gathered from the responses were quantitative in nature and consisted of nominal data for
the demographic variables and interval data for the knowledge and attitude instruments. In general, the empirical data gathered were subjected to parametric statistical methods for analysis. Due to dissimilarities in the research questions, some required only description while others demanded differing statistical treatments for analysis.

To ascertain the specific knowledge possessed by an individual student concerning labor unions, a score for each section as well as a total score was determined by the administration of the criterion instrument. The scoring was accomplished through the use of the method which is described in the Data-Gathering Instruments section of this chapter. The attitude toward labor unions as held by a student was determined by the score obtained from the administration of the attitude instrument. It was scored also as described in the Data-Gathering Instruments section. An investigation was made as to whether there is any relationship between knowledge of labor unions and attitude toward labor unions possessed by vocational trade and industrial education students. The Pearson Product-Moment Coefficient of Correlation was used to determine to what degree, if any, this relationship exists.

The relationship of student score on the criterion instrument was investigated in regard to each of the
demographic factors as listed in Chapter Two. This was done through the use of analysis of variance, a statistical method of determining whether significant differences exist between two or more means which are being compared simultaneously.

Isaac and Michael (1971) explain that analysis of variance answers the question, Is the variability between groups large enough in comparison with the variability within groups to justify the inference that the means of the populations from which the different groups were sampled are not all the same? In other words, if the variability between groups means is large enough, we can conclude they probably come from different populations and that there is a statistically significant difference present in the data. The particular statistical test yielding the answer is the F-ratio:

\[
F = \frac{\text{Between Groups Variance}}{\text{Within Group Variance}}
\]

[p. 140]

The relationship of student score on the attitude instrument was investigated in regard to each of the demographic factors as listed in Chapter II. The Pearson Product-Moment Coefficient of Correlation was used to determine to what degree a relationship exists. To investigate the relationship between teacher knowledge of and attitude toward labor unions and student knowledge of and attitude toward labor unions, the Pearson Product-Moment Coefficient of Correlation was again used.
CHAPTER IV
ANALYSIS OF THE DATA

The study was conducted for the purpose of ascertaining high school level trade and industrial education students' knowledge of and attitude toward labor unions. For the purpose of testing, the knowledge was divided into four categories which comprised the major functions and composition of labor unions as determined by the review of literature. These specific categories, as identified and used by Le Blanc (1971), were: (a) the nature of labor unions, (b) the organization of labor unions, (c) the creation and development of a contract, (d) the conditions of work under a contract.

Information regarding the attitude of the participants toward labor unions was gathered to determine whether it was positive, negative or neutral, and what relationship, if any, existed between attitude and knowledge.

In order to learn what factors are related to knowledge of and attitude toward labor organizations, specific demographic variables were isolated and the relationships analyzed.
The objective of this chapter is to provide a description of the characteristics of the groups tested, means for each of the aforementioned categories according to group, means for the combined groups according to categories, the relationship between attitude and knowledge, by category, for each group and the combined groups, and the relationship of each group, in each category, to the demographic variables.

Characteristics of the Groups

A total of 581 students (n=581) in the State of Ohio completed the knowledge instrument, the attitude instrument, and the student demographic questionnaire. The students were selected by school type (comprehensive or joint vocational school), geographic location (urban or rural), and kind of program (auto mechanics or machine trades) and represent these respective groups as a means of addressing the objectives of this study. Table 4 summarizes the information for these categories.
TABLE 4
DISTRIBUTION OF STUDENTS BY LOCATION, SCHOOL TYPE AND KIND OF PROGRAM

<table>
<thead>
<tr>
<th></th>
<th>Urban Sample: n = 393</th>
<th>Rural Sample: n = 188</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comprehensive High Schools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine Trades</td>
<td>84</td>
<td>33</td>
</tr>
<tr>
<td>Auto Mechanics</td>
<td>67</td>
<td>40</td>
</tr>
<tr>
<td><strong>Joint Vocational Schools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine Trades</td>
<td>125</td>
<td>53</td>
</tr>
<tr>
<td>Auto Mechanics</td>
<td>117</td>
<td>62</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>393</td>
<td>188</td>
</tr>
</tbody>
</table>

Statistical Results

In this chapter, each of the following research questions as stated in Chapter One will be followed by a statistical analysis of the findings.

1. To what degree does the trade and industrial education student possess specific knowledge of:
   
   (A) the nature of labor unions?
   (B) the organization of labor unions?
   (C) the creation and development of a contract?
   (D) the conditions of work under a contract?
The knowledge scores for the entire population of respondents is presented by category (A, B, C, D and Overall) in Table 5. The highest score possible in each category is 20.

<table>
<thead>
<tr>
<th>Category of Labor Union Knowledge</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The Nature of Labor Unions</td>
<td>9.55</td>
<td>2.86</td>
</tr>
<tr>
<td>B. The Organization of Labor Unions</td>
<td>6.96</td>
<td>2.64</td>
</tr>
<tr>
<td>C. The Creation and Development of a Contract</td>
<td>8.33</td>
<td>3.61</td>
</tr>
<tr>
<td>D. The Conditions of Work Under a Contract</td>
<td>6.30</td>
<td>2.64</td>
</tr>
<tr>
<td>Overall Knowledge Score</td>
<td>31.37*</td>
<td>9.22</td>
</tr>
</tbody>
</table>

*Difference between the student overall mean and the sum of the subtest means is due to computer truncation and rounding.

2. What is the attitude of the trade and industrial education student toward labor unions?
The mean score resulting from the administration of the attitude instrument to 581 students was 103.18. This score indicates that the students responded to the questions in a manner which yielded, on the average, a score of 103.18. If an individual had felt as positive as was possible about labor unions and marked the 32 questions accordingly, the score would have been 160. Had a senior marking the 32 questions felt entirely neutral toward labor unions, the score would have been 96. If an individual had been as negatively inclined as possible toward labor unions and marked the 32 question to indicate this negative attitude, the score would have been 32. Hence, the mean score of 103.18 is 7.18 above the mean score which would have resulted had the students been neutral toward labor unions.

In order to test whether the mean of 103.18 showed a significantly positive or a significantly negative attitude, the one-sample $t$-test was used. The formula given by Twaite and Monroe (1980) for this test is as follows.

One-Sample $t$-Test

$$t_{ob} = \frac{\bar{X}_{ob} - \mu_0}{s / \sqrt{n}}$$

[p. 340]
The $t$ value was determined to be 14.81. By use of the Student's $t$ Distribution Table, it was determined that this $t$ value was significant at the $p < .01$ level. This indicated that the difference in the score did not occur by chance and that the sample was significantly different from the neutral response of 96. Therefore, the students tested showed a significant positive attitude toward labor unions.

3. What is the relationship between the trade and industrial education student knowledge of and attitude toward labor unions?

The relationship of student knowledge in each category and overall knowledge of labor unions to student attitude toward labor unions was examined by using the Pearson Product-Moment Correlation Coefficient. The findings relative to this research question are shown in Table 6.
TABLE 6
CORRELATION COEFFICIENT OF STUDENT KNOWLEDGE SCORES WITH STUDENT ATTITUDE SCORES BY KNOWLEDGE CATEGORIES

<table>
<thead>
<tr>
<th>Category of Labor Union Knowledge</th>
<th>Student Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The Nature of Labor Unions</td>
<td>.17**</td>
</tr>
<tr>
<td>B. The Organization of Labor Unions</td>
<td>.23**</td>
</tr>
<tr>
<td>C. The Creation and Development of a Contract</td>
<td>.28**</td>
</tr>
<tr>
<td>D. The Conditions of Work Under a Contract</td>
<td>.16**</td>
</tr>
<tr>
<td>Overall Knowledge Score</td>
<td>.22**</td>
</tr>
</tbody>
</table>

**p < .01

The information in Table 6 shows that those students who scored higher as measured by the knowledge instrument used in this study tended to score higher on the attitude instrument used in this study. This indicates that a student with a higher knowledge score in regard to labor unions tended to have a more positive attitude toward them.

4. Are student knowledge of and attitude toward labor unions related to the geographic location (urban or rural) of the vocational program?
5. Are student knowledge of and attitude toward labor unions related to the type of school (comprehensive or joint vocational high school) in which the vocational program is offered?

6. Are student knowledge of and attitude toward labor unions related to the kind of vocational program (machine trades or auto mechanics) in which the industrial education student is enrolled?

Research Questions Four, Five and Six are examined together in order to ascertain whether there are any interactive effects between location, school type and kind of program.

To determine whether differences exist in the knowledge of and attitude toward labor unions based upon whether the trade and industrial education student attended a comprehensive high school or a joint vocational school, whether the student's school was located in a rural or urban setting and whether the student's vocational program was auto mechanics or machine trades, a three-way analysis of variance was conducted. The results for the knowledge instrument, by Categories A, B, C, D, and Overall, are shown in Tables 7 through 11. The results for the attitude instrument are shown in Table 12.
For Category A of the knowledge instrument, which related to the nature of labor unions, there were no significant three-way interactions, two-way interactions, or main effects found for location, school type or kind of program (Table 7).
TABLE 8
ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES ON CATEGORY B (THE ORGANIZATION OF LABOR UNIONS) BY LOCATION, SCHOOL TYPE, AND KIND OF PROGRAM

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location (Urban or Rural)</td>
<td>1</td>
<td>3.39</td>
<td>.49</td>
</tr>
<tr>
<td>School Type (Comprehensive or Rural)</td>
<td>1</td>
<td>13.28</td>
<td>1.92</td>
</tr>
<tr>
<td>Kind of Program (Auto Mechanics or Machine Trades)</td>
<td>1</td>
<td>3.01</td>
<td>.44</td>
</tr>
<tr>
<td>Location and School Type</td>
<td>1</td>
<td>6.17</td>
<td>.89</td>
</tr>
<tr>
<td>Location and Kind of Program</td>
<td>1</td>
<td>26.34</td>
<td>.80</td>
</tr>
<tr>
<td>School Type and Kind of Program</td>
<td>1</td>
<td>29.29</td>
<td>4.23*</td>
</tr>
<tr>
<td>Location, School Type and Kind of Program</td>
<td>1</td>
<td>8.45</td>
<td>1.22</td>
</tr>
<tr>
<td>Residual</td>
<td>573</td>
<td>7.92</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>580</td>
<td>7.00</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

For Category B of the knowledge instrument, which related to the organization of labor unions, there were no significant three-way interactions between the factors. However, a significant interaction between two of the
factors, School Type and Kind of Program, was discovered. This interaction indicated that on Category B of the knowledge instruments, machine trades students who were enrolled in comprehensive high schools tended to score higher than auto mechanics students enrolled in comprehensive high schools and machine trades students enrolled in joint vocational high schools while auto mechanics students who were enrolled in joint vocational high schools tended to score higher than auto mechanics students enrolled in comprehensive high schools and machine trades students enrolled in joint vocational high schools. There were no additional main effects discovered (Table 8).
TABLE 9
ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES ON CATEGORY C (THE CREATION AND DEVELOPMENT OF A CONTRACT) BY LOCATION, SCHOOL TYPE AND KIND OF PROGRAM

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location (Urban or Rural)</td>
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<td>.79</td>
<td>.06</td>
</tr>
<tr>
<td>School Type (Comprehensive or J.V.S.)</td>
<td>1</td>
<td>16.92</td>
<td>1.30</td>
</tr>
<tr>
<td>Kind of Program (Auto Mechanics or Machine Trades)</td>
<td>1</td>
<td>.89</td>
<td>.07</td>
</tr>
<tr>
<td>Location and School Type</td>
<td>1</td>
<td>.23</td>
<td>.02</td>
</tr>
<tr>
<td>Location and Kind of Program</td>
<td>1</td>
<td>31.04</td>
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</tr>
<tr>
<td>School Type and Kind of Program</td>
<td>1</td>
<td>74.79</td>
<td>5.74*</td>
</tr>
<tr>
<td>Location, School Type and Kind of Program</td>
<td>1</td>
<td>.01</td>
<td>.00</td>
</tr>
<tr>
<td>Residual</td>
<td>573</td>
<td>13.03</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>580</td>
<td>13.09</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

For Category C of the knowledge instrument, which related to the creation and development of a contract, there were no significant three-way interactions between the factors. However, a significant interaction between
two of the factors, School Type and Kind of Program, was discovered. This interaction indicated that on Category C of the knowledge instrument, machine trades students who were enrolled in comprehensive high schools tended to score higher than auto mechanics students enrolled in comprehensive high schools and machine trades students enrolled in joint vocational high schools while auto mechanics students who were enrolled in joint vocational high schools tended to score higher than auto mechanics students enrolled in comprehensive high schools and machine trades students enrolled in joint vocational high schools. There were no additional main effects discovered (Table 9).
TABLE 10

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES ON CATEGORY D (THE CONDITIONS OF WORK UNDER A CONTRACT) BY LOCATION, SCHOOL TYPE AND KIND OF PROGRAM

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location (Urban or Rural)</td>
<td>1</td>
<td>30.08</td>
<td>4.36*</td>
</tr>
<tr>
<td>School Type (Comprehensive or J.V.S.)</td>
<td>1</td>
<td>.99</td>
<td>.14</td>
</tr>
<tr>
<td>Kind of Program (Auto Mechanics or Machine Trades)</td>
<td>1</td>
<td>22.08</td>
<td>3.20</td>
</tr>
<tr>
<td>Location and School Type</td>
<td>1</td>
<td>11.88</td>
<td>1.72</td>
</tr>
<tr>
<td>Location and Kind of Program</td>
<td>1</td>
<td>.40</td>
<td>.06</td>
</tr>
<tr>
<td>School Type and Kind of Program</td>
<td>1</td>
<td>2.77</td>
<td>.40</td>
</tr>
<tr>
<td>Location, School Type and Kind of Program</td>
<td>1</td>
<td>20.21</td>
<td>2.93</td>
</tr>
<tr>
<td>Residual</td>
<td>573</td>
<td>6.90</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>580</td>
<td>6.97</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

For Category D of the knowledge instrument, which related to the conditions of work under a contract, there were no significant three-way interactions and no significant two-way interactions between the factors.
However, there were significant main effects for location. Students enrolled in urban schools had significantly higher knowledge scores than those enrolled in rural schools (Table 10).

**TABLE 11**

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES ON STUDENT KNOWLEDGE ON TOTAL INSTRUMENT BY LOCATION, SCHOOL TYPE AND KIND OF PROGRAM

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location (Urban or Rural)</td>
<td>1</td>
<td>143.60</td>
<td>1.72*</td>
</tr>
<tr>
<td>School Type (Comprehensive or J.V.S.)</td>
<td>1</td>
<td>289.28</td>
<td>3.46</td>
</tr>
<tr>
<td>Kind of Program (Auto Mechanics or Machine Trades)</td>
<td>1</td>
<td>108.81</td>
<td>1.30</td>
</tr>
<tr>
<td>Location and School Type</td>
<td>1</td>
<td>100.96</td>
<td>1.21</td>
</tr>
<tr>
<td>Location and Kind of Program</td>
<td>1</td>
<td>112.40</td>
<td>1.34</td>
</tr>
<tr>
<td>School Type and Kind of Program</td>
<td>1</td>
<td>588.31</td>
<td>7.04*</td>
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<tr>
<td>Location, School Type and Kind of Program</td>
<td>1</td>
<td>22.20</td>
<td>.27</td>
</tr>
<tr>
<td>Residual</td>
<td>573</td>
<td>83.61</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>580</td>
<td>85.08</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05
For the total knowledge instrument, there were no significant three-way interactions between the factors. However, a significant interaction between two of the factors, School Type and Kind of Program, was discovered. This interaction indicated that on the total knowledge instrument, machine trades students who were enrolled in comprehensive high schools tended to score higher than auto mechanics students enrolled in comprehensive high schools and machine trades students enrolled in joint vocational high schools while auto mechanics students who were enrolled in joint vocational high schools tended to score higher than auto mechanics students enrolled in comprehensive high schools and machine trades students enrolled in joint vocational high schools. There were no additional main effects discovered (Table 11).

To determine whether differences exist in the attitude toward labor unions based upon whether the industrial education student attended a comprehensive high school or a joint vocational school, whether the student's school was located in a rural or urban setting and whether the student's program was auto mechanics or machine trades, a three-way analysis of variance was done. The results are shown in Table 12.
When the attitude of students was assessed, there were no significant three-way interactions between the factors. However, a significant two-way interaction
between two of the factors, Location and Kind of Program, was discovered. This interaction indicated that on the attitude instrument, machine trades students who were enrolled in urban high schools tended to score higher than auto mechanics students enrolled in urban high schools and machine trades students enrolled in rural high schools while auto mechanics students who were enrolled in rural high schools tended to score higher than auto mechanics students in urban high schools and machine trades students enrolled in rural high schools. A significantly higher score indicated a more positive attitude toward labor unions. There were no additional main effects discovered (Table 12).

7. Are student knowledge of and attitude toward labor unions related to the various organizations to which the trade and industrial education student's parent(s) belong?

In order to determine whether there were any differences in the students knowledge of or attitude toward labor unions related to their parents' membership in specific selected organizations, the mean scores of the trade and industrial education students were grouped according to the organizations to which their parent(s)
belonged, and were subjected to a one-way analysis of variance.

Based on the review of the literature and as previously stated in Chapter III, the following five organizations were selected for use on the student questionnaire: Labor union, Service club, Chamber of Commerce, Farm Bureau and the National Farm Organization. These five choices and all possible combinations thereof resulted in thirty-one different groups. This allowed for the fact that each parent may be a member of more than one organization.

Thirteen of the groups contained a sufficient number of student scores in each group to enable statistical analysis to be done; i.e., greater than two percent of the total sample. These thirteen groups were:

0. Belong to none of the listed organizations
1. Labor union
2. Service club
3. Chamber of Commerce
4. Farm Bureau
5. National Farm Organization
6. Labor union & service club
7. Labor union & Chamber of Commerce
8. Labor union & Farm Bureau
9. Labor union & National Farm Organization
10. Service club & Chamber of Commerce
11. Service club & Farm Bureau

12. Service club & National Farm Organization

The results for the knowledge instrument are shown by Categories A, B, C, D and Overall in the following one-way analysis of variance tables (Tables 13 through 17). The results for the attitude instrument are shown in Table 18.

**TABLE 13**

**ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES IN CATEGORY A (THE NATURE OF LABOR UNIONS) BY PARENT MEMBERSHIP IN ORGANIZATIONS**

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>12</td>
<td>18.02</td>
<td>2.29*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>549</td>
<td>7.86</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>561</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

For Category A of the knowledge instrument, which related to the nature of labor unions, the one-way analysis of variance shows that there were differences between groups; that is, there were two or more groups whose scores were significantly different (Table 13).

A Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance. It was
discovered that Group 1 and Group 8 were significantly different at the $p < .05$ level. The mean score for Group 1, Labor union, was 10.00 and the mean score for Group 8, Labor union & Farm Bureau, was 5.80. The students whose parents belonged to a labor union had a significantly higher mean score on Category A of the knowledge instrument than those students whose parents belonged to both a labor union and the Farm Bureau.

**TABLE 14**

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES IN CATEGORY B (THE ORGANIZATION OF LABOR UNIONS) BY PARENT MEMBERSHIP IN ORGANIZATIONS

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>12</td>
<td>10.81</td>
<td>1.57</td>
</tr>
<tr>
<td>Within Groups</td>
<td>549</td>
<td>6.90</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>561</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For Category B of the knowledge instrument, which related to the organization of labor unions, the one-way analysis of variance shows that there were no significant differences between any of the thirteen groups (Table 14).
TABLE 15

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES
IN CATEGORY C (THE CREATION AND DEVELOPMENT OF A CONTRACT)
BY PARENT MEMBERSHIP IN ORGANIZATIONS

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>12</td>
<td>43.70</td>
<td>3.51**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>549</td>
<td>12.45</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>561</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .01

For Category C of the knowledge instrument, which related to the creation and development of a contract, the one-way analysis of variance shows that there were differences between groups (Table 15). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 1 and Group 10 were significantly different at the p < .01 level. The mean score for Group 1, Labor union, was 9.10 and the mean score for Group 10, Service club & Chamber of Commerce, was 4.78. The students whose parents belonged to a labor union had a significantly higher mean score on Category C of the knowledge instrument than those
students whose parents belonged to both a service club and the Chamber of Commerce.

<table>
<thead>
<tr>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>12</td>
<td>8.18</td>
</tr>
<tr>
<td>Within Groups</td>
<td>549</td>
<td>7.05</td>
</tr>
<tr>
<td>Total</td>
<td>561</td>
<td></td>
</tr>
</tbody>
</table>

For Category D of the knowledge instrument, which related to the conditions of work under a contract, the one-way analysis of variance shows that there were no significant differences between any of the thirteen groups (Table 16).
TABLE 17

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES
ON OVERALL KNOWLEDGE INSTRUMENT BY PARENT
MEMBERSHIP IN ORGANIZATIONS

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>12</td>
<td>252.22</td>
<td>3.08**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>549</td>
<td>81.79</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>561</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .01

For overall knowledge on the knowledge instrument, the one-way analysis of variance shows that there were differences between groups (Table 17). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 1 and Group 8 were significantly different at the p < .01 level. The mean score for Group 1, Labor union, was 33.19 and the mean score for Group 8, Labor union & Farm Bureau, was 23.80. The students whose parents belonged to a labor union had a significantly higher mean score on the overall knowledge instrument than those students whose parents belonged to both a labor union and the Farm Bureau.
For the attitude instrument, the one-way analysis of variance shows that there were significant differences between groups when attitude is examined (Table 18). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 1, Labor union, was significantly different from Group 2, Service club, at the $p < .05$ level. The mean score for Group 1, Labor union, was 105.88 and the mean score for Group 2, Service club, was 96.00. The students whose parents belonged to a labor union had a significantly more positive attitude than those students whose parents belonged to a service club.

<table>
<thead>
<tr>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>12</td>
<td>285.57</td>
</tr>
<tr>
<td>Within Groups</td>
<td>549</td>
<td>131.80</td>
</tr>
<tr>
<td>Total</td>
<td>561</td>
<td></td>
</tr>
</tbody>
</table>
8. Are student knowledge of and attitude toward labor unions related to the occupations of the trade and industrial education student's parent(s)?

In order to determine whether there were any differences in the knowledge of or attitude toward labor unions, related to the occupations of the trade and industrial education student's parents, the mean scores of the students were grouped according to the occupations of their parents and were subjected to a one-way analysis of variance.

Based on the review of the literature and as previously stated in Chapter III, the following eight occupational groupings were selected for use on the student questionnaire: Professional persons; Farmers; Wholesale or retail dealers; Proprietors, managers, or other officials; Clerks & similar workers; Skilled workers or foremen; Semi-skilled workers; and Farm laborers.

These eight choices and all possible combinations of any two occupational groupings (which allowed for the fact that both parents of any given student may not belong to the same occupational grouping) resulted in thirty-six different groups.
Nineteen of the groups possessed a sufficient number of student scores to enable statistical analysis to be done; i.e., greater than two percent of the total sample. These nineteen groups, each of which includes both mothers and fathers, were:

0. None of the listed options
1. Professional persons
2. Farmers
3. Wholesale or retail dealers
4. Proprietors, managers, or other officials
5. Clerks & similar workers
6. Skilled workers or foremen
7. Semi-skilled workers
8. Farm laborers
9. Professional & skilled worker
10. Farmer & clerk
11. Farmer & skilled worker
12. Farmer & semi-skilled worker
13. Wholesale or retail dealers & clerk
14. Wholesale or retail dealers & skilled worker
15. Wholesale or retail dealers & semi-skilled worker
16. Proprietor or manager & skilled worker
17. Clerk & skilled worker
18. Skilled worker & semi-skilled worker
The results for the knowledge instrument are shown by Categories A, B, C, D and Overall in the following one-way analysis of variance tables (Tables 19 through 23). The results for the attitude instrument are shown in Table 24.

**TABLE 19**

**ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES IN CATEGORY A (THE NATURE OF LABOR UNIONS) BY OCCUPATIONS OF PARENTS**

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>18</td>
<td>10.62</td>
<td>1.33</td>
</tr>
<tr>
<td>Within Groups</td>
<td>508</td>
<td>8.01</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>526</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For Category A of the knowledge instrument, which related to the nature of labor unions, the one-way analysis of variance shows that there were no significant differences between any of the nineteen groups (Table 19).
TABLE 20
ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE
SCORES IN CATEGORY B (THE ORGANIZATION OF LABOR UNIONS)
BY OCCUPATIONS OF PARENTS

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>18</td>
<td>12.54</td>
<td>1.85*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>508</td>
<td>6.78</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>526</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

For Category B of the knowledge instrument, which related to the organization of labor unions, the one-way analysis of variance showed that there were significant differences between groups (Table 20). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 17, Clerk and skilled worker, and Group 11, Farmer and skilled worker, were significantly different at the p < .05 level. The mean score for Group 17, Clerk and skilled worker, was 9.00 and the mean score for Group 11, Farmer and skilled worker, was 5.65. The students whose
parents were clerks and skilled workers had a significantly higher mean score on Category B of the knowledge instrument than those students whose parents were farmers and skilled workers.

TABLE 21

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES IN CATEGORY C (THE CREATION AND DEVELOPMENT OF A CONTRACT) BY OCCUPATIONS OF PARENTS

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>18</td>
<td>25.35</td>
<td>2.01**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>508</td>
<td>12.61</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>526</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .01

For Category C of the knowledge instrument, which related to the creation and development of a contract, the one-way analysis of variance shows that there were significant differences between groups (Table 21). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was
discovered that Group 8, Farm laborer, and Group 17, Clerk and skilled worker, were significantly different at the $p < .01$ level. The mean score for Group 8, Farm laborer, was 2.67 and the mean score for Group 17, Clerk and skilled worker, was 10.33. The students whose parents were clerks and skilled workers had a significant higher mean score on Category C of the knowledge instrument than those students whose parents were farm laborers.

**TABLE 22**

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES IN CATEGORY D (THE CONDITIONS OF WORK UNDER A CONTRACT) BY OCCUPATIONS OF PARENTS

<table>
<thead>
<tr>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>$F$ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>18</td>
<td>13.53</td>
</tr>
<tr>
<td>Within Groups</td>
<td>508</td>
<td>6.95</td>
</tr>
<tr>
<td>Total</td>
<td>526</td>
<td></td>
</tr>
</tbody>
</table>

*$p < .05$

For Category D of the knowledge instrument, which related to the conditions of work under a contract, the one-way analysis of variance shows that there were significant differences between groups (Table 22). A
Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 8, Farm laborer, and Group 18, Skilled worker & semi-skilled worker, were significantly different at the $p < .05$ level. The mean score for Group 8, Farm laborer, was 4.33 and the mean score for Group 18, Skilled worker & semi-skilled worker, was 8.06. The students whose parents were skilled workers & semi-skilled workers had a significantly higher mean score on Category D of the knowledge instrument than those students whose parents were farm laborers.

**TABLE 23**

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES ON OVERALL KNOWLEDGE INSTRUMENT BY OCCUPATIONS OF PARENTS

<table>
<thead>
<tr>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>18</td>
<td>198.01</td>
</tr>
<tr>
<td>Within Groups</td>
<td>508</td>
<td>81.34</td>
</tr>
<tr>
<td>Total</td>
<td>526</td>
<td></td>
</tr>
</tbody>
</table>

**$p < .01$**
For the overall knowledge category of the knowledge instrument, the one-way analysis of variance shows that there were significant differences between groups (Table 23). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 8, Farm laborer, and Group 17, Clerk and skilled worker, were significantly different at the $p < .01$ level. The mean score for Group 8, Farm laborer, was 18.33 and the mean score for Group 17, Clerk and skilled worker, was 36.67. The students whose parents were clerks and skilled workers had a significantly higher mean score on the overall knowledge instrument than those students whose parents were farm laborers.

### Table 24

**Analysis of Variance of Student Attitude by Occupations of Parents**

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>18</td>
<td>122.02</td>
<td>.88</td>
</tr>
<tr>
<td>Within Groups</td>
<td>508</td>
<td>138.91</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>526</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The one-way analysis of variance shows that there are no significant differences between any of the nineteen occupational groups when attitude is examined (Table 24).

9. Are student knowledge of and attitude toward labor unions related to whether a daily newspaper is taken in the home of the trade and industrial education student?

In order to determine whether there were any differences in the knowledge of or attitude toward labor unions, related to whether a daily newspaper was taken in the trade and industrial education student's home, a two-sample t-test was employed. Table 25 summarizes the results of the two-sample t-test by Categories A, B, C, D, and Overall. The results for the two-sample t-test for the attitude instrument are shown in Table 26.
### TABLE 25

**t-TEST OF STUDENT KNOWLEDGE BY AVAILABILITY OF NEWSPAPERS IN THE HOME**

<table>
<thead>
<tr>
<th>Category A: The Nature of Labor Unions</th>
<th>Mean</th>
<th>Degrees of Freedom</th>
<th>t Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homes with newspaper</td>
<td>9.73</td>
<td>257.25</td>
<td>2.10*</td>
</tr>
<tr>
<td>Homes without newspaper</td>
<td>9.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category B: The Organization of Labor Unions</th>
<th>Mean</th>
<th>Degrees of Freedom</th>
<th>t Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homes with newspaper</td>
<td>7.14</td>
<td>273.45</td>
<td>1.71</td>
</tr>
<tr>
<td>Homes without newspaper</td>
<td>6.71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category C: The Creation and Development of a Contract</th>
<th>Mean</th>
<th>Degrees of Freedom</th>
<th>t Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homes with newspaper</td>
<td>8.53</td>
<td>274.11</td>
<td>2.14*</td>
</tr>
<tr>
<td>Homes without newspaper</td>
<td>7.80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category D: The Conditions of Work Under a Contract</th>
<th>Mean</th>
<th>Degrees of Freedom</th>
<th>t Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homes with newspaper</td>
<td>6.46</td>
<td>287.99</td>
<td>2.10*</td>
</tr>
<tr>
<td>Homes without newspaper</td>
<td>5.94</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overall Knowledge Instrument</th>
<th>Mean</th>
<th>Degrees of Freedom</th>
<th>t Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homes with newspaper</td>
<td>32.20</td>
<td>281.58</td>
<td>3.20**</td>
</tr>
<tr>
<td>Homes without newspaper</td>
<td>29.44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*\(p < .05\)

**\(p < .01\)**
Table 25 shows that in all cases that were significant, the scores were higher among trade and industrial education students who lived in homes where a daily newspaper was taken.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Degrees of Freedom</th>
<th>t Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homes with newspaper</td>
<td>102.90</td>
<td>321.54</td>
<td>.97</td>
</tr>
<tr>
<td>Homes without newspaper</td>
<td>103.91</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The two-sample t-test showed that there was no significant difference in attitude toward labor unions between trade and industrial education students who lived in homes where a daily newspaper was taken and those who did not (Table 24).

10. Are student knowledge of and attitude toward labor unions related to various magazines taken in the home of the trade and industrial education student?
In order to determine whether there were any differences in the knowledge of or attitude toward labor unions, related to selected magazines taken in the trade and industrial education student's home, the mean scores of the students were grouped according to the magazines taken in the home and were subjected to a one-way analysis of variance.

Based on the review of the literature and as previously stated in Chapter III, the following six magazines were selected for use on the student questionnaire: *Time*, *Newsweek*, *U. S. News*, *Reader's Digest*, *Union journal*, and *Agriculture magazine*. These six choices and all possible combinations of these magazines were examined. In those cases where there were more than one news weekly making up components of the group of four magazines, they were combined to represent a single component and designated News weekly. This method of constructing groups resulted in twenty-nine groups. Fourteen of the groups possessed a sufficient number of student scores to enable statistical analysis to be done; i.e., greater than two percent of the total sample. These fourteen groups were:

0. None of the listed options
1. *Time*
2. *Newsweek*
3. **U. S. News**
4. **Reader's Digest**
5. Union journal
6. Agriculture magazine
7. **Newsweek & Reader's Digest**
8. **Newsweek & union journal**
9. **Time & Reader's Digest**
10. **Newsweek & agriculture magazine**
11. **U. S. News & Reader's Digest**
12. **Reader's Digest & union journal**
13. News weekly, **Reader's Digest**, & union journal

The results for the knowledge instrument are shown by Categories A, B, C, D and Overall in the following one-way analysis of variance tables (Tables 27 through 31). The results for the attitude instrument are shown in Table 32.
TABLE 27

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES
IN CATEGORY A (THE NATURE OF LABOR UNIONS)
BY THE MAGAZINES TAKEN IN THE HOME

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>13</td>
<td>20.31</td>
<td>2.58**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>483</td>
<td>7.87</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>496</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .01

For Category A of the knowledge instrument, which related to the nature of labor unions, the one-way analysis of variance shows that there were significant differences between groups (Table 27). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 10, Newsweek & agriculture magazine, and Group 13, News weekly, Reader's Digest, & Union journal, were significantly different at the p < .01 level. The mean score for Group 10, Newsweek & agriculture magazine, was 7.41 and the mean score for Group 13, News weekly, Reader's Digest, & Union journal, was 11.36. The students who had a news weekly, Reader's Digest, and a union
journal in their homes had a significantly higher mean score on Category A of the knowledge instrument than those students who had *Newsweek* and an agriculture magazine in their homes.

**TABLE 28**

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES IN CATEGORY B (THE ORGANIZATION OF LABOR UNIONS) BY THE MAGAZINES TAKEN IN THE HOME

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>13</td>
<td>15.48</td>
<td>2.30**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>483</td>
<td>6.73</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>496</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .01**

For Category B of the knowledge instrument, which related to the organization of labor unions, the one-way analysis of variance shows that there were significant differences between groups (Table 28). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 8, *Newsweek* & union journal, and Group 12, *Reader's Digest* & union journal, were significantly different at
the $p < .01$ level. The mean score for Group 8, *Newsweek* & union journal, was 4.83 and the mean score for Group 12, *Reader's Digest* & union journal, was 8.42. The students who had *Reader's Digest* and a union journal in their homes had a significantly higher mean score on Category B of the knowledge instrument than those students who had *Newsweek* and a union journal in their homes.

**TABLE 29**

**ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES IN CATEGORY C (THE CREATION AND DEVELOPMENT OF A CONTRACT) BY THE MAGAZINES TAKEN IN THE HOME**

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>13</td>
<td>26.01</td>
<td>2.03**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>483</td>
<td>12.82</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>496</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**$p < .01$**

For Category C of the knowledge instrument, which related to the creation and development of a contract, the one-way analysis of variance shows that there were significant differences between groups (Table 29). The Scheffe post hoc multiple comparison test was used to
follow up the one-way analysis of variance and it was discovered that Group 8, Newsweek & Union Journal, and Group 12, Reader's Digest & union journal, were significantly different at the $p = .01$ level. The mean score for Group 8, Newsweek & union journal, was 5.83 and the mean score for Group 12, Reader's Digest & union journal, was 10.50. The students who had Reader's Digest and a union journal in their homes had a significantly higher mean score on Category B of the knowledge instrument than those students who had Newsweek and a union journal in their homes.
TABLE 30
ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES IN CATEGORY D (THE CONDITIONS OF WORK UNDER A CONTRACT) BY THE MAGAZINES TAKEN IN THE HOME

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>13</td>
<td>17.60</td>
<td>2.55**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>483</td>
<td>6.92</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>496</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .01

For Category D of the knowledge instrument, which related to the conditions of work under a contract, the one-way analysis of variance shows that there were significant differences between groups (Table 30). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 11, U. S. News & Reader's Digest, and Group 12, Reader's Digest & union journal, were significantly different at the p < .01 level. The mean score for Group 11, U. S. News & Reader's Digest, was 4.56 and the mean score for Group 12, Reader's Digest & union journal was 9.08. The students who had Reader's Digest and a union journal in their homes had a significantly
higher mean score on Category D of the knowledge instrument than those students who had U. S. News and Reader's Digest in their homes.

TABLE 31

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES ON OVERALL KNOWLEDGE INSTRUMENT BY THE MAGAZINES TAKEN IN THE HOME

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>13</td>
<td>268.42</td>
<td>3.32**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>483</td>
<td>80.95</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>496</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .01

For overall knowledge on the knowledge instrument, the one-way analysis of variance shows that there were significant differences between groups (Table 31). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 8, Newsweek & Union Journal, and Group 12, Reader's Digest & union journal, were significantly different at the p < .01 level. The mean score for Group 8, Newsweek & union journal, was 23.33 and
the mean score for Group 12, Reader's Digest & union journal, was 39.42. The students who had Reader's Digest and a union journal in their homes had a significantly higher mean score on the overall knowledge instrument than those students who had Newsweek and a union journal in their homes.

TABLE 32
ANALYSIS OF VARIANCE OF STUDENT ATTITUDE BY THE MAGAZINES TAKEN IN THE HOME

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>13</td>
<td>104.62</td>
<td>.76</td>
</tr>
<tr>
<td>Within Groups</td>
<td>483</td>
<td>138.14</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>496</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The one-way analysis of variance shows that there were no significant differences between any of the thirteen groups when attitude is examined (Table 32).

11. Are student knowledge of and attitude toward labor unions related to the various social science courses the trade and industrial education student has taken?
In order to determine whether there were any differences in the knowledge of or attitude toward labor unions, related to specific selected social science courses taken by the trade and industrial education students, the mean scores of the students were grouped according to the social science courses they had taken and were subjected to a one-way analysis of variance. The social science courses were placed into nine groups, each possessing a sufficient number of scores to enable statistical analysis to be done; i.e., greater than two percent of the total sample. These nine groups were:

0. None of the listed options
1. History
2. Economics
3. Social problems
4. Sociology
5. History & economics
6. History & social problems
7. History & sociology
8. History, economics and social problems

The results for the knowledge instrument are shown by Categories A, B, C, D and Overall in the following one-way analysis of variance tables (Tables 33 through 37). The results for the attitude instrument are shown in Table 38.
TABLE 33

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE
SCORES ON CATEGORY A (THE NATURE OF LABOR UNIONS)
BY THE SOCIAL SCIENCE COURSES TAKEN

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>8</td>
<td>19.01</td>
<td>2.43*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>524</td>
<td>7.83</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>532</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*<p < .05

For Category A of the knowledge instrument, which related to the nature of labor unions, the one-way analysis of variance shows that there were differences between groups (Table 33). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 4, Sociology, and Group 7, History & Sociology, were significantly different at the <p < .05 level. The mean score for Group 4, Sociology, was 8.43 and the mean score for Group 7, History & Sociology, was 10.55. The students who had taken both history and sociology had a significantly higher mean score on Category A of the knowledge instrument than those students who had taken only sociology.
TABLE 34
ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES ON CATEGORY B (THE ORGANIZATION OF LABOR UNIONS) BY THE SOCIAL SCIENCE COURSES TAKEN

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>8</td>
<td>14.88</td>
<td>2.18*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>524</td>
<td>6.82</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>532</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*_{p} < .05

For Category B of the knowledge instrument, which related to the organization of labor unions, the one-way analysis of variance shows that there were significant differences between groups (Table 34). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 4, Sociology, and Group 5, History & Economics, were significantly different at the _{p} < .05_ level. The mean score for Group 4, Sociology, was 6.05 and the mean score for Group 5, History & Economics, was 8.09. The student who had taken both history and economics had a significantly higher mean score on Category A of the
knowledge instrument than those students who had taken only sociology.

TABLE 35
ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES ON CATEGORY C (THE CREATION AND DEVELOPMENT OF A CONTRACT) BY THE SOCIAL SCIENCE COURSES TAKEN

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>8</td>
<td>26.32</td>
<td>2.01*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>524</td>
<td>13.13</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>532</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05

For Category C of the knowledge instrument, which related to the creation and development of a contract, the one-way analysis of variance shows that there were significant differences between groups (Table 35). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 4, Sociology, and Group 7, History & Sociology, were significantly different at the p < .05 level. The mean score for Group 4, Sociology, was 6.71 and the mean score for Group 7, History & Sociology, was 10.09. The students who had taken both history &
sociology had a significantly higher mean score on Category A of the knowledge instrument than those students who had taken only sociology.

**TABLE 36**

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES ON CATEGORY D (THE CONDITIONS OF WORK UNDER A CONTRACT) BY THE SOCIAL SCIENCE COURSES TAKEN

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>8</td>
<td>10.08</td>
<td>1.41</td>
</tr>
<tr>
<td>Within Groups</td>
<td>524</td>
<td>7.17</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>532</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For Category D of the knowledge instrument, which related to the conditions of work under a contract, the one-way analysis of variance shows that there were no significant differences between any of the eight groups (Table 36).
For overall knowledge on the knowledge instrument, the one-way analysis of variance shows that there were significant differences between groups (Table 37). The Scheffe post hoc multiple comparison test was used to follow up the one-way analysis of variance and it was discovered that Group 4, Sociology, and Group 7, History & Sociology, were significantly different at the $p < .05$ level. The mean score for Group 4, Sociology, was 27.19 and the mean score for Group 7, History & Sociology, was 34.64. The students who had taken both history and sociology had a significantly higher mean score on the overall knowledge instrument than those students who had taken only sociology.

### TABLE 37

ANALYSIS OF VARIANCE OF STUDENT KNOWLEDGE SCORES ON OVERALL KNOWLEDGE INSTRUMENT BY THE SOCIAL SCIENCE COURSES TAKEN

<table>
<thead>
<tr>
<th></th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>8</td>
<td>191.52</td>
<td>2.23*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>524</td>
<td>85.92</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>532</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05
TABLE 38
ANALYSIS OF VARIANCE OF STUDENT ATTITUDE
BY THE SOCIAL SCIENCE COURSES TAKEN

<table>
<thead>
<tr>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>8</td>
<td>204.90</td>
</tr>
<tr>
<td>Within Groups</td>
<td>524</td>
<td>137.55</td>
</tr>
<tr>
<td>Total</td>
<td>532</td>
<td></td>
</tr>
</tbody>
</table>

The one-way analysis of variance shows that there were no significant differences between any of the eight groups when attitude is examined (Table 38).

12. Are student knowledge of and attitude toward labor unions related to the union background of the junior vocational teacher?

The relationship between student knowledge of and attitude toward labor unions and the extent of the junior vocational trade and industrial education teacher's union background was examined through the use of the Pearson Product-Moment Correlation Coefficient. The junior teacher would have taught the students during the previous year.
The junior teachers were given scores of from zero through nine (0 through 9), with nine being the high score, based on their accumulated experience as derived from their answers on the union experience portion of the teacher questionnaire. The Pearson Product-Moment Correlation Coefficient between student overall classroom mean score on the knowledge instrument and the junior teachers' union experience was found to be .26. This relationship was found to be nonsignificant. This indicates that no significant correlation exists between the overall classroom mean score obtained by students on the knowledge instrument and the union background of the junior vocational teacher.

The Pearson Product-Moment Correlation Coefficient between student classroom mean score on the attitude instrument and the junior teachers' union experience was found to be .20. This relationship was found to be nonsignificant. This indicates that no significant correlation exists between the classroom mean score obtained by students on the attitude instrument and the union background of the junior vocational teacher.

13. Are student knowledge of and attitude toward labor unions related to the union background of the senior vocational teacher?
The relationship between student knowledge of and attitude toward labor unions and the extent of the senior vocational trade and industrial education teacher's union background was examined through the use of the Pearson Product-Moment Correlation Coefficient.

The senior teachers were given scores of from zero through nine (0 through 9), with nine being the high score, based on their accumulated experience as derived from their answers on the union experience portion of the teacher questionnaire. The Pearson Product-Moment Correlation Coefficient between student overall classroom mean score on the knowledge instrument and the senior teachers' union experience was found to be .30. This relationship was found to be significant at the \( p < .05 \) level. This indicates that there is a significant positive correlation between the overall classroom mean score obtained by students on the knowledge instrument and the union background of the senior vocational teacher. The classes that had a higher mean score on the overall knowledge instrument tended to be those who were in programs where senior teachers had a large amount of experience with labor unions as measured by the questionnaire used in this study.

The Pearson Product-Moment Correlation Coefficient between student classroom mean score on the attitude
instrument and the senior teachers' union experience was found to be .04. This relationship was found to be nonsignificant. This indicates that no significant correlation exists between the classroom mean score obtained by students on the attitude instrument and the union background of the senior vocational teacher.

14. Are student knowledge of and attitude toward labor unions significantly related to the junior vocational teacher's knowledge of and attitude toward labor unions?

The relationship between student knowledge of and attitude toward labor unions and the knowledge of and attitude toward labor unions of the junior vocational trade and industrial education teacher was examined through the use of the Pearson Product-Moment Correlation Coefficient. The junior teacher, who would have taught the students during the previous year, was asked to complete the identical knowledge and attitude instruments. The Pearson Product-Moment Correlation Coefficient between student overall classroom mean score on the knowledge instrument and the junior teacher overall score on the knowledge instrument was .18. This correlation was found to be nonsignificant. This indicates that no
significant relationship exists between the student overall classroom mean score on the knowledge instrument and the junior vocational trade and industrial education teacher overall score on the knowledge instrument.

The Pearson Product-Moment Correlation Coefficient between the student classroom mean attitude score on the attitude instrument and the junior teacher attitude score on the attitude instrument was .07. This relationship was found to be nonsignificant. This indicates that no significant correlation exists between the student classroom mean score on the attitude instrument and the junior vocational trade and industrial education teacher attitude score on the attitude instrument.

15. Are student knowledge of and attitude toward labor unions significantly related to the senior vocational teacher's knowledge of and attitude toward labor unions?

The relationship between student knowledge of and attitude toward labor unions and the knowledge of and attitude toward labor unions of the senior vocational trade and industrial education teacher was examined by using the Pearson Product-Moment Correlation Coefficient.
The senior teacher completed the identical knowledge and attitude instruments.

The Pearson Product-Moment Correlation Coefficient between student overall classroom mean score on the knowledge instrument and the senior teacher overall score on the knowledge instrument was .13. This correlation was found to be nonsignificant. This indicates that no significant relationship exists between the student overall classroom mean score on the knowledge instrument and the senior vocational trade and industrial education teacher overall score on the knowledge instrument.

The Pearson Product-Moment Correlation Coefficient between the student classroom mean score on the attitude instrument and the senior teacher score on the attitude instrument was found to be .32. This relationship was found to be significant at the $p < .05$ level. This indicates that there is a significant positive correlation between the classroom mean score obtained by students on the attitude instrument and the attitude score obtained by senior teachers on the attitude instrument. The classes that had a higher mean score on the attitude instrument tended to be those who were in programs where senior teachers had also scored high on the attitude instrument.
CHAPTER V
SUMMARY, DISCUSSION AND RECOMMENDATIONS

Problem Investigated

The purpose of this study was to determine high school senior vocational education students' knowledge of and attitude toward labor unions according to (a) location of the school (urban or rural), (b) school type (joint vocational or comprehensive high school) and (c) kind of program (auto mechanics or machine trades). The relationship between vocational education students' knowledge of and attitude toward labor unions was also investigated, as well as the relationships between students' knowledge and attitude and selected demographic, social and program variables.

The sample population for the study consisted of high school senior students in vocational auto mechanics and machine trades programs in the State of Ohio. A stratified random sampling technique was employed in selecting the twenty-one schools from which participants for the study were drawn. The data were collected during the 1979-1980 school year.
Summary of Procedures

Descriptive research was the appropriate methodology for this study design. A previously developed and tested knowledge instrument was obtained which consisted of eighty multiple-choice questions about labor unions. This knowledge instrument covered the four important content areas of the knowledge of labor unions as identified by the review of the literature. The attitude instrument that was used to determine an individual's attitude toward labor unions had also been previously developed and tested. A "strongly agree" to "strongly disagree" five-point Likert scale was employed for recording responses to each of the thirty-two statements. Questionnaires were developed and then administered to the participants to gather the data on the demographic variables (Appendix G).

The vocational auto mechanics and machine trades students' knowledge of and attitude toward labor unions was obtained by administering the two instruments and recording student responses. To determine whether a relationship existed between knowledge and attitude, a Pearson product-moment correlation coefficient was calculated.

The data were then subjected to a three-way analysis of variance by school location, school type and kind of program to determine whether interactions and main effects
existed between any of the three factors. A *t* test was used to determine whether a difference existed between means when only two factors were present. To ascertain whether any relationship existed between the demographic variables and the knowledge and attitude of students as measured by the instruments, a one-way analysis of variance was conducted for each of the variables. The *F* test was applied to determine whether a significant difference existed between levels of each of the measured variables. These significance levels are indicated on the tables in Chapter IV. The Scheffe post hoc multiple comparison procedure was used to learn which of the groups contributed to the determination of significance when it was established by the *F* test that significant differences did exist.

**Major Findings**

Analysis of the data yielded the following major findings concerning knowledge and attitude.

**Knowledge:**

1. The sample of students was found to have more knowledge of labor unions than would be expected had the students obtained their scores by chance, although their mean score was below the midpoint of a perfect score on the knowledge instrument.
2. A significant positive correlation was found between student knowledge of labor unions and student attitude toward labor unions.

3. The students whose parents belonged only to labor unions were more knowledgeable about labor unions than the students whose parents belonged to both a labor union and the Farm Bureau.

4. The students whose parents worked as clerks and skilled workers were more knowledgeable about labor unions than the students whose parents worked as farm laborers.

5. The students in whose homes a newspaper was taken were more knowledgeable about labor unions than the students in whose homes a newspaper was not taken.

6. The students who had taken history and sociology were more knowledgeable about labor unions than the students who had taken only sociology.

7. The students whose senior teacher had more experience with labor unions were more knowledgeable about labor unions than the students with senior teachers with less experience with labor unions.

Attitude:

1. The sample of students was found to have a positive attitude toward labor unions.
2. A significant positive correlation was found between student knowledge of labor unions and student attitude toward labor unions.

3. The students whose parents belonged to a labor union had a significantly more positive attitude toward labor unions than those students whose parents belonged to a service club.

4. There was a significant relationship between the attitude of the senior students and the attitude of their respective senior teachers. Those classes of students who felt the most positive about labor unions were the students of teachers who felt the most positive about labor unions.

Discussion

The factors, knowledge of labor unions and attitude toward labor unions, although significantly correlated, may or may not be involved in a cause-and-effect relationship. It is entirely possible that another factor, or many other factors, are involved in the relationship. Perhaps the higher knowledge scores and the more positive attitude scores are each separately attributable to factors such as intelligence level, economic background or social group.

Although the students in this sample had a limited knowledge of labor unions as measured by the knowledge
instrument, they answered correctly 39 percent of the information about labor unions on the eighty question multiple-choice knowledge instrument, with an overall mean score of 31.37. Four choices were provided for answering each question, with one point given for each question correctly answered. The odds of a person who knows absolutely nothing about labor unions correctly answering any given question are one in four. It would therefore be expected that completing the instrument by randomly marking the answers would result in only twenty correct answers (twenty-five percent) on the total instrument of eighty questions.

The results of a one-sample t-test indicated that the student knowledge scores on the overall knowledge instrument were significant. The actual mean score obtained on the knowledge instrument was higher than the score which could have been obtained by chance; hence, it represented actual knowledge possessed by the participants. Therefore, high school machine trades and auto mechanics students in the State of Ohio have a knowledge of labor unions over and above that score which would be obtained by chance.

However, the respondents were found to have a mean score (31.37) below the midpoint (40) of a perfect score (80). Therefore, the knowledge base of many of the respondents was less than adequate as related to the
understanding of labor unions. This is especially true as applied to trade areas in which a student is a potential union member or where the majority of the other workers will be union members.

The students' responses on the attitude instrument indicated that as a group, they viewed labor unions positively. The students who knew more about labor unions tended to have a significantly more positive attitude toward them. These findings should be reassuring to the many members of the labor community who feel (as noted often in the review of the literature) that students are negatively influenced by the schools and tend to have negative feelings toward unions and their members.

Knowledge about unions was examined by location (urban or rural), school type (comprehensive or joint vocational school) and kind of program (auto mechanics or machine trades) to discover whether a relationship or pattern of influence could be detected. A three-way analysis of variance conducted on the overall test score indicated that there was a significant interaction of knowledge of labor unions between school type and kind of program.

The machine trades students from comprehensive high schools were found to be more knowledgeable about labor unions than the machine trades students in joint vocational schools and auto mechanics students from comprehensive high schools; also, auto mechanics students
in joint vocational high schools were more knowledgeable about labor unions than the auto mechanics students in comprehensive high schools and machines trades students in joint vocational schools.

When attitude was examined, influence of the kind of program again appeared to interact with location. The interaction indicated that on the attitude instrument, machine trades students who were enrolled in urban high schools tended to have a more positive attitude toward labor unions than auto mechanics students enrolled in urban high schools and machine trades students enrolled in rural high schools, while auto mechanics students who were enrolled in rural high schools tended to have a more positive attitude toward labor unions than auto mechanics students in urban high schools and machine trades students enrolled in rural high schools.

It is surprising (and seems to defy explanation as to a rationale) for Kind of Program to interact with Type of School on the knowledge instrument and with Location on the attitude instrument in the manner in which it does. Perhaps further research can clarify these findings.

On the knowledge instrument, students whose parents belonged to only a labor union had the highest score of all of the organizational groupings. A significant difference was discovered between the scores of the students whose parents belonged to only a labor union and
students whose parents belonged to both a labor union and the Farm Bureau. On the attitude instrument, students whose parents belonged to only a labor union had the highest (most positive) score of all of the groups. A significant difference was discovered between students whose parents belonged to only a labor union and students whose parents belonged to a service club.

These findings seem logical. Children frequently reflect the attitudes and opinions of their parents. Those parents belonging to the Farm Bureau could be expected to have a management perspective as farm operators. Likewise, service club members are more likely to hold management or professional positions than members of a union.

The same situation existed in regard to students' attitude toward unions. This finding, as the preceding, seems logical. Again, the children of unions members would be likely to be influenced by positive opinions expressed in the home. One would expect that the opinions of union members would be more in favor of unions than the opinions held by service club members who are more likely to hold management positions.

On the knowledge instrument, students whose parents worked as clerks and skilled workers had the highest score of all of the occupational groupings. A significant difference was discovered between students whose parents
worked as clerks and skilled workers and students whose parents worked as farm laborers. This finding is not particularly surprising, for clerks and skilled workers are frequently involved with labor unions as members and even officers. Therefore, they have more opportunity and motivation to be well informed about labor unions and are likely to pass along this knowledge to their children through family conversations.

When the knowledge scores of vocational students who had access to a daily newspaper were compared to the knowledge scores of those vocational students who did not, the students with newspapers in the home scored higher. Accessibility to a newspaper tended to be related to a student's knowledge of labor unions. It is rather likely that although some students may regularly read the newspaper, the parents probably read and discuss articles about unions and the students then obtain the knowledge secondhand.

On the knowledge instrument, students who had taken sociology and a history course other than American History had the highest score of all of the social science groupings. A significant difference was discovered between students who had taken sociology and a history course other than American History and students who had taken only sociology. It would seem likely that a student would learn more about labor unions in a history course
than in sociology, because the labor movement has played a significant role in history. Sociology courses more often stress human relationships and their structure rather than specific information on the formal structure of various organizations or their struggling evolution.

The students whose senior teachers had more experience with labor unions were more knowledgeable about labor unions than the students whose senior teachers had less experience with labor unions. It is conceivable that teachers who have been affiliated with labor unions to the degree that they received a high score on the scale of union experience on the instructor questionnaire would be quite knowledgeable of labor unions and be motivated to share this knowledge with their students.

The teacher may also have a positive attitude toward labor unions due to a long-standing relationship with the union and may have imparted this attitude to the students. There was a significant relationship between the attitude of the senior students and the attitude of their respective senior teachers. Those classes of students who felt the most positive toward labor unions were the students of teachers who felt the most positive toward labor unions.

While the attitude of students toward labor unions showed a significant relationship to the attitude of their senior teachers, no significant relationship existed
between the attitude of the students and that of the junior teachers with whom the students had been associated in the past. It seems reasonable to suppose that the attitude of students would be greatly influenced by the attitude of an authority figure with whom they are currently in daily contact. Any influence that the junior teacher might have once had upon the students as far as attitude toward labor unions is concerned appears to have dwindled. Perhaps, in the future, this will also hold true in regard to the influence of the senior teacher.

**Recommendations for Program Change**

1. To ensure some sort of uniform understanding of unions by vocational students, a unit on labor unions should be introduced into the vocational education curriculum.

2. The unit on labor unions should be provided especially for rural schools. Although there were no significant differences discovered for location, there were significant differences found for two groups associated with rural location. They were students whose parents were farm laborers and those whose parents belonged to the Farm Bureau.

3. Considering the amount of time that vocational teachers spend with their students, it may be preferable that the unit on labor unions be taught by someone other than the teacher from whom the students
are taking their vocational subjects. The social science curriculum might be an appropriate home for this responsibility. Great care must be exercised in order that vocational students be provided with an impartial view of labor unions. Although members of the community may agree that the subject should be taught (as evidenced in the review of the literature), they will strongly object to any approach that appears to support a positive or negative position.

Recommendations for Further Research

1. The study should be replicated in other geographical areas to determine the degree to which findings are related to other demographic, geographic and sociological variables.

2. The study should be replicated using additional taxonomies such as sheet metal, plumbing, cosmetology and commercial art to determine whether the results would be similar to those obtain in this study.

3. A replication of this study should include general education students as well as vocational students to compare their knowledge of and attitude toward unions.
APPENDIX A

SEPARATE LISTS OF OHIO PUBLIC SCHOOLS WITH AUTO MECHANICS OR MACHINE TRADES PROGRAMS DURING SCHOOL YEAR 1979-1980
| Akron City | Greene Joint Vocational School |
| Alliance City | Greenville City |
| Apollo Joint Vocational School | Hamilton City |
| Ashland County West Holmes Joint Vocational School | Hudson Local |
| Barberton City | Jackson Local |
| Bedford City | Jefferson County Joint Vocational School |
| Belmont County Joint Vocational School | Kenston Local |
| Brooklyn City | Kettering City |
| Buckeye Joint Vocational School | Knox County Joint Vocational School |
| Butler County Joint Vocational School | Lake County Joint Vocational School |
| Canton City | Lakewood City |
| Canton Local | Lancaster City |
| Central Ohio Joint Vocational School | Lawrence County Joint Vocational School |
| Cincinnati City | Licking County Joint Vocational School |
| Columbus City | Lima City |
| Cleveland City | Lorain City |
| Cleveland Heights/University Heights City | Lorain County Joint Vocational School |
| Columbiana County Joint Vocational School | Lordstown Vocational Compact |
| Cuyahoga Falls City | Mad River Local |
| Cuyahoga Valley Joint Vocational School | Madison Local |
| Dayton City | Mahoning County Joint Vocational School |
| Delaware County Joint Vocational School | Mansfield City |
| East Cleveland City | Maple Heights City |
| East Liverpool City | Maplewood Area Joint Vocational School |
| Eastland Joint Vocational School | Massillon City |
| Ehoive Joint Vocational School | Mayfield City |
| Euclid City | Medina County Joint Vocational School |
| Findlay City | Neugs Kicak |
| Fostoria City | Mentor Exempted Village |
| Four County Joint Vocational School | Middletown City |
| Gallia Jackson Vinton Joint School | Montgomery County Joint Vocational School |
| Great Oaks Joint Vocational School | Morgan Local |
| | Muskingum Area Joint Vocational School |
LIST OF OHIO PUBLIC SCHOOLS WITH AUTO MECHANICS PROGRAMS
DURING SCHOOL YEAR 1979-1980
(continued)

North Canton City
Northwest Local
Norton City
Ohio Hi Point Joint Vocational School
Ohio Valley Joint Vocational School
Northwest Local
Ohio Hi Point Joint Vocational School
Ohio Valley Joint Vocational School
Ohio Valley Joint Vocational School
Ohio Valley Joint Vocational School
Ohio Valley Joint Vocational School
Parma City
Penta County Joint Vocational School
Perry Local
Pike County Joint Vocational School
Pioneer Joint Vocational School
Pike County Joint Vocational School
Pioneer Joint Vocational School
Pike County Joint Vocational School
Pioneer Joint Vocational School
Pickaway Ross Joint Vocational School
Plain Local
Polaris Joint Vocational School
Portage Lakes
Sandusky City
Scioto County Joint Vocational School
Solon City
South Euclid Lyndhurst City
Southern Hills
Southwest Cuyahoga Joint Vocational School
South Western City
Springfield Clark Joint Vocational School
Springfield Local
Stark County Joint Vocational School
Switzerland of Ohio Local
Sylvania City
Toledo City
Tri County Joint Vocational School
Tri Rivers Joint Vocational School
Upper Valley Joint Vocational School
U. S. Grant Joint Vocational School
Vanguard Joint Vocational School
Vantage Joint Vocational School
Wadsworth City
Warren City
Warren County Joint Vocational School
Washington County Joint Vocational School
Washington Local
Wayne County Joint Vocational School
West Clermont Local
Westerville City
Willoughby Eastlake City
Youngstown City
LIST OF OHIO PUBLIC SCHOOLS WITH MACHINE TRADES PROGRAMS
DURING SCHOOL YEAR 1979-1980

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<td>Four County Joint Vocational School</td>
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LIST OF OHIO PUBLIC SCHOOLS WITH MACHINE TRADES PROGRAMS
DURING SCHOOL YEAR 1979-1980
(continued)

Pike County Joint Vocational School
Pioneer Joint Vocational School
Plain Local
Polaris Joint Vocational School
Portage Lakes Joint Vocational School
Salem City
Sandusky City
Scioto County Joint Vocational School
South Western City
Springfield Clark County Joint Vocational School
Springfield Local
Switzerland of Ohio Local
Sylvania City
Toledo City
Tri County Joint Vocational School
Tri Rivers Joint Vocational School
Upper Valley Joint Vocational School
Vanguard Joint Vocational School
Vantage Joint Vocational School
Warren City
Warren County Joint Vocational School
Washington County Joint Vocational School
Washington Local
Wayne County Joint Vocational School
Willoughby-Eastlake City
Youngstown City
APPENDIX B

LIST OF OHIO PUBLIC SCHOOLS WITH BOTH AUTO MECHANICS AND MACHINE TRADES PROGRAMS DURING SCHOOL YEAR 1979-1980
LIST OF OHIO PUBLIC SCHOOLS WITH BOTH AUTO MECHANICS AND MACHINE TRADES PROGRAMS DURING SCHOOL YEAR 1979-1980

Akron City
Alliance City
Apollo Joint Vocational School
Ashland County West Holmes Joint Vocational School
Barberton City
Bedford City
Belmont County Joint Vocational School
Brooklyn City
Buckeye Joint Vocational School
Butler County Joint Vocational School
Canton City
Central Ohio Joint Vocational School
Cincinnati City
Cleveland City
Columbus City
Columbiana County Joint Vocational School
Cuyahoga Falls City
Cuyahoga Falls City Vocational School
Dayton City
Delaware County Joint Vocational School
East Cleveland City
East Liverpool City
Eastland Joint Vocational School
Ehove Joint Vocational School
Findlay City
Fostoria City
Four County Joint Vocational School
Great Oaks Joint Vocational School
Greene Joint Vocational School
Hamilton City
Jefferson County Joint Vocational School
Knox County Joint Vocational School
Lake County Joint Vocational School
Lakewood City
Lancaster City
Lawrence County Joint Vocational School
Licking County Joint Vocational School
Lima City
Lorain City
Lorain County Joint Vocational School
Lordstown Vocational Compact
Madison Local
Mahoning County Joint Vocational School
Mansfield City
Maplewood Area Joint Vocational School
Massillon City
Medina County Joint Vocational School
Middletown City
Montgomery County Joint Vocational School
Morgan Local
Muskingum Area Joint Vocational School
Northwest Local
Ohio Hi Point Joint Vocational School
Oregon City
Parma City
Penta County Joint Vocational School
Perry Local
Pike County Joint Vocational School
Pioneer Joint Vocational School
Pickaway Ross Joint Vocational School
LIST OF OHIO PUBLIC SCHOOLS WITH BOTH AUTO MECHANICS AND MACHINE TRADES PROGRAMS DURING SCHOOL YEAR 1979-1980 (continued)

Plain Local
Polaris Joint Vocational School
Portage Lakes Joint Vocational School
Sandusky City
Scioto County Joint Vocational School
Solon City
South Euclid Lyndhurst City
Southern Hills
Southwest Cuyahoga Joint Vocational School
South Western City
Springfield Clark Joint Vocational School
Springfield Local
Stark County Joint Vocational School
Switzerland of Ohio Local
Sylvania City
Toledo City
Tri County Joint Vocational School
Tri Rivers Joint Vocational School
Upper Valley Joint Vocational School
Vanguard Joint Vocational School
Vantage Joint Vocational School
Warren City
Warren County Joint Vocational School
Wadsworth City
Washington County Joint Vocational School
Washington Local
Wayne County Joint Vocational School
Willoughby Eastlake City
Youngstown City
APPENDIX C

OHIO COUNTIES GROUPED ACCORDING TO STANDARD METROPOLITAN STATISTICAL AREAS OR BALANCE OF STATE
## OHIO COUNTIES GROUPED ACCORDING TO STANDARD METROPOLITAN STATISTICAL AREAS OR BALANCE OF STATE

### Standard Metropolitan Statistical Areas

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<td>Parkersburg-Marietta, West Virginia-Ohio</td>
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Springfield, Ohio
Steubenville-Weirton, Ohio-West Virginia
Toledo, Ohio-Michigan
Wheeling, West Virginia-Ohio
Youngstown-Warren, Ohio

Names of Counties in Balance of State

Adams               Logan
Ashland             Logan
Ashtabula           Marion
Athens              Meigs
Brown               Monroe
Clinton             Morgan
Columbiana          Morrow
Coshocton           Muskingum
Crawford            Noble
Darke               Paulding
Defiance            Perry
Erie                Pike
Fayette             Ross
Gallia              Sandusky
Guernsey            Scioto
Hancock             Seneca
Hardin              Shelby
Harrison            Tuscarawas
Henry               Union
Highland            Vinton
Hocking             Wayne
Holmes              Williams
Huron               Wyandot
Jackson             Knox
Knox                Licking
APPENDIX D

STANDARD METROPOLITAN STATISTICAL AREAS
Akron, Ohio
Canton, Ohio
Cincinnati, Ohio-Kentucky-Indiana
Cleveland, Ohio
Columbus, Ohio
Dayton, Ohio
Hamilton-Middletown, Ohio
Huntington-Ashland, West Virginia-Kentucky-Ohio
Lima, Ohio
Lorain-Elyria, Ohio
Mansfield, Ohio
Parkersburg-Marietta, West Virginia-Ohio
Springfield, Ohio
Steubenville-Weirton, Ohio-West Virginia
Toledo, Ohio-Michigan
Wheeling, West Virginia-Ohio
Youngstown-Warren, Ohio
APPENDIX E

KNOWLEDGE ASSESSMENT INSTRUMENT
1. One reason why workers joined a union was:
   A. not enough jobs
   B. poor transportation
   C. low wages
   D. no overtime pay

2. Unions grow faster if the worker:
   A. gets higher pay
   B. fears automation (machines to do the job)
   C. dislikes his job
   D. is forced to join

3. Without a union the employer:
   A. is friendlier
   B. protects the worker
   C. gives welfare and other benefits
   D. can fire you without reason

4. The First Continental Congress met in:
   A. the first White House
   B. Carpenter's Hall
   C. the courthouse
   D. government building

5. If a worker has a problem at work he should go to the:
   A. foreman
   B. shop steward
   C. man who hired him
   D. worker who hurt him

6. The early rallying cry of workers was:
   A. Under the Fatherhood of God, we proclaim the Brotherhood of man
   B. Freedom for all American workers
   C. We will fight and die together for justice
   D. We shall overcome
7. In colonial days, Americans knew that:
   A. America was a perfect union
   B. they would have a perfect union
   C. they did not need unions
   D. in union there is strength

8. One reason why workers join together is to improve:
   A. tools and equipment
   B. working conditions
   C. employer relations
   D. public relations

9. A group of workers who have united to help each other is a/an:
   A. benefit organization
   B. production union
   C. labor union
   D. employer benefit organization

10. Labor unions are also called:
    A. labor organizations
    B. employer organizations
    C. union organizations
    D. production organizations

10. The purpose of meeting when trying to form a union is:
    A. form friendly relations
    B. "preach" against the employer
    C. fight workers who do not want a union
    D. have a good time

11. In forming a union the "key" to success is the:
    A. shop steward
    B. shop foreman
    C. foreman
    D. organizer

13. If you are a union member the:
    A. shop steward fights for you
    B. foreman always helps you
    C. employer is afraid of you
    D. employer helps you
14. If you were a worker on an automobile assembly line you would belong to a/an:
   A. industrial union
   B. craft union
   C. trade union
   D. assembly worker's union

15. Union members call each other:
   A. comrade
   B. always by the first name
   C. by a secret name
   D. brother

16. If you were a teacher you would belong to a/an:
   A. industrial union
   B. professional union
   C. international union
   D. craft union

17. If you were a plumber you would belong to a/an:
   A. industrial union
   B. professional union
   C. international union
   D. craft union

18. The basic method unions use to gain power is to:
   A. force workers to join the union
   B. go out on strike
   C. get the foreman on their side
   D. control the supply of workers

19. If a worker is forced to join a union it is:
   A. voluntary unionism
   B. trade unionism
   C. involuntary unionism
   D. brotherhood unionism

20. Labor unions were formed because:
   A. a single worker could not deal with the employer
   B. it was easier for the employer to deal with a group
   C. employers forced the workers to join a group
   D. government gave the workers protection
21. The most important source of income for unions is:
   A. dues 
   B. profits from businesses 
   C. donations 
   D. employer contributions 

22. The union member cannot discuss the pros and cons of an issue if the vote is taken by:
   A. convention 
   B. referendum 
   C. open ballot 
   D. secret ballot 

23. A union member's "Bill of Rights" allows each worker to:
   A. discriminate against other workers 
   B. criticize the union at union meetings 
   C. break minor rules of the union 
   D. fight with nonunion members 

24. The purpose of Joint Boards is to help:
   A. locals in a certain district or city 
   B. locals all over the country 
   C. the employer 
   D. mainly the national union 

25. When union members are voting, it is done by:
   A. counting of union members 
   B. a majority show of hands at a union meeting 
   C. open ballot 
   D. secret ballot 

26. Union money goes to pay for:
   A. employer benefits 
   B. fringe benefits for workers 
   C. publications and hall rent 
   D. better working conditions 

27. If the governing body of the national union choose union officers, they are being chosen by:
   A. referendum 
   B. popular vote 
   C. elected by direct vote 
   D. convention
28. When a union chooses its officers by referendum:
   A. just the convention votes
   B. all the union members vote
   C. just union elected officers vote
   D. just elected officers to Joint Boards vote

29. When an employer deducts union dues directly from the pay check, it is called a:
   A. paycheck system
   B. union payment system
   C. collection system
   D. check-off system

30. The shop steward works:
   A. full time for the union
   B. mainly on worker's problems
   C. full time at his job and for the union in his spare time
   D. full time for the employer and helps the foreman

31. If a union member breaks the rules, the union can:
   A. punish the worker
   B. ask the employer to punish the worker
   C. automatically "kick" the worker out of the union
   D. do nothing or very little about it

32. If the officers of the local are doing something wrong, the national union can declare a:
   A. take-over
   B. labor government
   C. boycott
   D. trusteeship

33. The "building block" of the labor union is the:
   A. local
   B. union government
   C. national union
   D. union leader

34. The local is usually made up of workers in:
   A. one city
   B. one plant
   C. many plants
   D. a local district
35. The individual worker helps control his local by:
   A. becoming a boss
   B. making sure he gets what he wants
   C. voting on union issues
   D. criticizing the employer

36. If a union member is charged with doing something wrong a:
   A. shop foreman and shop steward make a decision
   B. shop steward and committee make a decision
   C. committee is set up to handle the problem
   D. company officers decide if he is guilty

37. If a union member is punished, it can mean:
   A. loss of his job
   B. expulsion from the union
   C. a fine
   D. all of the above

38. The worker is admitted to union membership by the:
   A. local employer
   B. local union members
   C. national union
   D. committee

39. The shop steward is the:
   A. employer representative
   B. foreman's helper
   C. worker's representative
   D. union foreman

40. Equal eligibility in the union means that:
   A. union and nonunion men can run for union office
   B. any union member can break employer rules
   C. every union member gets an equal share of union funds
   D. any union member can run for union office

41. If a worker must become a union member before he is hired, it is a/an:
   A. closed shop
   B. preferential hiring shop
   C. agency shop
   D. employer shop
42. When hiring, if the employer favors union members, he is using:

A. employer rules  
B. preferential hiring rules  
C. agency rules  
D. checkoff rules

43. When a contract is signed, the workers promise:

A. to work harder  
B. not to strike  
C. not to take part in union activities  
D. not to have grievances against the employer

44. If a worker gets paid so much per hour, he is working on:

A. incentive payment  
B. straight time  
C. group payment  
D. individual incentive

45. If a worker is paid for each part he makes, he is paid on the:

A. profit sharing plan  
B. straight time plan  
C. group plan  
D. incentive plan

46. Another name for a contract is:

A. employer payment  
B. industrial bargaining agreement  
C. foreman's agreement  
D. collective bargaining agreement

47. If the worker must join the union within 30 days after being hired, it is a/an:

A. foreman  
B. employer shop  
C. agency shop  
D. union shop
48. In order to get better wages and working conditions, the union must deal with the:
   A. foreman
   B. shop steward
   C. employer
   D. government

49. The collective bargaining process takes place between:
   A. union and employer
   B. union, employer and government official
   C. shop steward and employer representative
   D. arbitrator and employer

50. Unions try to control layoffs and promotions by:
   A. extra pay for workers
   B. employer rules
   C. seniority rules
   D. good workmanship

51. Sick leave, vacations and life insurance are examples of:
   A. employer benefits
   B. fringe benefits
   C. direct benefits
   D. government benefits

52. A form of featherbedding is:
   A. hiring only union men
   B. hiring nonunion men
   C. use more men than are needed
   D. use fewer men than are needed

53. After a contract is drawn up in collective bargaining, it must be accepted by the:
   A. employer
   B. union
   C. government
   D. National Relations Board

54. Collective bargaining is:
   A. give-and-take relationship
   B. union dominated relationship for they have power
   C. employer dominated relationship for they have power
   D. easy going, informal meeting or the union and the employer
55. The collective bargaining process takes place because the:

A. government demands that it take place
B. different sides agree
C. different sides disagree
D. community does not want a strike

56. "Whipsawing" is done by the:

A. union
B. employer
C. government
D. community

57. Union security means that:

A. workers will have jobs in the future
B. employer pays low wages
C. workers dislike their jobs
D. rules are made by the employer

58. In the majority of cases, unions:

A. do not have to use force to get what they want
B. have to go on strike to get what they want
C. must use featherbedding to get what they want
D. seek government aid

59. If seniority rules are followed it means:

A. younger workers are favored
B. older workers are favored
C. all workers get equal treatment
D. workers who work hard are paid more

60. A basic aim of the union is:

A. to build a strong union
B. get all they can from the employer
C. take over the company
D. keep the government out of the bargaining process

61. An injunction is used to protect:

A. a court of law
B. union right to collective bargain
C. an individual worker's job
D. property from damage
62. When an arbitrator makes a decision, it must be accepted by the:
   A. union
   B. employer
   C. men who are working on production
   D. union and the employer

63. Men is the picket lines usually:
   A. are not workers
   B. carry signs
   C. are union trouble makers
   D. are employer trouble makers

64. If you strike against your employer, it is a/an:
   A. primary strike
   B. secondary strike
   C. immediate strike
   D. employer strike

65. If all workers in an industry do not report for work, it is a:
   A. wildcat strike
   B. secondary strike
   C. general strike
   D. slowdown

66. When a local union walks off the job (strike) without national union approval, it is a:
   A. wildcat strike
   B. slowdown
   C. legal strike
   D. worker strike

67. These are types of picketing:
   A. direct and indirect
   B. boycott and indirect
   C. general and wildcat
   D. primary and secondary

68. In the majority of cases a problem is settled between the:
   A. foreman and worker
   B. shop steward and foreman
   C. shop steward and industrial relations officer
   D. shop steward and worker
69. Government agencies do not allow strikes because they are:

A. too costly
B. harmful to the government
C. harmful to the workers
D. against the public interest

70. When the union refuses to work for the employer, they are:

A. on picket duty
B. on strike
C. soldiering
D. boycotting

71. If the picket line is to tell the public that the employer is unfair, it is called:

A. strike picketing
B. boycott picketing
C. informational picketing
D. recognition picketing

72. A picket line:

A. can be used with or without a strike
B. is always used with strike activity
C. is never used with a strike
D. only allows men workers on the picket line

73. The final step of the grievance procedure is usually the:

A. government step
B. industrial relations step
C. top management step
D. arbitration step

74. If the employer has treated the union member unfairly, he goes to the:

A. foreman
B. shop steward
C. union president
D. employer
75. When workers march back and forth in front of the place where they work, it is:

A. referring
B. picketing
C. conventioning
D. striking

76. The following is a form of sitdown strike:

A. slowdown
B. wildcat
C. closed shop
D. checkoff

77. If a worker is pretending to work but is not doing as much work as he can (being lazy) it is:

A. union security
B. boycotting
C. soldiering
D. picketing

78. An arbitrator is a person who works for:

A. the union
B. government
C. the employer
D. neither the union, employer or government

79. A legitimate or proper work grievance is against the:

A. employer
B. shop steward
C. foreman
D. other workers

80. An arbitrator is usually selected by:

A. union and employer
B. mainly the union
C. mainly the employer
D. the government
APPENDIX F

ATTITUDE ASSESSMENT INSTRUMENT
ATTITUDE ASSESSMENT INSTRUMENT

The following statements and the responses you give to these statements will attempt to determine how you "feel" toward unions. There is no one correct answer for any of the statements.

INSTRUCTIONS:

There is no time limit on this Survey Questionnaire; however, do not spend too much time puzzling over any one statement. Choose the response which best describes the way you feel toward the given statement. For each statement there are five (5) responses to choose from. These responses are:

A. Strongly agree
B. Agree
C. Undecided
D. Disagree
E. Strongly Disagree

Mark your responses on the separate answer card which has been provided for you.

NOTE: A. It is very important that the answer cards be marked very carefully because the machine used for scoring is very sensitive.

B. Do not put any marks on the Survey Questionnaire itself.

PLEASE FOLLOW THE LISTED INSTRUCTIONS:

1. Use an ordinary pencil to mark your answers.

2. When indicating responses, blacken the entire space between the guide lines corresponding to the letter of the response you have chosen by stroking between the guide lines two or three times.

3. DO NOT MARK MORE THAN ONE RESPONSE TO EACH QUESTION.
81. Unions should join together to form a strong bargaining group against employers.

A. Strongly agree  
B. Agree  
C. Undecided  
D. Disagree  
E. Strongly Disagree  

82. Union members use democratic procedures when dealing with fellow workers (allow workers to help make decisions).  

83. Workers of the future will need stronger unions.  

84. Most union members were forced to join the union.  

85. Unions sometimes do illegal things when dealing with the employer.  

86. In 25 years unions will not be needed.  

87. Unions are not interested in working conditions in the plant.  

88. In the future, unions will not be strong enough to help workers.  

89. There is increasing crime in the unions.  

90. The employer should be required to hire only union members.  

91. Unions should be free to deal with work situations as they wish.  

92. Unions have made worthwhile contributions to the community.  

93. Shop stewards should have more time to help workers with their problems.  

94. Unions should have more power when dealing with the employer.  

95. Unions waste too much time with worker problems.  

96. Most workers think that the union is doing a good job for them.
97. Union members help each other.
   A. Strongly agree
   B. Agree
   C. Undecided
   D. Disagree
   E. Strongly Disagree

98. Unions suppress and keep individual workers from exercising their rights.

99. Union rules have helped workers who belong to minority groups.

100. Unions have too much bargaining power in collective bargaining.

101. Union members no longer take an active interest in the labor movement and unions.

102. Unions need protection against employers.

103. Labor unions keep the employer in line so he will not be too tough on the workers.

104. All workers should have to join a union.

105. Union policies are designed to meet future challenges, such as automation.

106. Unions are out to get all the money and benefits they can get no matter who gets hurt.

107. Unions usually try to get more money from the employer than his business can afford.

108. News reports by radio, TV and newspapers usually favor unions.

109. Citizens should not let unions organize in their city.

110. Workers are smart if they do not join a union.

111. Young workers have as much say in the union as older workers.

112. In most cases unions help just white Americans to find work.
APPENDIX G

STUDENT AND INSTRUCTOR QUESTIONNAIRE
STUDENT QUESTIONNAIRE

Please answer the following questions A through F to provide background information about yourself.

A. To which of the following organizations does your parent(s) or guardian(s) belong? You may select more than one.

113. (a) Labor union
    Lions Club
    Rotary Club
    Kiwanis Club
    None of the above

114. (b) Chamber of Commerce
    Farm Bureau
    National Farmers Organization
    None of the above

B. Indicate the category which is nearest to the type of occupation of your parent(s) or guardian(s). If both parents or guardians are employed, you may select more than one.

115. (a) Professional persons (doctors, attorneys, architects, etc.)
    (b) Farmers
    (c) Wholesale or retail dealers
    (d) Proprietors, managers or other officials
    (e) None of the above

116. (a) Clerks and similar workers
    (b) Skilled workers or foremen (machinists, auto mechanics, etc.)
    (c) Semi-skilled workers (machine operators, assembly line workers, etc.)
    (d) Farm laborers
    (e) None of the above
C. Is there a daily newspaper in your home?

117. (a) Yes  
    (b) No

B. Which of the following magazines are regularly read in your home?

118. (a) Time  
    (b) Newsweek  
    (c) U. S. News and World Report  
    (d) None of the above

119. (a) Reader's Digest  
    (b) Labor union journal or newspaper  
    (c) Agriculture magazine  
    (d) None of the above

E. Which of the following social science courses have you taken? You may select more than one.

120. (a) History (other than U.S., which is required)  
    (b) Economics  
    (c) Social or American Problems  
    (d) Sociology or Human Relations  
    (e) None of the above

F. The vocational course in which you are enrolled.

121. (a) Machine trades  
    (b) Auto mechanics
113. Have you ever been a member of an industrial or craft union?
(a) Yes
(b) No

114. Have you ever been a union official in any capacity, including union steward?
(a) Yes
(b) No

115. How many years have you been affiliated with a union(s)?
(a) over 15 years
(b) 10 to 15 years
(c) 5 to 9 years
(d) less than 5 years
(e) None of the above

116. The vocational course you teach.
(a) Machine Trades
(b) Auto mechanics

117. The level of vocational course you teach.
(a) Junior
(b) Senior
APPENDIX H

LETTER TO SCHOOLS
Re: Administration of Survey Questionnaire

As I stated during our telephone conversation, I am conducting a research project to ascertain the knowledge of and attitude toward labor unions possessed by students in vocational trade and industrial education. An attempt will be made to determine what factors, if any, contribute to knowledge and attitude in regard to unions. This study will be conducted during the month of December 1979.

You would select one senior-level machine trades class and one senior-level auto mechanics class in your school and show the enclosed materials to the instructor and ask if he would be willing to participate.

Each of the students in these senior classes will be asked to respond to a knowledge instrument, an attitude instrument, and a short questionnaire, all of which consist of multiple-choice questions. The instructors of the classes would also be asked to complete the knowledge and attitude instruments as well as a brief questionnaire. In addition, instructors of your junior-level machine trades and auto mechanics classes would be asked to complete the teacher instruments, although their students will not be participating.

The packet which your school will receive in November will include Ohio State University consent forms, "Consent for Participation in Social and Behavioral Research," to be signed by parents or guardians of those students under 18 years of age.

The time required for the administration of the tests would be two related class periods, although there is no time limit. The tests can be administered either consecutively or on two separate days, whichever is more convenient for the individual instructor. The junior and senior instructors could take the tests at any time convenient to them.
The responses will be used in an analysis of group data only and all individual responses will remain confidential. In fact, students will be asked to obiterate their names on the answer sheets upon completion of all tests. After it has been ascertained that all participating schools have responded, the names of the individual schools will be removed from the data file.

In no way is this an attempt to evaluate either your school or the professional integrity of the instructors. The information which you consent to share will be used only as a basis for learning what vocational trade and industrial education students know and feel about labor unions.

Enclosed is a form labeled School Response. Please fill it out and return it to me along with the other materials I am enclosing, as soon as possible, using the postpaid envelope.

Thank you for your cooperation.

Sincerely,

David A. Edwards
APPENDIX I
SCHOOL RESPONSE SHEET
School Response Sheet for _______________________

Our school, ________________________________,
is willing to participate in the survey of students in
regard to their knowledge of and attitude toward labor
unions. We will be able to administer the survey during
the month of December 1979.

The name of the senior Machine Trades instructor who
will administer the tests to his/her machine trades class
is Mr./Ms. ________________________________

The name of the senior Auto Mechanics instructor who
will administer the tests to his/her auto mechanics class
is Mr./Ms. ________________________________

In November, you may send the survey questionnaire
directly to the instructors. Yes ___ No. ___. If
"No," the contact person is ________________________

We require additional information. Please telephone
Mr./Ms. ________________________________ at (____) ______
APPENDIX J

INSTRUCTOR'S DIRECTIONS
INSTRUCTOR'S DIRECTIONS

Please administer the survey instruments as soon as possible during the month of December. If any portion of the instructions seems unclear to you or if you encounter any problems, please use the enclosed postcard to contact me, and I will telephone you.

This packet contains 20 student sets of three items: a criterion instrument, an attitude instrument, and a questionnaire. Answer sheets are also included. The approximate time which each instrument may take is as follows:

First: Criterion Instrument: 45 minutes
Second: Attitude Instrument: 35 minutes
Third: Questionnaire: 10 minutes

However, there is no time limit. It is important that each student complete all of the instruments and that he/she does so without assistance, either from the teacher or from each other.

Each student should receive one each of the three instruments and an answer sheet. Please have the students write their names on their answer sheets, so that each student will be sure to use the same answer sheet for each of the instruments. When the three instruments have been administered (whether all on one day or on different
days), the students should be instructed to mark out their names in order to maintain anonymity.

Also contained in the packet is a set of four items (including answer sheet), marked "Senior Instructor." This is identical to the student sets except for the questionnaire, which in this case consists of only 5 questions. Please complete all items to the best of your knowledge, and be assured that this is in no way an evaluation of your professional integrity. Your responses will remain confidential and will be used in an analysis of group data only, in order to learn what vocational educators know and feel about labor unions. The set of items marked "Junior Instructor(s)" is the one to be given to the junior-level instructor who will also be participating in the survey. If there are more than one junior-level instructor in your trade area, he/she should also complete the instruments, using one of the extra answer sheets enclosed. He/she should be asked to turn in his/her completed test materials to the senior-level instructor.

On the student answer sheet, Blocks 122 and 123 have already been coded to identify your school as a comprehensive high school or a J.V.S. and as either rural or urban. On the instructor answer sheet, Blocks 118 and 119 have already been coded with the same information. Please ensure that none of these marks is changed.
The Ohio State University Consent for Participation in Social and Behavioral Research form should be given to each student to be signed by the parent/guardian or by the student if he/she is eighteen. After a reasonable length of time, administer the instruments to those students who have returned the consent forms to you. These forms are to be enclosed with the answer sheets when you mail them to me in the postpaid envelope.
Directions for Administering the Instruments

First, distribute the answer sheets and have the students write their names on the lines provided. If you should have more than 20 students, you may make copies of the tests and answer sheets in order to have enough. I will copy the responses onto extra answer forms when I receive them from you.

Second, distribute only the instrument being administered at this time (first, the criterion instrument; second, the attitude instrument; and third, the questionnaire).

Third, read the following aloud to the class.

This is not a test. You are being asked to participate in a survey to find out what you think about labor unions.

Your answer sheets will be fed into a computer, so answer carefully and avoid making any stray marks on the sheet.

There is no time limit.

Please notice that there are questions on both sides of the page. Please answer all questions.
For the Knowledge Instrument and the Attitude Instrument, read the following aloud.

Be sure to mark only one answer for each item. Please answer to the best of your ability so that the survey will show a true picture of what you know and think about labor unions.

For the questionnaire only, read the following aloud.

If any of the items requires more than one answer, it is all right for you to mark more than one answer.

After the administration of all instruments, have the students mark out their names on the answer sheets. Discard the instruments and questionnaires and return all answer sheets and consent forms, excluding unused ones, in the postpaid envelope. Do not mark out school name on the instructor answer sheet. It is the only way in which I will be able to tell when all schools have responded. I will not use school names in my data file.
Items which are to be returned in the postpaid envelope:

1. Student answer sheets
2. Senior instructor answer sheet
3. Junior instructor answer sheet(s)
4. Signed consent forms

Remember: DO NOT RETURN THE INSTRUMENTS AND QUESTIONNAIRES. DISCARD THEM.
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