JUSTIFICATION AND CRITERIA FOR A PROPOSED WORK STUDY LICENSE LAW

A THESIS

Presented to

The Faculty of the Division of Graduate

Studies and Research

By

William George Lutz

In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Operations Research

Georgia Institute of Technology

June, 1973

JUSTIFICATION AND CRITERIA FOR A PROPOSED WORK STUDY

LICENSE LAW

Approved:

Richard H. Deane, Chairman

Terrence Connolly

William W. Ronan

Thomas L. Sadosky

Date approved by Chairman: 5/29/73

ACKNOWLEDGMENTS

I would like to take this opportunity to express my sincere appreciation to all those who aided me in the preparation of this thesis.

In particular, I am extremely grateful to Dr. Richard H. Deane, chairman of my committee, for his continuous interest, availability, patience, guidance, understanding, and critical evaluations; to Dr. Terrence Connolly for his valuable assistance in designing the questionnaire; and to Dr. William W. Ronan and Dr. Thomas L. Sadosky for their interest and assistance in the research and writing.

Additionally, a special note of thanks goes to Dr. Robert N. Lehrer and the School of Industrial Engineering for financial assistance in the reproduction and mailing of the questionnaire. I also want to thank Professor James M. Apple for his aid in providing a significant portion of the mailing list for the questionnaire.

To my family, both immediate and in-laws, I want to extend a special thanks for their patience, understanding, and encouragement throughout my work on this thesis.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

SUMMARY

This research is a study of the work content and responsibilities of the modern industrial work study analyst, together with an outline of a basic proposal for a license law for members of this profession.

Following a review of the historical evolution of Work Study as well as the general background of license laws, the results of an extensive survey by questionnaire, conducted to determine the current trends of the importance, overall effects, and usage of work study practitioners within the modern industrial organization, are presented. A general framework for a proposed Work Study license law is then developed, and a basic set of requirements for the implementation of the law, and general Work Study subject areas to be utilized in the development of licensing examinations, are outlined.

Of primary concern is the formulation of a basic set of standards to be maintained by the modern-day work study practitioner for industrial and public protection as well as professional competence and standardization.

CHAPTER I

INTRODUCTION

Labor Management Problems

Frequently, news media publications and broadcasts, as reported from the business and industrial world, indicate a general desire on the part of management to increase productivity and profit. Such increases often result in introducing revised and/or inequitable labor standards. As recently as November and December, 1972, the automobile and steel production industries were deeply involved in labor disputes concerning an attempt by management to increase production by imposing unfair labor standards. In November, the United Auto Workers called 11 strikes against General Motors Corporation in less than one month opposing what they contended were unfair work speedups.(31) Likewise, at American Motors, the union members threatened to walk out, contending that the company was attempting to increase production to meet consumer demand at the expense of labor.(31) In December, throughout the American steel industry, the United Steelworkers Union members, 500,000 strong, were disenchanted with a work productivity clause which was tacked onto their latest three-year contract. Essentially, this clause called for the workers to work harder to produce

more, assisting industry to meet the competition from more cheaply produced foreign steel sources. However, the rank-and-file union members saw the clause as a job ax which could be wielded at the discretion of management. Such union beliefs resulted from the general feeling that, by streamlining production, many times the work force itself is also streamlined or reduced in number.(5)

Just how and why management almost continuously proposes to increase production, seemingly at the expense of labor, is a question deserving increased attention. Valid changes in work standards and levels do not result from haphazard or careless guesses on the part of any level of management, but from detailed and systematic investigations of the jobs involved. Such are the industry wide efforts of the work study practitioners, or as they may more commonly be known as Efficiency Experts, Time Study Analysts, Motion Study Analysts, Work Consultants, etc. The proposed production changes are normally checked and questioned by the labor unions since they are composed of the laborers upon whom these standards are imposed. This leads to an additional question concerning the reliability and validity of the work study practitioners involved in studying, recommending, and enforcing any proposed changes in the standards or levels of work to management.

Work Study Professional Organization

Within the United States, there is no professional organization designed solely for the work study practitioner. The American Institute of Industrial Engineers has had rapid growth since its founding in 1948,[26] but it is more applicable to the broad category of professional Industrial Engineers. Presently, of the 17 divisions comprising the AIIE, the Work Measurement and Methods Engineering Division, the division most closely associated with work study, has the second largest membership (approximately 6000 members) and is reported to be the most active division when it comes to membership participation in conventions, publications in journals, and other associated AIIE activities. Only the Management Division (approximately 8500 members) exceeds the Work Measurement and Methods Engineering Division in total membership.[23] This reflects a high degree of interest in Work Study and indicates that a separate society or organization for the modern professional work study practitioner in the United States might be desirable. There is presently such an organization in England, the Institute of Work Study Practitioners. Once developed, such an organization could foster and promote education, research, interchange of ideas and information, professional registration, a high degree of integrity among members, and a high professional level of practice for all work study practitioners.

There is one other organization with interests very

closely related to the practice of Work Study: the Methods-Time Measurement Association for Standards and Research. Soon after its founding in 1951, this association became actively engaged in training MTM analysts, in research in the field of work measurement, and in the continuous dissemination of information about MTM to members and others. The MTM Association is most active in the United States and Canada, but there are eight other MTM associations scattered throughout the world. Although widely accepted, MTM is based on the application of predetermined time standards which is only a portion of the science of Work Study.

Thesis Proposal

The influences of Work Study in the development of increased productivity within modern industry are very great. The continuing need to measure all kinds of work for planning and control of production is widely recognized and accepted. To insure that the criteria for the application of work study techniques and measurements are uniformly and competently conducted throughout all occupational levels, it is proposed by this author that a license law be enacted to confer the rights and privileges for work study practitioners to engage in the practice of Work Study. Since such personnel are directly involved with the measurement, establishment, and enforcement of job, task or work standards which, in turn, directly influence and affect the daily lives and

welfare of all those they come in contact with, it is not unreasonable to propose such a law which, when enacted, would standardize the efforts of the work study practitioners industry wide, as well as protect the public, employers, and unions from unskilled or unprincipled work study practitioners. Of primary concern is the formulation of a basic set of standards to be maintained by the modern-day work study practitioner for both professional standardization as well as public protection.

This thesis is an attempt to define the suitable qualifications of work study practitioners presently involved in setting standards in modern industrial organizations, to examine in detail the current trends of the importance and usage of Work Study within industry, and to propose a license law designed to standardize and control the members of this profession. A review of the historical evolution of Work Study and a background of license laws are presented in Chapters II and III. The results of an extensive survey, conducted to determine the current trends of the importance, overall effects, and usage of Work Study within the modern industrial organization, are then presented in Chapter IV. In addition, the questionnaire surveyed the perceived needs for a Work Study license law and found general opposition to such a proposal. However, a general framework for a proposed Work Study license law is developed in Chapter V, and a basic set of requirements for the implementation of

the proposed law, as well as general Work Study subject areas to be utilized in the development of the licensing examinations, are outlined in Chapter VI. Conclusions and recommendations are given in Chapter VII.

CHAPTER II

BACKGROUND AND GENERAL IMPORTANCE OF WORK STUDY

The employment of modern Work Study techniques in industry evolved from the early contributions developed by the originators of Scientific Management during the Industrial Revolution. Records from this era are somewhat scarce. However, there is enough available evidence to indicate that many of the so-called modern work study techniques were being applied on a small scale even before the 1830's.(22) Evolution of the terminology is as interesting and important as the advances and contributions made by individuals involved in developing this science.

Two of the earliest recognized descriptive terms, time study and motion study, have had many interpretations since their origin late in the 19th century. They remain even today in many areas of the world as the primary descriptive words of this science. It is generally agreed that time study originated with the work of Frederick W. Taylor in 1881, and that motion study cannot be discussed without constant reference to the work of Frank B. Gilbreth and his wife, Lillian M. Gilbreth, who pioneered efforts in this field as early as 1885.(7)

Time Study Development

Time study is generally concerned with the determination of the amount of time required to accomplish specific elements of work. Although Taylor made limited integrated use of motion study as a part of his time study investigations, he placed greater emphasis on tools, equipment, and materials in conjunction with the improvement of methods. He was the forerunner in applying science to those phases of industry which ultimately and intimately affected the worker. Since he also realized that he was dealing with a human problem, he found it necessary to approach the human side of his investigations with a clear understanding of its probable psychological aspects. However, Taylor continued to concentrate his efforts more with the aspects of machines and materials than with the human problem areas.(7)

Throughout his efforts to promote the maximum possible cooperation between employer and employees, Taylor stated on numerous occasions that such scientific management required a "complete mental revolution on the part of the workman--and on the part of those on management's side."(11, pg. 10) He was well aware that the introduction of such a system of management would take time to be accepted and that "both sides must recognize as essential the substitution of exact scientific investigation and knowledge for the old individual judgement or opinion."(11, pg. 12)

During his many years of working in industry, Taylor

conducted extensive investigations in order to determine the best method to do work and to obtain specific data for standardizing the task. Time study was the tool he advocated for use by the manager to increase the overall efficiency of the plant, which in turn made possible higher wages for labor, lower prices of the finished goods for the consumer, as well as a greater profit margin for management due to the increased volume produced.

Motion Study Development

Motion study, as developed and investigated by the Gilbreths, involves an understanding of the human factors as well as a general knowledge of tools, equipment, and materials. Mrs. Gilbreth's education and training as a psychologist, and Mr. Gilbreth's extensive engineering experience, helped them to combine their assets in a unique way to pioneer efforts in this field. Their activities covered a wide range including improvements in building and construction work, studies of fatigue, monotony, transfer of skill, and work for the handicapped, and the development of such techniques as the process chart, micromotion study, and the chronocyclegraph.[7] Contrasting the work of Taylor, the Gilbreths concentrated on finding the best and most efficient methods to accomplish work tasks, and by utilizing this as their goal, they ultimately hoped to determine the shortest possible time in which the work task could be performed.

Evolution and Definition of Work Study

Over time, the controversy between time study and motion study, as to which is the best technique for industry, has largely passed. In fact, the combined use of both techniques as being inseparable and dependent upon each other is more prevalent today. Additionally, the term "time and motion study," which originated from a marriage of Gilbreth's motion study with what was best in Taylor's investigative techniques, is often confused with Work Study. Work Study is the British name for an approach that incorporates not only the later developments in time and motion study but also includes further refinements resulting from more recent research and experience, and is more applicable to a wider range of activities. The earlier title was felt to be both too narrow and insufficiently descriptive, and following World War II, Work Study emerged as a prominent and generally accepted term world wide.(24) Thus was the evolution of the combinatory term modernly known as Work Study.

Work Study is a generic term for those techniques, particularly method study and work measurement, which are used in the examination of human work in all its contexts, and which lead, systematically, to the investigation of all factors which affect the efficiency and economy of the particular situation being reviewed in order to effect improvement. This definition is as adopted in the British

Standard Glossary of Terms in Work Study.[22, pg. 19] The primary goal of Work Study techniques in industry is increased productivity from a given amount of available resources with little or no additional capital investment.[24]

The factors affecting productivity are many and varied. An increase in resources will normally increase production as well as operating costs. When additional capital investments are not possible, the continued desire to increase output under these constraints must necessarily require a shift in investigative emphasis to other areas, namely the human elements involved. The importance of Work Study is now readily apparent because it is primarily concerned with operations rather than technical processes.

Values of Work Study

There is of course nothing new about investigating and improving production operations. However, here lies one of the prime values of Work Study in that, by carrying out its systematic procedures, quite normal workers, who are subjects of the investigative analysis, are capable of achieving results at least as good as, if not better than, less systematic human beings were able to achieve in the past. The techniques of Work Study succeed because of their systematic approach both in the investigation of the problem under consideration and in the development of a solution. However, because of this systematic approach, there is

the additional requirement of complete and full attention to the analysis procedure whenever employing Work Study techniques. It then follows that such studies should be undertaken by personnel who are able to devote full attention to Work Study analysis without additional direct management duties. Thus, Work Study must be separated from the task of general management, additionally implying the probable use of personnel in staff positions rather than those in line positions.

Several additional reasons why Work Study is a valuable tool for management utilization include:

1. Its effectiveness in raising production efficiency by reorganization of work, normally with little or no additional capital investment.

2. Its systematic approach which insures that no factors affecting the efficiency of an operation are ignored either in the analysis of the original procedures or in the development of the new, and that all facts concerning the operation are made available for analysis.

3. Its establishment as an accurate means of setting standards of performance upon which the effective planning and control of production must depend.

4. The overall savings resulting from properly applied Work Study techniques commence once the new method is installed, and continue for as long as operations continue in accordance with the revised format.

5. It is a tool which can be applied almost everywhere, and which can be utilized most successfully wherever manual labor is employed or a production plant is operated.

6. It is known as one of the most refined methods of investigation available to management. Properly applied, Work Study can be an indicator of inefficiency since an investigation of one set of variables can bring to light all other functions affecting the original set.[24]

Method Study - Work Measurement

From the original definition, Work Study embraces both method study and work measurement. "Method Study is the systematic recording and critical examination of existing and proposed ways of doing work, as a means of developing and applying easier and more effective methods of reducing costs."[24, pg. 75] "Work Measurement is the application of techniques designed to establish the time for a qualified worker to carry out a specific job at a defined level of performance."[24, pg. 211] Both definitions are as adopted in the British Standard Glossary of Terms in Work Study. It is apparent that both are closely linked, with method study more concerned with the reduction of the work content of a job or operation, while work measurement is primarily concerned with the investigation and reduction of ineffective or inefficient times associated with the same job or operation; and with the subsequent establishment of time

standards for the task when utilizing the improved method as determined by method study.[24] The relationship between these essential elements of Work Study is shown in Figure 1.

Systematic Approach to Investigations

As mentioned previously, the basic systematic procedural approach to every application of Work Study incorporates a step-by-step analysis, each stage of which must be examined in great detail. There is general concurrence in the literature concerning the sequence of steps involved in such investigation, and they are as follows: (1) selection of what is to be studied, (2) detailed recording from direct observation, (3) critical examination of the recorded data, (4) development of a new method, (5) measurement of the work involved and the calculation of a new standard time utilizing the new method, (6) definition of the new method, (7) installation of the new method, and (8) maintenance of the newly installed standard practice.[24]

Up to this point, only the mechanical and technical aspects of the application of Work Study techniques have been discussed in any detail. Although these elements are of great concern, an investigation of the human characteristics involved and their effects on the employment of Work Study techniques is also necessary.

Human Characteristics

Human characteristics of the worker, his supervisor,

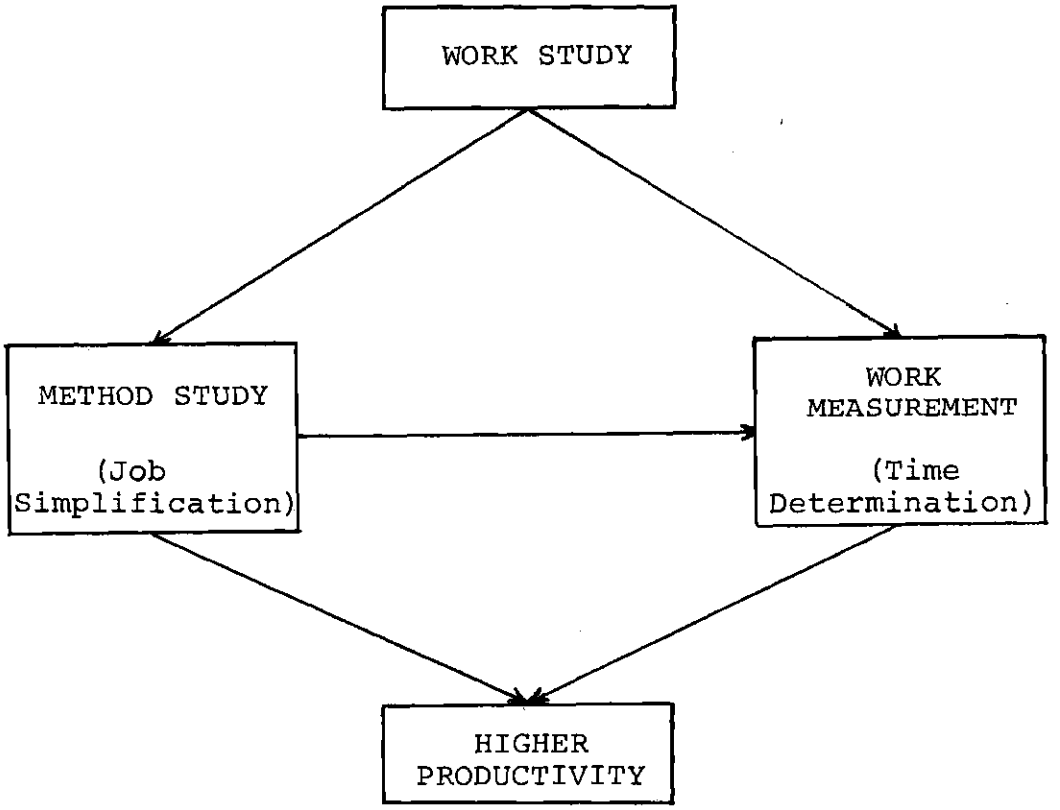

Figure 1. Work Study Elements and their Relationships

as well as the work study practitioner are deeply involved in the application of Work Study techniques. Good relations between management and labor are essential prior to commencing any actual measurement or investigation. Otherwise, the workers might easily feel justified in their suspicion of management's motives and intentions in applying Work Study.

By its systematic approach, Work Study will generally expose the places in an organization where effort and time are being wasted. In order to eliminate these effects, the causes must be searched out. Generally they are found to be bad planning, poor organization, insufficient or too much control, or lack of proper training of workers.(7) Since members of management and supervisory personnel are usually employed to handle these newly exposed problem areas, it may look as if they have failed in their principal duties. Any technique which has the potential of such far-reaching effects obviously must be handled with great care and tact. No one likes to be made to feel that he has failed, especially in the eyes of his superiors! Such a person, if he does not lose his job, will lose self confidence and definitely feel that his security is being threatened.

This possible exposure of problem areas vividly illustrates that if the work study practitioner is tactless in his handling of people, he will find that they will combine to obstruct his job, possibly to the extent where the task is made impossible. Additionally, if the application of Work

Study in any organization is to succeed, it must have the general understanding and support from all levels of management.

The work study practitioner's most difficult problem area often may concern his relationships with the foremen and the workers directly involved with the implementation of specific Work Study techniques. Such problem areas may arise from several factors including a lack of understanding and/or acceptance of such techniques, a strong resistance to any change proposed by an inexperienced outsider, a resentment that management is challenging the present work and procedures, an anticipation of a possible reduction in status and/or responsibility, and a feeling that such investigation may threaten the present security of the job.[8,24] Conversely, if the foremen and workers have confidence in the sincerity and integrity of their management, the application of Work Study investigation and techniques will generally be accepted, and can be extremely successful.[8]

Desirable Characteristics for Practitioners

The desirable human characteristics for a work study practitioner are rarely found in one individual. First, and possibly most important, he must be a diplomat in his dealings with his fellow human beings, and second, he must be educated. A review of the literature reveals certain

specific qualifications and qualities felt by many different authors to be essential for success as a work study practitioner, and they are as follows:

1. Formal education in the following general subject areas is considered desirable: Industrial Engineering, Experimental and Industiral Psychology, Design and Measurement Techniques, Statistical Analysis, Basic Industrial Law, Theory of Probability, Industrial Sociology, Physiology, Engineering Economy, and Union-Management Relations.

2. Practical Experience: It is desirable that any candidate for a Work Study position have practical experience in the industry in which he will be employed. Having worked at a manual labor type job task will enable the individual to have greater insight and understanding in what it means to put in a day's work under the conditions he will ultimately be investigating. A second advantage generally realized is that practical experience will command respect from both the foremen and workers.

3. Personal Qualities: The personal qualities desired in a good work study practitioner are the same qualities desired in good managers. This can be better understood when it is realized that the desired results from Work Study investigations, no matter how they are achieved, must be applied like any other management technique. Several desired qualities include:

a. Sincerity and Honesty. The work study

practitioner must be sincere and honest to gain the respect of those with whom he must work.

b. Enthusiasm. He must know his job and believe in the importance of what he is going, and be able to transmit his enthusiasm to those around him.

c. Interest and Sympathy with People. An effective work study practitioner must be capable of getting along with people at all levels. To accomplish this, he must show a genuine interest in them and understand their point of view.

d. Tact. This quality comes from understanding people and not wishing to hurt their feelings by unkind or thoughtless words, even when such may be justified.

e. Good Appearance. Since the initial impression normally results from face-to-face contact, he must be neat and clean and look efficient to inspire the desired confidence among the people with whom he must work.

f. Self Confidence. This normally is achieved by good training and previous experience in the successful application of Work Study techniques. The work study practitioner must be capable of defending his opinions and findings to top management, foremen, labor union officials, and/or workers, and do so in such a manner that he is able to win respect and instill confidence while not giving offense.[7,13, 20,22,24,26)]

The functions of the organizational work study

practitioner both directly and indirectly influence to a great degree the labor relations within the organization. It is important therefore that the work study practitioner also understand the objectives of the labor union(s) represented in his plant. In connection with these objectives, the work study practitioner must also be cognizant of the necessity of the human elements involved. He must develop only those standards and methods which are both acceptable to the company and reasonable to its workers.

Additionally, the practitioner must recognize that much of the work relating to methods, standards, and wage payment is not based solely on scientific observations or measurements, but also on personal judgements and experience. Consequently, he must continually be alert for new research taking place in this field to be capable of introducing new quantitative techniques when required. To accomplish this, the modern-day work study practitioner should take an active part in professional societies and organizations which are continually exploring this field in order to keep abreast of more modern and up-to-date objective techniques.

The influence of Work Study in the development of increased productivity within modern industrial organizations can not be questioned. The values of Work Study have been enumerated in great detail. To say that Work Study is a well defined profession based on scientific principles

requiring a systematic approach in investigation is an understatement. Coupled with self-imposed strict discipline on the part of the practitioner are the additional requisites of education, diplomacy, practical experience, and personal qualities which are essential to the successful application of any Work Study investigation. It is important to keep these techniques in perspective and constantly remember that Work Study is a means to an end, namely the planned and efficient production of whatever goods or services the organization provides. It must be used with wisdom and at times, restraint.

To prepare the way for enlightened application of Work Study techniques, training is most desirable. It develops the powers of observation, instills a realistic sense of the actual time work requires, and arouses an appreciation of variations in pace, effectiveness, and performance.

The need to measure all kinds of work for planning and control purposes is becoming more widely recognized. There are various techniques of Work Study being employed. Trained work study practitioners are required to carry out these various techniques and they will continually require updated instruction and practice in the skills of their profession.

To insure that the criteria for the application of Work Study techniques and measurement are uniformly and

competently conducted throughout all occupational levels, a Work Study Practitioner's License Law should, in this author's view, be enacted to confer the rights and privileges associated therewith. Prior to proposing a Model License Law, it is imperative to understand the background, necessity, and legality of license laws in general, both at the national and state levels of government.

CHAPTER III

LICENSE LAWS

General Purpose, Definition, and Benefits

License laws are generally established to regulate (and often tax) professions, occupations, trades, and businesses. A license is in the nature of a regulation or special privilege entitling the licensee to do something that he would not normally be entitled to do without the license. When used in its broad sense, the word tax may include a license fee. Such fees commonly take the form of an imposition on the use or disposition of property, the pursuit of an occupation, business or calling, or the exercise of a privilege.(3)

As a rule, certain benefits are realized from license laws in that a level of standardization among all individuals engaged in providing professional services within a specific profession is achieved. Since a common minimum standard must have been met by all applicants prior to issuance of the license, there is the guarantee to the general public that at least a minimum level of knowledge in the profession is achieved prior to receiving permission to engage in providing professional services. It generally follows that the more stringent the basic licensing requirements, the higher the

level of standardization and professional competence achieved among all licensees.

Constitutional Powers of Congress

In general, the power to license occupations or professions, and to impose and collect license fees or taxes, must be found in the generic law, or that law which pertains to the general public, and is usually included in the power to tax or regulate such occupations or professions.

Within the limits of its constitutional powers, Congress may regulate trade or commerce by requiring licenses and imposing license taxes on the businesses or occupations of individuals. In the exercise of this power, Congress may also provide, by direct legislation, for a system of licenses for the support of the local government in a territory, or the local government may impose such controls on local business. The territorial government however, unless expressly authorized to do so, cannot impose controls on an instrumentality of the federal government.(12) Thus, a state Work Study licensing requirement for employees of the federal government would, as a general rule, be unconstitutional.

Additionally, Congress has the power to impose, for the support of the general government, license taxes on businesses and occupations carried on in the several states [Plumley v. Com., 155 U.S. 461, 15 SCt 154, 39 L.ed. 223;

License Tax Cases, 5 Wall (U.S.) 462, 18 L.ed. 497.]; but it has no power to require a license for a wholly intrastate business or occupation. A federal license or license tax on a given business or occupation does not interfere with the state's right to regulate by license or tax [Plumley v. Com., 155 U.S. 461, 15 SCt 154, 39 L.ed. 223.], or to prohibit such activity within its borders; and a person who has taken out a federal license or paid a federal tax imposed on a certain business by act of Congress, may also be compelled to pay a state tax or to take out a state license for the same business [Mason v. Lancaster, 4 Bush (Ky) 406; Druggist Cases, 85 Tenn 449, 3 SW 490.].(12)

Delegation of Power to States

Subject to the limitations or restrictions imposed by the Constitution of the United States [Howe Mach Co v. Gage, 100 U.S. 676, 25 L.ed. 754.], or by the state constitution, [Atlantic, etc., Tel Co v. Philadelphia, 190 U.S. 160, 23 SCt 817, 47 L.ed. 995.] and to the limitation that no federal right may be interfered with, a state legislature, either in the exercise of the police power or for the purpose of revenue, may require licenses or impose license taxes on occupations or privileges within the limits of the state [American Mfg. Co. v. St. Louis, 250 U.S. 459, 39 SCt 522, 63 L.ed. 1084.], when it deems them to be warranted by considerations of public interest and for the

general welfare. In some states, this form of legislation is expressly authorized by the state constitution, but this is unnecessary since such power is inherent in the legislature.(12)

Supreme Court Rulings

The Supreme Court has held that statutes requiring businesses and professions to be licensed are a legal use of the police power of the state and do not violate either the state or federal constitutions [Camp v. State, 171 Ga. 25, 27, 154 S.E. 436 (1930).]. It is within the exercise of this police power that the government makes all reasonable rules and regulations for the protection, safety, and health of its citizens in the conduct of any business or profession within the state [Jones v. City of Atlanta, 51 Ga. App. 218, 222, 179 S.E. 922 (1935).].

Residents - Nonresidents

There is some authority for the view that in particular situations, the state may, in the exercise of its police powers, validly distinguish between residents and nonresidents with respect to licensing requirements. However, as a general rule, license legislation that discriminates against nonresidents of either the state or a political subdivision of the state, either by refusing to grant licenses or by granting them on different terms to such nonresidents, is void as violating Article 4, paragraph

2, of the Federal Constitution. This article provides that "the citizens of each state shall be entitled to all privileges and immunities of citizens in the several states."

Grandfather Clause

The term 'grandfather clause' is sometimes used to describe licensing legislation provisions that extend certain prerogatives to persons who are established in a business or occupation affected by legislation at the time such is enacted. Such a clause is often inserted in licensing legislation that is concerned with the regulation of a particular activity under the view that the persons who have properly carried on the activity for some time, or who are engaged therein as of a specified date, may be presumed to already have the qualifications that are needed for carrying on the activity. For those who seek a license after a specified date, such qualifications must be demonstrated by examination or documentation. Generally, with respect to qualifying under a 'grandfather clause,' the filing of an affidavit as proof of engaging in such activity is not conclusive, even though the clause may specify that such action is proof of qualification. The vital and essential question is whether the person was in fact engaged in the profession or occupation at or during the time mentioned.(3)

Several Occupations

Clearly, the fact that a person is engaged in several

distinct occupations is no valid reason for permitting him to carry on in one occupation pursuant to a license to carry on another. In other words, if the occupations are distinct and subject to licensing legislation and regulations, a person who carries on several such activities may validly be required to obtain a separate license for each occupation in which he engages.(3) If a separate Work Study license law were enacted, then a license as a Professional Engineer would not necessarily imply the right to practice Work Study as an occupation.

Fitness Requirements

With respect to an application for a license to carry on an activity that is subject to control and registration under the police power, licensing legislation may require the applicant to furnish evidence of his fitness to engage in the contemplated activity. Fitness requirements must, of course, be reasonable. For example, the courts have stricken down a statutory provision declaring that no one is to be licensed to carry on a particular activity unless he has been engaged therein continuously for a specified number of years. The vice in this provision, as pointed out by the courts, lies in the fact that it demands a particular form of acquiring skill and knowledge concerned with the activity, and also deprives the applicant of the right to count his time engaged in the activity whenever

there is a break in the continuity of his engagement in the activity due to US military service, Peace Corps, VISTA, college, etc.[3] Additionally, standards of personal fitness may be created and enforced by laws requiring persons who desire to engage in the learned professions or in occupations requiring scientific or technical knowledge, to take and pass examinations as prerequisites to engaging in such activities.[3]

Renewal Provisions

Aside from the prerequisites to the issuance of a license, continuance of the license privilege may require satisfaction of certain additional requirements such as the filing of periodic reports, or periodic renewal provisions as outlined in the license law.[3]

Public Protection

In general, licenses are required to protect and safeguard the interests and welfare of the general public within the state. The law intends to license only those individuals who are considered reputable, honest, and competent in their respective fields. By imposing such stringent requirements pursuant to the issuance of licenses, the main purpose of requiring a license for individuals engaged in rendering professional services becomes readily apparent, "to protect the public from unskilled and unscrupulous operators."[16, pg. 413]

Regulatory Powers

Although the power to regulate and license occupations and businesses belongs to the state, the power to levy and collect taxes and license fees belongs to the legislature. But, where lies the power to determine what professions or organizations are to be regulated, as well as the extent of the imposition of such regulatory procedures? Within the state, this power normally lies with the legislature or the General Assembly. Thus, the General Assembly makes all the rules and regulations concerning the conduct and operations of any business or profession engaged in providing professional services within the territorial limits of the state.

Specific Professions Covered by Law

Generally, the state exercises its licensing controls and regulations over a wide variety of professions. Presently, within the state of Georgia, there are more than forty professions which are licensed and regulated by state examining boards. Among the lesser known professions required to be licensed are: manicurists, debt adjustors, embalmers, hearing aid dispensers, junk dealers, librarians, live stock dealers, naturopathists, nurserymen and landscape artists, pecan dealers and processors, photographers, warm air heating contractors, second hand watch dealers, and water and waste water treatment plant operators,[9,16]

A business or profession may by circumstance and

nature, rise from private to public concern, and consequently become subjected to governmental regulation. When such occurs, it may so affect the public interest as to make it a proper subject for legislative regulation under the broad powers of the state. This inherent power of the state enables the governing authority to limit or regulate the activities of groups or individuals, as required in order to protect the welfare, health, or property of its citizens. The legislature has the right to determine what trades or occupations shall be regulated, as well as the nature and extent of the controls to be imposed.

State Board of Registration

Once enacted by the legislature, the license law itself usually generates the establishment of a State Board of Registration. This Board of Registration is then responsible for the implementation, administration, and enforcement of the rules, regulations, policies and by-laws consistent with the provisions of the license law. Any appeals to the provisions of the enacted license law are handled through the state's judicial system.

Prior to creating a proposed Model License Law for work study practitioners, it was necessary to determine the current state of Work Study within modern industry. At the same time, information was obtained concerning those characteristics deemed necessary and desirable by professional

personnel to be found in work study practitioners, as well as personal and professional views and opinions as to the proposal of such a license law.

CHAPTER IV

WORK STUDY QUESTIONNAIRE - GENERAL RESULTS

Number Sent and Received

To gain greater insight concerning the current trends of the importance, overall effects, and usage of Work Study techniques within the modern industrial environment, a Work Study Questionnaire was designed and mailed on February 4 and 6, 1973, to 298 professional personnel and organizations directly or indirectly involved with the employment of such techniques. This mailing specifically excluded academicians. This initial sample was reduced to a possible 263 usable responses with the return of 24 unforwardable and 11 invalid questionnaires. The questionnaire is presented in Appendix A. During the period February 7, 1973 through March 20, 1973, 133 completed questionnaires were returned and numbered sequentially as received. The responses remain on file in possession of the author. The raw data from these questionnaires is presented in Appendix B. This high rate of return (50.6%) was a pleasant surprise and definitely suggests a present interest in Work Study, as well as provides additional justification for continued research efforts in this area. Questionnaires showed some geographical dispersion as they were received from the southeast (60.9%),

northeast (16.5%), midwest (16.5%), southwest (3.8%), and far west (.8%). The questionnaire was somewhat biased in that a majority of the responses were received from the southeast.

Organization and Product Type

Questionnaire returns were received from all types of organizations. Most of the organizations indicated a multi-product output (68.9% of all responses) and about half (49.2%) indicated some degree of automated or machine controlled process. About one-third of the responding organizations reported an assembly line operation (34.8%), batch or group assembly of finished product(s) (31.1%), and/or wholesale or warehouse operations (29.5%). Approximately one-fourth (23.5%) of the organizations reflected a single product output while only about one-fifth (17.4%) indicated single employee assembly of the finished product(s). Responses were received for all types of products; 16.0% reflected textiles, 8.4% indicated a chemical product, 7.6% reported heavy metal fabrication and food processing, 6.1% reflected a light metal product, 4.6% reported an electronic product, and 2.3% indicated garment and plastic products. The remainder (44.8%) reported other miscellaneous products.

Respondent's Position

The respondent's position within the organization varied, with the great majority being industrial engineers or either corporate directors or managers of industrial

engineering. The overall breakdown of the respondent's positions is presented in Table 1.

Work Study Personnel per 1000 Employees

Approximately 798,700 personnel were reported as being directly affected by the employment of Work Study techniques. Excluding the consulting firms whose primary efforts are involved in studying, reporting, and recommending Work Study techniques, 2570 full-time and 2747 part-time work study practitioners governed the efforts of the reported labor population. It is interesting to note that such figures indicate there are 3.2 full-time and 3.44 part-time Work Study personnel per 1000 employees. Ralph M. Barnes, as reported in his 1967 survey of 72 industrial firms in the east, midwest, and west, showed a decline between 1959 and 1967, of an average of 5.7 to 4.6 people respectively, working on Work Study per 1000 employees; however, he did not consider full-time or part-time Work Study participation.(6)

Work Study personnel report to the Industrial Engineering Department head in over 62% of the organizations reporting. A more detailed breakdown is shown in Table 2. This result was not unexpected considering the close relationship between Work Study techniques and the nature of the science of Industrial Engineering.

Value of Work Study - Use of Outside Consultants

Averaged results of this survey also reflect that Work

Table 1. Questionnaire Respondent's Position Within His Organization

Position	Number	Percentage
Industrial Engineer	68	51.13
Corporate Director, or Manager, I.E.	19	14.29
Professional Consultant	6	4.51
Plant Manager	6	4.51
President	4	3.01
Director of Engineering	4	3.01
Work Study Analyst	3	2.25
Production Manager	2	1.50
Other	21	15.79
Total	133	100.00

Table 2. Work Study Practitioner's Reporting Channels

Department Head	Number	Percentage
Industrial Engineering	79	62.70
Production or Manufacturing Engineering	14	11.11
Plant Manager	8	6.35
Quality Control & Standards Department	6	4.76
Works Industrial and Systems Engineer	5	3.97
Division Engineering Director	4	3.17
Other	10	7.94
Total	126	100.00

Study techniques presently influence 54% of the total workload of skilled labor, 65.6% of the total workload of semi-skilled labor, and 55.4% of the total workload of unskilled labor.

As indicated in Table 3, over 86% of the respondents perceived that Work Study techniques are of significant benefit to organizations, which is further evidence of the importance and value of such techniques in modern industry. Additionally, it was reported that the utilization of outside consultants was almost nonexistent, since almost 84% of the responses indicated such employment very rarely or never. This data is presented in Table 4. Such results further tend to provide supporting evidence that work study has apparently become a viable function within the modern industrial organization.

Understanding and Acceptance of Work Study

A comparative analysis of the understanding and acceptance of the utilization of Work Study techniques by differing groups within the organization is shown as reported in Table 5. As expected, top management's levels of understanding and acceptance appeared highest, with a gradual lessening in each area as each group's skill level declined, with the unskilled employee's levels registering as lowest. Only labor unions were reported to have greater understanding than acceptance, which is not surprising when considering

Table 3. Perceptual Value of Work Study to the Organization

Value	Number of Responses	Percentage
No Value at All	2	1.52
Little Value	2	1.52
Some Value	7	5.30
Average Value	7	5.30
Above Average Value	16	12.12
Great Value	36	27.27
Extremely Valuable	62	46.97
Total	132	100.00

Table 4. Organizational Utilization of Outside Work Study Consultants

Frequency	Number of Responses	Percentage
Several Times a Month	1	.77
About Once a Month	1	.77
Several Times Each Year	6	4.61
About Once a Year	13	10.00
Very Rarely or Never	109	83.85
Total	130	100.00

Table 5. Level of Acceptance and Understanding of Work Study Techniques

	Group					
	Top Management	Middle Management	Foremen	Semi-skilled Workers	Unskilled Workers	Labor Unions**
Acceptance	5.84* (131)	5.64 (129)	4.93 (127)	4.32 (126)	3.83 (121)	4.28 (85)
Understanding	5.22 (133)	5.22 (133)	4.74 (129)	3.90 (130)	3.17 (127)	4.81 (89)

Note: *Averaged results of all responses on a sacle of 1 to 7, No Acceptance/Understanding to Full Acceptance/Understanding, respectively.

**44 respondents indicated that there were no Labor Unions involved in their organization.

The numbers in parentheses are the total number of respondents replying to the question.

the role they play in their general support of labor objectives. However, 63.6% of the respondents in organizations with Labor Unions, reported that Labor Unions had some degree of influence in deciding how the results of Work Study are to be utilized, but of this total, only 7.3% of the replies indicated that the unions had a great deal of influence in such decisions. A surprisingly high 36.4% of the responses reflected that Labor Unions had no influence at all.

Techniques Currently Utilized

With respect to general Work Study techniques currently being utilized in modern industry, the survey reflected, in general order of usage, that Time Study (Work Measurement) is followed by Efficiency Measurement and Motion Study (Method Study), as reported in Table 6. Several organizations indicated the use of less well known Work Study techniques, but none were sufficient enough in number to be separately categorized. Both this survey and the survey conducted by Ralph M. Barnes in 1967 reflect a continued high utilization of Time Study techniques, 92.3% and 99% respectively.[6] With respect to specific work study methods encountered in modern industry, Stop Watch techniques were most used, with Film Analysis as the least employed technique. Several lesser used specific techniques were also reported. The levels of usage are indicated in

Table 6. Level of Use of General Work Study Techniques

Technique	Number of Responses	Responses Indicating No Use	Averaged Results*	% of Responses Using to Some Degree
Time Study	130	10	4.95	92.31
Efficiency Measurement	107	8	4.84	92.52
Motion Study	115	14	4.33	87.83
Other	34	N/A	5.21	N/A

*Averaged results of all responses on scale of 1 to 7, No Use to Very Extensive Use, respectively.

Table 7.

Current and Anticipated Use of Techniques

Each respondent was next queried as to the extent of the present and anticipated usage levels of Work Study techniques within specific application areas, and the results are as shown in Table 8 and Table 9. An increase in the anticipated level of usage within the next one to two years over present usage was reflected in all areas except for Direct Individual Wage Incentives, which essentially remained unchanged. The most significant anticipated increases were reflected in Indirect Labor Control and in Production Planning/Scheduling. This would tend to indicate that industry sees further areas of application for Work Study with respect to the control of indirect labor and production planning and control.

Desirable Characteristics for Work Study Practitioner

A profile of desirable characteristics for a work study practitioner as perceived by the respondents is shown in Table 10. It is interesting to note that the overall results indicated that a high school education was deemed almost an absolute necessity, whereas a college degree was considered to be important but not essential by many organizations. Other extremely important characteristics were found to be the personal traits of sincerity and honesty, tact and the ability to get along with people, and enthusiasm

Table 7. Level of Use of Specific Work Study Techniques

Technique	Number of Responses	Responses Indicating No Use	Averaged Results*	% of Responses Using to Some Degree
Film Analysis	116	76	1.55	34.48
Method Analysis	120	15	3.82	87.5
Work Sampling	129	11	3.92	91.47
Predetermined or Analytical Time Estimation	127	14	3.98	88.98
Standard Data Files	120	19	4.21	84.17
Machine Utilization	114	12	4.32	89.47
Stop Watch	131	10	5.06	92.37
Other	12	N/A	5.0	N/A

*Averaged results of all responses on scale of 1 to 7, No Use to Very Extensive Use, respectively.

Table 8. Present Levels of Use of Work Study Techniques in Specific Application Areas

Application Area	Number of Responses	Responses Indicating No Use	Averaged* Results	% of Responses Using to Some Degree
Administration or Office Operations	127	60	2.05	52.76
Direct Group Wage Incentives	123	67	2.79	45.53
Order Picking or Warehouse Operations	125	40	3.29	68.0
Indirect Labor Control	130	32	3.39	75.38
Production Planning/ Scheduling	130	32	3.62	75.38
Direct Individual Wage Incentives	126	57	3.83	54.76
Bidding & Cost Estimation	126	32	4.01	74.6
Employee Efficiency Measures	129	15	4.62	88.37

*Averaged results of all responses on scale of 1 to 7, No Use to Very Extensive Use, respectively.

Table 9. Anticipated Levels of Use of Work Study Techniques in Specific Application Areas

Application Area	Number of Responses	Responses Indicating No Use	Averaged* Results	% of Responses Using to Some Degree
Administration or Office Operations	125	42	2.82	66.4
Direct Group Wage Incentives	121	60	2.92	50.41
Direct Individual Wage Incentives	122	54	3.81	55.74
Order Picking or Warehouse Operations	124	34	3.92	72.58
Bidding and Cost Estimation	123	28	4.29	77.24
Production Planning/ Scheduling	128	26	4.34	79.69
Indirect Labor Control	126	21	4.42	83.33
Employee Efficiency Measures	126	12	5.10	90.48

*Averaged results of all responses on scale of 1 to 7, No Use to Very Extensive Use, respectively.

Table 10. Desirable Characteristics of Work Study Practitioners

Characteristic	Number of Responses	Averaged* Results
Outside Training Course	120	3.92
College Degree	130	4.55
Job Experience	125	4.94
Organizational Training Course	128	5.91
Enthusiasm & Self Confidence	129	6.08
Ability to Get Along with People	130	6.42
Tact	129	6.42
Sincerity and Honesty	125	6.62
High School Diploma	123	6.79
Education in the Following Subject Areas:		
Basic Industrial Law	125	2.52
Physiology	122	2.79
Industrial Sociology	124	2.99
Industrial & Experimental Psychology	129	3.26
Theory of Probability	127	3.79
Design and Measurement	127	3.96
Union-Management Relations	124	4.03
Engineering Economy	126	4.38
Statistical Analysis	129	4.49
Industrial Engineering	132	4.68

*Averaged results of all responses on scale of 1 to 7, Not Needed to Absolutely Necessary, respectively.

and self confidence. Formal education in Industrial Engineering was reported to be important but not absolutely necessary, as was formal education in the subjects of Statistical Analysis and Engineering Economy. In attempting to recruit qualified work study practitioners, one respondent with approximately 8000 hourly employees presently governed by Work Study techniques, replied that "in the past we have tried to fill openings on these jobs from within the plant where the opening exists. Of course this involves training the individual but we have been successful with this approach. I recently hired a graduate of a local two year technical school and he has also done well." (Questionnaire No. 92)

Views on Licensing

Each respondent was asked his opinion concerning the possibility of licensing work study practitioners in a manner similar to doctors, land surveyors, engineers, etc., and the composite results are shown in Table 11. It is of interest to note that 54.54% of the 132 responses received for this question were either inclined to oppose licensing or convinced that licensing would be undesirable. Additional comments to this question were completed by 22 (16.67%) of the respondents, ranging from outrage to such a possibility, to full support. One respondent indicated a need to "get them educated not licensed--no such thing as a W.S.

Practitioner--should be full fledged I.E."(No. 96) On the other hand, another felt "too many incompetents have infiltrated into the profession and are masquerading under the facade of I.E.'s. I.E.'s should be differentiated from technicians," with this respondent convinced that licensing of work study practitioners would be desirable.(No. 32) One respondent expressed that a "valid judgement" could not be made without "knowing what the licensing requirements would be,"(No. 29) another felt that licensing "might be good if Unions would accept this as an unqualified certification of accuracy,"(No. 57) while another's opinion was that the "field is too broad; licensing would have to be done in 'area's of competence,'"(No. 118) and still another respondent considered that "it's too narrow a license."(No. 127) One respondent who was convinced that licensing was undesirable reasoned that "too many good men that can do a good job probably wouldn't be able to get a license. In fact they could probably do a better job than the so called "consultants" and self styled experts."(No. 58) Additionally, one questionnaire reflected that "the length of time that most people desire to spend in this occupation would make licensing impractical. Those with capability are most anxious to advance into higher levels of management,"(No. 79) while another supported the vehicle of a basic license law for "industrial engineers in the state in which they practice," while further implying that work study practitioners be

licensed under such a law prior to receiving permission to engage in the professional occupation of Work Study. (No. 101) One final comment selected as relevant concerns the probable concensus of opinion of the smaller industrial organizations in that they "presently train (their) own personnel in Work Study to the level of expertise necessary for their job. As such, a licensing approach is not necessary and would not be supported." (No. 130)

Concerning the question of who should be included in any proposed licensing regulation, the responses received are shown in Table 12. Of those respondents not opposed to licensing, 51.3% indicated that consultants should be licensed and 27.5% felt that all work study practitioners should be included in a license law.

In the design of such a proposed license law, 35.8% of the respondents indicated that Labor Union involvement was unnecessary in outlining the basic requirements for work study practitioners, while 24.4% reflected that such involvement was necessary, 19.5% had no opinion, and the remainder were opposed to licensing.

Criteria to be Included in License Law

The basic criteria deemed appropriate by the respondents to be included in a professional Work Study License Law are as outlined in Table 13. A majority of the respondents, 83.8%, felt that a high school education was necessary,

Table 11. Views Concerning the Desirability of Licensing Work Study Practitioners

Views on Licensing	Number of Responses	Percentage
Desirable	4	3.03
Inclined to Support	30	22.73
Neither Support Nor Oppose	26	19.70
Inclined to Oppose	52	39.39
Undesirable	20	15.15
Total	132	100.00

Table 12. Categories for Inclusion in a Work Study License Law

Category	Number of Responses	Percentage
Consultants	41	34.17
Federal Employees	0	0.00
Private Companies Working on Government Contracts	0	0.00
All Practitioners	22	18.33
Combination of Consultants Federally Employed	10	8.33
Combination of Consultants in Private Companies Working on Government Contracts	2	1.67
Opposed to Licensing	40	33.33
Other	5	4.17
Total	120	100.00

while only 67% considered a college degree desirable or necessary. Affiliation with either a professional organization or a labor union was not considered important for an applicant applying to obtain a Work Study Practitioner's Certificate of Registration. A written examination was thought to be at least desirable by 83.3% of the respondents, while the concensus of opinion suggested that two years of job experience should be sufficient.

License renewal provisions under consideration for inclusion in the basic license law are reported in Table 14. Of those respondents not opposed to licensing, 23.8% were in favor of periodic renewal with some form of retesting, either oral or written. The average period of renewal recommended was slightly over four years.

Additional Comments

Additional comments to the questionnaire were made by 17 respondents, and several added letters of explanation concerning the responses made. One Industrial Engineer from a growing textile company reflected that "in this company..., Work Study is growing in popularity and will be more important in the future. Personally, I believe in Work Study for the good of all,"(No. 90) while another Industrial Engineer in a paper product plant indicated that "formal Work Study is playing a smaller and smaller role in our cost reduction efforts (and) this trend is expected to

Table 13. Criteria to be Included in a Proposed License Law for Work Study Practitioners

Criteria	Number of Responses	Necessary	Desirable	Unnecessary	No Opinion
College Degree	94	21	42	28	3
Minimum 2 years of College	72	27	32	10	3
High School	68	57	6	1	4
Affiliation with Professional Organization	102	10	44	40	8
Labor Union Affiliation	98	2	2	86	8
Written Examination	102	50	35	12	5
1 year Experience	33	17	11	1	4
2 years Experience	61	33	22	2	4
5 years Experience	41	19	11	7	4

Table 14. Renewal Provisions Necessary in a Proposed License Law for Work Study Practitioners

Provision	Number of Responses	Percentage
Periodic Renewal	15	12.50
Written Retesting	4	3.33
Oral Retesting	1	.83
No Retesting	8	6.67
No Renewal Provisions	6	5.00
Periodic Renewal with Retesting	23	19.17
Periodic Renewal with no Retesting	7	5.83
No Opinion	25	20.84
Opposed to Licensing	31	25.83
Total	120	100.00

continue."(No. 130)

Although there was some controversy in this relatively small survey, general concurrence among the respondents was reached concerning the responsibility of management with respect to the Work Study program. Additional comments from several respondents indicated that management is in fact responsible for the Work Study program, the standards established and followed, as well as insuring that a professional job is accomplished.

One measure of control to assist modern industry in insuring that work study practitioners are qualified and well trained is to impose an unbiased, strict, and standardized set of regulations governing the future status of professional work study practitioners. Such professional standardization could assist in the "opportunity to exchange information on techniques and problem areas,"(No. 12) a result one respondent considered as a possibility from the implementation of a license law. To be certain, such a license law would not be an end to all the problems and controversy surrounding the modern employment of Work Study techniques, and as one respondent stated, "if standards were to be enacted for these professionals, then qualifications of the individuals performing the study could conceivably become more controversial than the results of the study."(No. 79) However, once achieved, no matter by what means, it would then be up to the professionals within this profession

to insure that the standards were carried out to the letter of the law.

The overall results from this questionnaire provide additional affirmation concerning the importance, continued and anticipated levels of usage, and values of properly employed Work Study techniques within the modern industrial organization. The facts and figures provided by the 133 responses received are evidence that such techniques are continuing to play a prominent role in the area of productivity in all sizes and types of organizations, from small consulting firms to the larger industries involved in the mass production of automobiles and aircraft. The differing views of the respondents concerning the possible introduction of a license law for work study practitioners were not unexpected and definitely reflect antagonism towards the imposition of some degree of control and regulation where none now exists. There is no doubt that if such a license law came to pass, there would be wide-spread controversy concerning the drafting and implementation of such a policy. To be certain, a primary concern would be the formulation, implementation, and enforcement of a basic set of standards to be achieved and maintained by the modern-day work study practitioner for both industrial and public protection, as well as professional competence and standardization in a profession which has important capabilities for future utilization.

CHAPTER V

PROPOSED MODEL LICENSE LAW

General Background

A proposed Model License Law for work study practitioners is presented in this chapter. The specific sections of this model law are designed from a composite review of the current license laws governing businesses, professions, and occupations within the state of Georgia, as well as from the general responses received to the Work Study Questionnaire. Within the Code of Georgia, Title 84 pertains to Professions, Businesses, and Trades.(9) The sequential numbering system utilized indicates that this law would be numbered 84-90, and contains 34 sections, numbered 84-9001 through 84-9034, respectively. Although the Model License Law is framed around the statutes of the state of Georgia, it is in fact a model law which would be applicable in any state. The proposed Model License Law for Work Study Practitioners follows.

Proposed Model License Law for Work Study Practitioners

Chapter 84-90 Model License Law for Work Study Practitioners

Section
84-9001 Short title
84-9002 Declaration of purpose
84-9003 Definitions
84-9004 State Board of Registration for Work Study Practitioners

Section

84-9001 Short title

This Chapter may be cited as the "Georgia State Work Study Practitioners Act."

84-9002 Purpose of Chapter; licensure of persons who engage in the occupation of Work Study Practitioners.

A. The purpose and intent of this Chapter is to establish and enforce standards of competence and ethics within the profession of Work Study, to protect the public,

employers, and unions from unskilled or unprincipled Work Study Practitioners.

B. On and after (specified date of acceptance of this Chapter by the Georgia State Legislature), it shall be unlawful for any person or firm to engage in the practice of Work Study, as defined in this Chapter, within the State of Georgia without having a valid certificate of registration issued under this Chapter. No person or firm except those exempted in Section 84-9028 shall use in the connection with his name or otherwise assume, use or advertise any title or description tending to convey the impression that he is a Work Study Practitioner, unless such person has been duly registered under the provisions of this Chapter.

C. Nothing in this Chapter shall prohibit a corporation, partnership, trust, association or other like organization maintaining an established business address in this state, from engaging in the business of Work Study provided that it employs properly licensed Work Study Practitioners.

84-9003 Definitions

A. "Joint-Secretary" shall mean the secretary appointed by the Secretary of State under the Act creating State Examining Boards (Title 84-101) and charged with administering the State Examining Boards in the State.

B. "License" and/or "Certificate of Registration" shall mean the Georgia License issued by the "joint-secretary" under this Chapter to Work Study Practitioners.

C. "Work Study" shall mean those techniques, namely "Method Study" and "Work Measurement," which examine human work in all its contexts, and which in turn lead to the investigation of all factors affecting the efficiency and economy of the particular situation under review.

D. "Method Study" shall mean the systematic recording and critical examination of existing and proposed ways of doing work, as a means of developing and analyzing easier and more effective methods of reducing costs.

E. "Work Measurement" shall mean the application of techniques designed to establish the time for a qualified worker to carry out a specific job at a defined level of performance.

F. "Practitioner" shall mean any person who practices or offers to practice Work Study, within the meanings as set forth in this Chapter who by verbal claim, sign, advertisement, letterhead, card, or in any other way represents or holds himself out as able or qualified to perform, or does perform any of the services herein before set out.

G. "Board" shall mean the State Board of Registration for Work Study Practitioners as created by this Chapter.

H. The term "Work Study Practitioner-in-Training" as used in this Chapter shall mean a candidate for registration as a Work Study Practitioner who is

(1) A graduate from an approved curriculum of four years or more from a school or college approved by the

Board as of satisfactory standing and who in addition, has successfully passed a written examination in the fundamental employment and application of Work Study techniques; or

(2) Who has had four years or more of experience in the application of Work Study techniques of a character satisfactory to the Board, and who, in addition, has successfully passed the examination in the fundamental employment and application of Work Study techniques prior to the completion of the requisite years of experience in Work Study employment; or

(3) Until December 31, 1976, a high school graduate, with eight years or more of actual Work Study practice of a character satisfactory to the Board, may qualify at the discretion of a majority of the Board.

(4) Who shall have received from the Board, as hereinafter defined, a certificate stating that he has successfully passed this portion of the qualification procedures in the process of registration as a Work Study Practitioner.

84-9004 State Board of Registration for Work Study Practitioners

A. There shall be established a State Board of Registration for Work Study Practitioners which shall administer and enforce the provisions of this Chapter.

B. Members of the Board shall be residents of the state of Georgia. The Board shall consist of three members,

each of whom shall be appointed by the Governor and confirmed by the Senate, to serve for a term of five years. The first appointees shall be appointed for terms of: one for one year, one for three years, and one for five years. Thereafter, all appointments shall be for a term of five years. All nominees to be members of the Board shall be actively engaged in the practice or supervision of Work Study. A majority of the Board members shall constitute a quorum for all Board business and, with the exception of hearings in contested cases, may conduct business by conference telephone. The Governor may remove any member of the Board for neglect of duty, incompetence, revocation or suspension of his license, or other dishonorable conduct. After such removal or vacancy due to death or resignation, the government shall appoint a successor to serve the unexpired term. No member shall serve more than two consecutive terms as a member of the Board nor shall such a member be reappointed to the Board until at least one year after the expiration of his last term of office. The members of the Board shall annually designate one such member to serve as Chairman and another to serve as Secretary-Treasurer.

84-9005 Members of the Board; Qualifications

To be eligible for appointment as a member of the Board, a person must:

A. be at least 25 years of age; and

B. be a citizen of the United States of America and

must have been a resident of the state of Georgia for at least five years immediately preceding his appointment.

C. be a certified registrant under this Chapter except for the members of the Board first appointed hereunder.

84-9006 Same; Oath

Appointees to the Board shall immediately after appointment take and subscribe to a written oath or affirmation as required by law for all public offices.

84-9007 Same; Certificates of appointment and registration to members

Every member of the Board shall receive a certificate of his appointment from the Governor. Each member of the Board first appointed hereunder shall receive a Certificate of Registration under this chapter from said Board.

84-9008 Same; Compensation

The members of the Board shall receive $25 per day while performing their official duties and, in addition to, shall be reimbursed for actual traveling, hotel, and other expenses necessarily incurred in carrying out the provisions of this Chapter.

84-9009 Same; Meetings

The Board shall hold a meeting within 30 days after its members are initially appointed, and thereafter shall hold at least one regular meeting each year. Special meetings shall be held at such time as the by-laws of the

Board may provide. All meetings shall be open to the public, except that the Board may hold restricted attendance sessions to prepare, give, and grade examinations and to deliberate in connection with the decision in contested cases.

84-9010 Same; record of proceedings; accounting of moneys received

The Secretary-Treasurer of the Board shall keep a true and complete record of all proceedings of the Board, and may employ such clerical assistance as the Board may deem necessary. The Secretary-Treasurer of the Board shall also receive and account for all moneys derived under the provisions of this Chapter, and shall pay the same monthly to the State Treasury.

84-9011 Same; Adoption of rules, regulations, and by-laws

The Board shall adopt all necessary rules, regulations, and by-laws not inconsistent with this Chapter and the Constitution and laws of this State or of the United States, to govern its times and places of meetings for organization and reorganization, for the expedient disposition of all applications received, for the holding of examinations, for fixing the length of terms of its officers, and for governing all other matters requisite to the exercise of its powers, the performance of its duties, and the transaction of its business under the provisions of this Chapter.

84-9012 Same; Official seal

The Board shall adopt and have an Official Seal which shall be affixed to all certificates and licenses granted.

84-9013 Same; Legal authority

The Board is authorized, empowered and directed to bring suit in any court of competent jurisdiction to enforce the provisions of this Chapter by petition for injunction or other legal or equitable remedy. It shall be the duty of the Department of Law to represent the Board in any such proceedings. All official records of the Board, or affidavits by the joint-secretary as to the contents of such records, shall be prima facie evidence of all matters required to be kept therein.

84-9014 Same; Annual report

That annually, as of January 1, the Board shall submit to the Governor a report of its transactions of the preceding year, and shall also include a complete statement of the receipts and expenditures of the Board attested by affidavits of its Chairman, a copy of which shall be filed with the Secretary of State.

84-9015 Powers and duties of the Board

A. The Board shall have the responsibility and duty of administering and enforcing the provisions of this Chapter. The Board shall be responsible for preparing the examinations required by this Chapter, and shall assist the joint-secretary in carrying out the provisions of his Act. The Board shall have the power to establish and to revise the minimal

procedures and requirements which shall be used in the practice of Work Study; however, such procedures and requirements shall not be in conflict with accepted practices currently employed by industry.

B. The Board shall:

(1) Authorize, with the advice of the joint-secretary, all disbursements necessary to carry out the provisions of this Chapter and the rules and regulations promulgated by the Board.

(2) Prepare, administer and grade qualifying examinations to test the knowledge and proficiency of applicants licensed by examination.

(3) Register and license persons who make proper application to the joint-secretary and who are determined to be qualified for license to engage in the practice of Work Study.

(4) Purchase and maintain or rent facilities necessary to carry out the examination of applicants as provided herein.

(5) Issue and renew licenses.

(6) Suspend or revoke licenses in the manner provided herein.

(7) Designate the time and place for examining applicants.

(8) Appoint representatives to conduct or supervise the examinations.

(9) Appoint and employ as required subordinate employees to carry out the administration of the provisions of this Chapter.

(10) Investigate alleged violations of the provisions of this Chapter and any other laws of this State pertaining to the practice of Work Study and any rules and regulations adopted by the Board.

C. The joint-secretary shall be guided by the recommendations of the Board in all matters relating to this Chapter.

D. The Secretary-Treasurer of the Board shall prepare annually a roster showing names and places of business of all Work Study Practitioners registered within the State of Georgia. This roster shall be prepared during the month of January, commencing one year from the date this Chapter becomes effective. Copies of this roster shall be mailed to each person so registered, placed on file with the Secretary of State, and made available to any person upon request.

84-9016 Minimum Evidence to Qualify as Work Study Practitioner

The following guidelines shall be considered as minimum evidence satisfactory to the Board that the applicant is qualified for registration as a Work Study Practitioner:

A. Graduation in an approved curriculum of four academic years or more from a school or college approved by the Board as of satisfactory standing, and the successful

completion of a state approved training course and subsequent examination in the fundamental employment and application of Work Study techniques to be outlined by the Board, and a specific record of an additional two years or more of experience in Work Study practice under the direct supervision of a licensed Work Study Practitioner and of a character satisfactory to the Board indicating that the applicant is competent to practice all phases of Work Study, and the successful completion of the Work Study Practitioner's Examination; or

B. Graduation in an approved industrial engineering curriculum of four academic years or more from a school or college approved by the Board as of satisfactory standing, and the successful completion of the examination in the fundamental employment and application of Work Study techniques, and a specific record of an additional two years or more of experience in Work Study practice under the direct supervision of a licensed Work Study Practitioner and of a character satisfactory to the Board indicating that the applicant is competent to practice all phases of Work Study, and the successful completion of the Work Study Practitioner's Examination; or

C. Successful completion in an approved curriculum of at least two academic years from a school or college approved by the Board as of satisfactory standing, and three years or more of experience in the application of Work Study

techniques under the direct supervision of a licensed Work Study Practitioner, and the successful completion of a state approved training course and subsequent examination in the fundamental employment and application of Work Study techniques, and a specific record of an additional two years or more of experience in Work Study practice under the direct supervision of a licensed Work Study Practitioner and of a character satisfactory to the Board indicating that the applicant is competent to practice all phases of Work Study, and the successful completion of the Work Study Practitioner's Examination.

84-9017 Additional Requirements

No person shall be eligible for registration as a Work Study Practitioner who is not of good character and reputation.

In considering the qualification of applicants, said applicant shall be at least 25 years of age.

84-9018 Actual practice not requisite for registration

Any person having the necessary qualifications prescribed in this Chapter to entitle him to registration, shall be eligible for such registration though he may not be practicing his profession at the time of making his application.

84-9019 Registration of nonresidents

Any person residing or having his principle place of practice outside this State and who wishes to be registered

in this State, must first be registered in the State or territory where he now resides or has his principle place of practice, provided said State has in effect a law governing Work Study Practitioners. Where no such law exists, a nonresident in applying for registration within this State must meet the qualification requirements as outlined in this Chapter.

84-9020 Application forms; references

Application for registration shall be on forms prescribed and furnished by the Board, shall contain statements made under oath, showing the applicant's education and detailed summary of his technical work, and shall contain not less than five references of whom three or more shall be registered Work Study Practitioners having personal knowledge of his Work Study experience.

84-9021 Registration fee

The registration fees for Work Study Practitioners and Work Study Practitioners-in-Training will be determined by the members of the State Board of Registration for Work Study Practitioners at their initial meeting, which will be within 30 days after their appointment. Thereafter, such fees will be as outlined in this Section.

84-9022 Examinations

A. Whenever oral and/or written examinations are required, they shall be held at such time and place as the Board shall determine. At least two regularly scheduled

examinations shall be held annually on such dates and at such times as the Board shall determine. The date and time of each examination shall be determined by the Board at least 60 days prior to the date thereof. Upon determining such date and time, the Board shall immediately give notice thereof by filing such date and time with the Joint-Secretary of the State Examination Board. The Board shall also have the right to establish such norms of achievement as shall be required for a passing grade.

B. The Board shall issue to each applicant upon meeting the prerequisites of Section 84-9003 H. and successful completion of the examination in the fundamental employment and application of Work Study techniques, a certificate stating that he has passed the examination and that his name has been recorded as a Work Study Practitioner-in-Training.

C. The Board shall issue to each applicant upon meeting the prerequisites of Section 84-9016 and successful completion of the Work Study Practitioner's Examination, a certificate of registration as outlined in Section 84-9023.

D. An applicant failing any examination may apply for reexamination at the expiration of six months and shall be reexamined without payment of an additional fee. Subsequent reexaminations will be granted upon payment of a fee to be determined by the Board.

E. No license shall be issued except in compliance

with this Chapter, and none shall be issued except to a person or a person in a firm, partnership, association, or corporation. A firm, partnership, association, or corporation, as such, shall not be licensed.

84-9023 Certificates of registration

The Board shall issue a Certificate of Registration, upon payment of the prescribed registration fee, to any applicant who, in the opinion of the Board, has satisfactorily met all the requirements of this Chapter. Certificates of Registration shall show the full name of the registrants, shall have a serial number, and shall be signed by the Chairman and Secretary-Treasurer of the Board under the seal of the Board.

The issuance of a Certificate of Registration by the Board shall be evidence that the person named therein is entitled to all the rights and privileges of a "Registered Work Study Practitioner" while the certificate remains unrevoked or unexpired.

84-9024 Expiration and renewal of certificates

Certificates of registration shall expire annually at such times as may be designated by the Board. It shall be the duty of the Secretary-Treasurer of the Board to notify every person registered under this Chapter, of the date of expiration of his certificate and the amount of that fee that shall be required for its renewal for one year; such notice shall be mailed at least one month in

advance of the date of the expiration of said certificate.

84-9025 Expiration of certificate; restoration; new license

A Certificate of Registration which has expired for failure to renew may, within a one year period from the date of expiration after application and payment of a prescribed restoration fee, be renewed at the discretion of the Board. Should a registered Work Study Practitioner who has not been engaged in the practice of his profession, fail and refuse to renew or validate his certificate for a period of two years, in order for such a person to renew his certificate, he shall file application therefore, and submit himself to such examination as may be determined by the Board. Any certificate which has not been restored within two years following its expiration may not be renewed, restored, or reissued thereafter without the individual concerned applying for and obtaining a valid certificate pursuant with all relevant requirements for the issuance of a new certificate.

84-9026 Display of Certificate of Registration

Every person holding a license issued by the Board shall display it in a conspicuous manner at his place of business.

84-9027 Practice by partnerships, corporations, or associations

A firm, corporation, co-partnership, or an association may engage in the practice of Work Study in the State,

provided only that such practice is carried on under the direction of Work Study Practitioners who are registered in this State.

84-9028 Exemptions from provisions of this Chapter

The following persons shall be exempt from the provisions of this Chapter, to-wit:

A. A person not a resident of and having no established place of business in this State, practicing or offering to practice herein the practice of Work Study when such practice does not exceed more than 60 days in any calendar year; provided, such person is legally qualified by registration to practice the said profession in his own state or country in which the requirements and qualifications for obtaining a Certificate of Registration are not lower than those specified in this Chapter.

B. A person not a resident of and having no established place of business in this State, or who has recently become a resident thereof, practicing or offering to practice herein for more than 60 days in any calendar year the profession of Work Study, if he shall have filed with the Board an application for a Certificate of Registration, and shall have paid the required fees, and provided that such a person is legally qualified to practice said profession in his own state or country in which the requirements and qualifications for obtaining a certificate of registration are not lower than those specified in this Chapter. Such

exemptions shall continue for such time as the Board requires for the consideration of the application for registration.

C. A person working as an employee or a subordinate of a person holding a Certificate of Registration under this Chapter, or an employee of a person practicing lawfully under paragraphs A and B of this Section.

D. Officers and employees of the government of the United States while engaged within this State in the practice of Work Study for said government.

E. All elective officers of the political subdivisions of the State while in the practice of Work Study in the performance of their official duties.

84-9029 Revocation of registration certificates

The Board shall have the power to revoke the Certificate of Registration of any registrant who is found guilty of:

A. The practice of any fraud or deceit in obtaining a Certificate of Registration.

B. Any gross negligence, imcompetence, fraudulent act of misconduct in the practice of Work Study as a registered Work Study Practitioner.

84-9030 Charges against registrant; preferring, hearing, notice, revocation of certificate

Any person may prefer charges of fraud, deceit, gross negligence, incompetency, or misconduct against any registrant. Such charges must be in writing and shall be sworn

to by the person making them and shall be filed with the Secretary-Treasurer of the Board.

All charges, unless dismissed by the Board as unfounded or trivial, shall be heard by the Board within three months after the date on which they shall have been preferred.

The time and place for said hearing shall be fixed by the Board and a copy of the charges, together with a notice of the time and place of hearing, shall be personally served on or mailed to the last known address of such registrants, at least 30 days before the date fixed for the hearing. At any hearing, the accused registrant shall have the right to appear personally and/or by counsel, to cross-examine witnesses appearing against him, and to produce evidence and witnesses in his own defense.

If after such hearing, two or more members of the Board vote in favor of finding the accused guilty, the Board shall revoke the Certificate of Registration of such registered Work Study Practitioner.

84-9031 Reissuance of certificates

The Board, for reasons it deems sufficient, may reissue a Certificate of Registration to any person whose certificate has been revoked, providing two or more members of the Board vote in favor of such reissuance.

84-9032 Duty of officers to enforce Chapter

It shall be the duty of all duly constituted officers of the law of this State, or any political subdivision

thereof, to enforce the provisions of this Chapter and to prosecute any person violating same. The Attorney General of the State, or his designated representative assistant, shall act as legal advisor of the Board and render such legal assistance as may be necessary in carrying out the provisions of this Chapter.

84-9033 Effect of Chapter on practice of other professions

This Chapter shall not be construed to affect or prevent the practice of any other legally recognized profession.

84-9034 Powers and duties of Joint-Secretary

The powers and duties of the joint-secretary are as provided in Georgia Code Title 84, as amended and as may be delegated by the Board.

CHAPTER VI

IMPLEMENTATION AND TESTING

How Proposal Becomes a Law

Prior to the implementation of any form of control or regulation governing work study practitioners, the proposed draft of the Work Study Practitioner's License Law must be introduced, studied, and validated by the Legislature of the state in which such a proposal were deemed appropriate and necessary. In the state of Georgia, any bill, before becoming a law, must travel a dangerous path through the General Assembly. Following its introduction and sequential numbering assignment by the clerk, the proposed piece of legislation is first "read," author's name and only the first few lines, to the senators or representatives, in the Senate or House, respectively. The proposal is then immediately assigned to a committee for further study. The committee has many courses of action: they can take no action, and keep it forever if the bill is not well received, or they can reassign it to a subcommittee for further study, or they can hold a public hearing, or the committee chairman can put the bill in his pocket and forget about it, forcing action by concurrence of the full committee if the bill is to be considered further. Other dangers include possible amendments which can be attached to the original bill or even the complete revision of the original proposal

when deemed appropriate by the committee, substituting its version for the author's. While in committee, the bill receives its second "reading" in the House or Senate, identical to the first reading, and is subsequently placed in competition for a spot on the calendar. Once approved by all committee members, the author must defend his proposal before the rules committee prior to having the bill reach the floor of the House or Senate for debate. If passed, it is then sent to the opposite house where it must go through the entire obstacle course once again. The final decision is by the Governor who may sign the bill into law or veto it. If vetoed, the General Assembly may override the veto by a two-thirds majority vote of the total membership of the House and Senate.(25)

Creation of State Board of Registration

Once enacted into law by successful completion of the aforementioned procedures, the State Board of Registration for Work Study Practitioners would be created in accordance with the statutes of the License Law.

The Governor's appointments to the initial State Board of Registration hopefully would include representatives from both the academic and industrial environments. This Board of Registration would then be responsible for the implementation, administration, and enforcement of the rules, regulations, policies, and by-laws consistent with the newly

created law. One of their primary duties would be to develop the examinations necessary for the testing and qualifying of all applicants to be licensed.

General Work Study Areas for Examination Questions

The format, content, and allocation of time permitted for administration of the written and/or oral Work Study Practitioner's Examinations would be determined by the State Board of Registration for Work Study Practitioners as outlined in the proposed model License Law. The basic considerations in the development of such examinations are to insure that they measure the applicant's competence in the development, employment, and application of work study techniques. To accomplish these desired results, a list of Work Study areas, from which typical examination questions could be formulated at the discretion of the Board, is proposed. These questions could be designed as essay type, however it would be more preferable to use multiple choice type questions following standard test construction. There could also be numerical computational questions, to examine the applicant's ability to accurately arrive an an answer employing the Work Study techniques most often encountered in real-world applications. An outline of the general Work Study subject areas applicable for the development of examination questions might include, but not necessarily be limited to, the following:

A. Factors Affecting Operating Efficiency
    1. Long-term Policy Goals
    2. Intermediate Policy Goals
    3. Short-term Policy Goals
    4. Scientific Method
B. Overall Value of Work Study
    1. Work Study Contributions to Management
    2. Advantages to the Supervisor
    3. Advantages to the Worker
C. Method Study
    1. The Investigation
    2. Graphical Methods of Reporting
    3. Process Charting and Types of Charts
    4. Critical Examination Techniques
    5. Developing a New Method
    6. Estimating the Savings
    7. Installation of the New Method
    8. Maintenance of the New Method
    9. Specific Method Study Techniques
        a. Techniques for Studying Path of Movement
        b. Usage of the String Diagram
        c. Use of Models
        d. Therbligs
        e. Micromotion Analysis
        f. Memo Motion
        g. Workplace Layout

D. Selection and Survey of Jobs for Study and Contents of the Proposed Method Report

E. Work Measurement

1. Methods and Practices of Using the Stopwatch
2. Ratings
3. Measuring the Job
4. Collation of Data
5. Standard Time to include Allowances for Relaxation, Resource Supply, Maintenance, etc.
6. Collection, Analysis, Estimation, and Presentation of Data

F. Uses of Work Study Data

1. Wage Payment
2. Cost Estimation
3. Job Evaluation
4. Production Scheduling/Planning
5. Types of Financial Incentive Schemes

G. Statistical Aids to Work Study

1. Distributions
2. Taking Samples and Determination of the Number of Readings Required
3. Variance and Standard Deviation

H. Procedures and Applications of Activity Sampling

I. Work Study Other than Direct Labor

1. Indirect Labor
2. Administration

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

There are numerous valid conclusions concerning Work Study resulting from this research. The questionnaire responses definitely indicate that Work Study is extensively utilized within the modern industrial organization, and is considered to be an extremely valuable tool by those employing such techniques. Additionally, in all areas of specific applications questioned, respondents indicated an anticipated increase over present use in the level of use of Work Study techniques within the next one to two years.

License laws are very popular today in many less vital occupational areas where little or no affect on the public is realized. However, since the investigation, development, implementation, and maintenance of Work Study techniques directly or indirectly affect each and every employee of an industry where such techniques are utilized, the importance to the general public cannot be underestimated. Of the 133 respondents answering the questionnaire, over three-fourths million people were reported as being affected to some degree by the employment of Work Study techniques, indicating a very high public involvement.

Although licensing of work study practitioners was

not generally well received, industrial and professional personnel alike would benefit from the enactment of such a proposed license law because:

1. The law would formulate, establish, and maintain a set of standards and a common language to be utilized by all work study practitioners.

2. Professional competence among the work study practitioners would increase due to a constant exchange of information regarding techniques, problem areas encountered, problem solutions, etc.

3. The law would provide for industrial and public protection from unscrupulous work study practitioners.

4. There would be a necessity for increased cooperation between labor and professional practitioners.

Probably the most important and overriding conclusion is the possible combination of the present sporadic approaches and use of Work Study methods and techniques as utilized in modern industry, into a single more efficient method which could benefit the entire profession.

It is recommended that additional research be conducted considering the possibility of incorporating, as a separately defined portion, a work study practitioner licensing requirement in the current Georgia Professional Engineers License Law, which presently includes a separate category for Land Surveyors.

An additional survey could be conducted in order to

query the professionals concerning this possibility if feasible, emphasizing that the level of enactment of such a license law would be at the state and not the national level.

APPENDIX A

WORK STUDY QUESTIONNAIRE

Please read the questions carefully. Please answer the questions by checking or circling the appropriate response or, where the question calls for a written answer, by writing the answer in the space provided.

Your responses will be completely confidential. Your answers will be used for statistical purposes only. Neither your name nor your organization's name are required in any of the responses.

A. BASIC ORGANIZATIONAL ATTRIBUTES.

1. Size - Total number of employees within the organization:

( )	Less than 50	( )	301-500
( )	50-100	( )	501-999
( )	101-200	( )	1000-2000
( )	201-300	( )	Over 2000

2. Type of organization (Check all applicable answers):

( ) Single product output (with variations)
( ) Multi-product output
( ) Assembly line production
( ) Batch or Group assembly of finished product(s)
( ) Single employee assembly of finished product(s)
( ) Automated or machine controlled process
( ) Wholesale or warehouse operation
( ) Other (Please specify) _____

3. Type of product(s) (Check all applicable answers):

( )	Heavy metal fabrication	( )	Textile
( )	Light metal product	( )	Garment
( )	Electronic	( )	Plastic
( )	Chemical	( )	Other (Please specify)
( )	Food Processing		_____

4. Position within the organization of the individual completing this questionnaire:

( ) Plant Manager
( ) Production Manager
( ) Industrial Engineer
( ) Work Study Analyst
( ) Professional Consultant
( ) Other (Please specify) _____

B. CURRENT USE OF WORK STUDY TECHNIQUES WITHIN YOUR ORGANIZATION

1. Are any of the following Work Study techniques currently used in your organization to establish or change work standards? (Circle ONE number on each scale)

	(Not used at all)						(Used very extensively)
a. Time Study (Work Measurement)	1	2	3	4	5	6	7
b. Motion Study (Method Study)	1	2	3	4	5	6	7
c. Efficiency Measurement	1	2	3	4	5	6	7
d. Other(Please specify) _____	1	2	3	4	5	6	7

2. Number of employees directly affected by Work Study?

_____

3. How many personnel conduct Work Studies as part of their regular jobs?

a. Full-time Work Study Personnel (Work Study > 50% of job capacity) _____

b. Part-time Work Study Personnel (Work Study < 50% of job capacity) _____

4. To which department heads do these Work Study personnel report?

_____

5. Outside Consultants. How often does your organization hire outside professional Work Study consultants?

( ) Several times a month
( ) About once a month
( ) Several times a year
( ) About once a year
( ) Very rarely or never

6. Whose Jobs are Affected by Work Study?
For each of the following groups, approximately how much of their total work load is presently governed by Work Study techniques?

a. Skilled Labor - About _____% of their total work load.
b. Semi-Skilled Labor - About _____% of their total work load.
c. Unskilled Labor - About _____% of their total work load.
d. Other Groups (Please specify)
_____ About _____% of their total work load.
_____ About _____% of their total work load.
_____ About _____% of their total work load.

7. Your Estimation of the Value of Work Study.
In your judgement, how much does the organization as a whole benefit from using Work Study techniques?

For this organization as a whole, Work Study techniques are:

(No value at all)						(Extremely valuable)
1	2	3	4	5	6	7

8. Understanding and Acceptance of Work Study Techniques.
When Work Study techniques are used in an organization, some groups understand the techniques better than others, and some groups accept their use better than others. We are interested in the level of understanding and acceptance by each of the following groups within your organization.

How much do each of the following groups understand and accept the employment of Work Study techniques within your organization?

		UNDERSTANDING (Not understood at all)						(Completely understood)	ACCEPTANCE (Not accepted at all)						(Fully accepted)
a.	Top Management	1	2	3	4	5	6	7	1	2	3	4	5	6	7
b.	Middle Management	1	2	3	4	5	6	7	1	2	3	4	5	6	7
c.	Foremen	1	2	3	4	5	6	7	1	2	3	4	5	6	7
d.	Semi-Skilled Workers	1	2	3	4	5	6	7	1	2	3	4	5	6	7
e.	Unskilled Employees	1	2	3	4	5	6	7	1	2	3	4	5	6	7
f.	Labor unions	1	2	3	4	5	6	7	1	2	3	4	5	6	7

9. Specific Work Study Techniques Utilized.
How extensively are the following Work Study techniques used within your organization?

		(Not used at all)						(Used very extensively)
a.	Work Sampling	1	2	3	4	5	6	7
b.	Stop Watch	1	2	3	4	5	6	7
c.	Predetermined or analytical time estimation	1	2	3	4	5	6	7
d.	Methods Analysis (only)	1	2	3	4	5	6	7
e.	Micromotion (Film) Analysis	1	2	3	4	5	6	7
f.	Machine Utilization	1	2	3	4	5	6	7
g.	Standard Data Files	1	2	3	4	5	6	7
h.	Other (Please specify)							
	_____	1	2	3	4	5	6	7
	_____	1	2	3	4	5	6	7
	_____	1	2	3	4	5	6	7

10. Application Areas.
To what extent are Work Study techniques presently used in each of the following applications areas, and do you anticipate any changes within the next 1-2 years?

	(Work Study not Used at all)						(Work Study used extensively)
a. Direct Individual Wage Incentives							
Present use	1	2	3	4	5	6	7
Anticipated level of use	1	2	3	4	5	6	7
b. Direct Group Wage Incentives							
Present use	1	2	3	4	5	6	7
Anticipated level of use	1	2	3	4	5	6	7
c. Indirect Labor Control							
Present use	1	2	3	4	5	6	7
Anticipated level of use	1	2	3	4	5	6	7
d. Production Planning/Scheduling							
Present use	1	2	3	4	5	6	7
Anticipated level of use	1	2	3	4	5	6	7
e. Employee Efficiency Measures							
Present use	1	2	3	4	5	6	7
Anticipated level of use	1	2	3	4	5	6	7
f. Bidding and Cost Estimation							
Present use	1	2	3	4	5	6	7
Anticipated level of use	1	2	3	4	5	6	7
g. Order Picking or Warehouse Operations							
Present use	1	2	3	4	5	6	7
Anticipated level of use	1	2	3	4	5	6	7
h. Administrative or Office Operations							
Present use	1	2	3	4	5	6	7
Anticipated level of use	1	2	3	4	5	6	7

11. Approximately what percentage of your Work Study efforts are involved in each of the following?

a. _____% Wage Determination
b. _____% Bidding and Cost Estimation
c. _____% Scheduling and/or Production Control
d. _____% Other (Please specify)

_____

12. Influence of Labor Unions.
How much influence do Labor Unions have in deciding how the results of organizational Work Study will be used?

(No influence at all) 1 2 3 4 5 6 7 (A great deal of influence)

C. PREREQUISITES FOR WORK STUDY PERSONNEL

1. How desirable do you rate each of the following characteristics for a Work Study practitioner in your organization?

	(Not needed at all)						(Absolutely necessary)
a. Organizational Training Course in Work Study Methods	1	2	3	4	5	6	7
b. Outside Training Course	1	2	3	4	5	6	7
c. High School Education	1	2	3	4	5	6	7
d. College Degree	1	2	3	4	5	6	7
e. Job Experience	1	2	3	4	5	6	7
f. Personal Traits							
(1) Tact	1	2	3	4	5	6	7
(2) Enthusiasm & Self Confidence	1	2	3	4	5	6	7
(3) Ability to get along with people	1	2	3	4	5	6	7
(4) Sincerity and Honesty	1	2	3	4	5	6	7
g. Formal Education in the following areas:							
(1) Industrial Engineering	1	2	3	4	5	6	7
(2) Industrial and Experimental Psychology	1	2	3	4	5	6	7
(3) Design and Measurement	1	2	3	4	5	6	7
(4) Statistical Analysis	1	2	3	4	5	6	7
(5) Basic Industrial Law	1	2	3	4	5	6	7
(6) Theory of Probability	1	2	3	4	5	6	7
(7) Industrial Sociology	1	2	3	4	5	6	7
(8) Physiology	1	2	3	4	5	6	7
(9) Union/Management Relations	1	2	3	4	5	6	7
(10) Engineering Economy	1	2	3	4	5	6	7
(11) Other _____	1	2	3	4	5	6	7
(12) Other _____	1	2	3	4	5	6	7
h. Other Prerequisites (Please specify)							
_____	1	2	3	4	5	6	7
_____	1	2	3	4	5	6	7
_____	1	2	3	4	5	6	7

D. LICENSING OF WORK STUDY PRACTITIONERS

1. Should Work Study Practitioners be Licensed?
There has been some discussion recently concerning the possibility of requiring Work Study practitioners to be licensed in a manner similar to doctors, land surveyors, engineers, CPA'S, etc. Very briefly, those proposing a licensing requirement argue that such would standardize and evaluate the professional status of Work Study analysts as well as to provide for public protection. On the other hand, those opposing such a requirement argue that it would be too restrictive to modern industry.

What are your views on the desirability of requiring licensing for Work Study practitioners?

( ) I am convinced that licensing would be desirable.
( ) I am inclined to support licensing, but would need to give the idea more thought.
( ) I neither support nor oppose licensing.
( ) I am inclined to oppose licensing, but would need to give the idea more thought.
( ) I am convinced that licensing would be undesirable.

Additional comments as desired:

2. In your opinion, who should be included in a proposed licensing regulation?

( ) Work Study practitioners who advertise as consultants.
( ) Work Study personnel who are federally employed.
( ) Analysts in private companies who work on government contracts.
( ) All Work Study practitioners.
( ) Other (Please specify) _____
( ) I am opposed to licensing.

3. What criteria for professional Work Study personnel should be included in a possible License Law?

	NECESSARY	DESIR-ABLE	UNNEC-ESSARY	NO OPINION
a. Education Level (Select one)				
(1) College degree or equivalent	1	2	3	4
(2) Minimum of 2 years of college	1	2	3	4
(3) High School Diploma	1	2	3	4
(4) Other (Please specify) _____	1	2	3	4
b. Affiliation with Professional Organization	1	2	3	4
c. Labor Union affiliation	1	2	3	4
d. Written Examination	1	2	3	4
e. Job Experience (Select one)				
(1) Of at least 1 year	1	2	3	4
(2) Of at least 2 years	1	2	3	4
(3) Of at least 5 years	1	2	3	4
f. Other (Please specify)				
_____	1	2	3	4
_____	1	2	3	4
_____	1	2	3	4

4. Renewal Provision
Following the enactment of a possible License Law for Work Study practitioners, License renewal provisions would be mandatory. Which of the following possible provisions do you consider as necessary?

( ) Periodic renewal required every ____ years.
( ) Written retesting required.
( ) Oral retesting only.
( ) No retesting required.
( ) No renewal provisions are necessary.
( ) I have no opinion concerning License renewal.
( ) I am opposed to licensing.

5. Labor Union Involvement.
Should Labor Unions be requested and/or permitted to assist in outlining the basic requirements of a License Law governing Work Study personnel to be utilized on a full-time basis within the organization?

( ) YES
( ) NO
( ) No Opinion
( ) I am opposed to licensing.

Please explain briefly.

E. ADDITIONAL COMMENTS AS DESIRED:

APPENDIX B

WORK STUDY QUESTIONNAIRE RAW DATA

Explanation: The number of responses to each question or portion thereof are contained in parentheses adjacent to the answer. Additionally, the total number of responses and no responses to each question are indicated to the left of each question, or portion thereof, respectively.

A. BASIC ORGANIZATIONAL ATTRIBTUES

(132-1) 1. Size - Total number of employees within the organization:

(4-3.03%)	Less than 50	(6- 4.55%)	301-500
(1-.75%)	50-100	(20-15.15%)	501-999
(2-1.52%)	101-200	(22-16.67%)	1000-2000
(3-2.27%)	201-300	(74-56.06%)	Over 2000

(132-1) 2. Type of organization (Check all applicable answers):

Total checks

(31) Single product output (with variations)
(91) Multi-product output
(46) Assembly line production
(41) Batch or Group assembly of finished product
(23) Single employee assembly of finished product(s)
(65) Automated or machine controlled process
(39) Wholesale or warehouse operation
(14) Other

(131-2) 3. Type of product(s) (Check all applicable answers):

(10-7.63%) Heavy metal fabrication
(8-6.11%) Light metal product
(6-4.58%) Electronic
(11-8.4%) Chemical
(10-7.63%) Food Processing
(21-16.03%) Textile
(3-2.29%) Garment
(3-2.29%) Plastic
(59-45.04%) Other

(133-0) 4. Position within the organization of the individual completing this questionnaire:

(6-4.51%) Plant Manager
(2-1.50%) Production Manager
(68-51.13%) Industrial Engineer
(3-2.26%) Work Study Analyst
(6-4.51%) Professional Consultant
(21-15.79%) Other
(4-3.01%) President
(19-14.28%) Corporate Director, Manager of Industrial Engineering
(4-3.01%) Director of Engineering

B. CURRENT USE OF WORK STUDY TECHNIQUES WITHIN YOUR ORGANIZATION

1. Are any of the following Work Study techniques currently used in your organization to establish or change work standards?

		(not used at all) 1	2	3	4	5	6	(used very extensively) 7	(average)
(130- 3)	a. Time Study(Work Measurement)	(10)	(7)	(21)	(15)	(17)	(8)	(52)	4.95
(115-18)	b. Motion Study (Method Study)	(14)	(12)	(18)	(13)	(21)	(10)	(27)	4.33
(107-26)	c. Efficiency Measurement	(8)	(6)	(13)	(19)	(16)	(12)	(33)	4.84
(34-99)	d. Other	(0)	(0)	(5)	(9)	(5)	(4)	(11)	5.21

(120-13) 2. Number of employees directly affected by Work Study?

1-300	(20)	901-1200	(12)	5001-10000	(8)
301-600	(17)	1201-2000	(16)	10001-20000	(7)
601-900	(16)	2001-5000	(21)	Over 20000	(3)

3. How many personnel conduct Work Studies as part of their regular jobs?

(86-47)	a. Full-time Work Study Personnel (Work Study > 50% of job capacity)	1-(9)	4-6-(12)	20-29-(6)	
		2-(8)	7-9-(9)	30-50-(11)	
		3-(8)	10-19-(16)	over 50 (7)	
(88-45)	b. Part-time Work Study Personnel (Work Study < 50% of job capacity)	1-(15)	4-6-(20)	20-29-(5)	
		2-(10)	7-9-(3)	30-50-(9)	
		3-(7)	10-19(12)	over 50 (7)	

(126-7) 4. To which department heads do these Work Study personnel report?

a. Industrial Engineering (79-62.7%)
b. Division Engineering Director (4-3.18%)
c. Production or Manufacturing Engineer (14-11.11%)
d. Works Industrial & Systems Engineer (5-3.97%)
e. Quality Control & Standards Department (6-4.76%)
f. Manager Cost & Engineering (1-.79%)
g. Plant Manager (8-6.35%)

h. Manager Operations Improvement (1-.79%)
i. Other (8-6.35%)

(130-3) 5. Outside Consultants. How often does your organization hire outside professional Work Study consultants?

(1- .77%) Several times a month
(1- .77%) About once a month
(6-4.61%) Several times a year
(13-10.0%) About once a year
(109-83.85%) Very rarely or never

6. Whose Jobs are Affected by Work Study?

For each of the following groups, approximately how much of their total work load is presently governed by Work Study techniques?

		1	2	3	4	5	6	7	8	9	0
(102-31)	a. Skilled Labor	11	9	6	6	11	1	4	17	13	24
(110-23)	b. Semi-skilled Labor	0	2	5	3	13	8	9	29	17	24
(97-36)	c. Unskilled Labor	5	6	9	4	15	4	3	22	12	17
(15-118)	d. Other Groups	1	2	2	0	4	1	0	2	1	2

Note: Coding Scale follows:

1 = 0-10%	4 = 31-40%	7 = 61-70%
2 = 11-20%	5 = 41-50%	8 = 71-80%
3 = 21-30%	6 = 51-60%	9 = 81-90%
		0 = 91-100%

(132-1) 7. Your Estimation of the Value of Work Study

In your judgement, how much does the organization as a whole benefit from using Work Study techniques?

For this organization as a whole, Work Study techniques are:

(no value at all)					(extremely valuable)		
1	2	3	4	5	6	7	(average)
(2)	(2)	(7)	(7)	(16)	(36)	(62)	5.95

8. Understanding and Acceptance of Work Study Techniques

When Work Study techniques are used in an organization, some groups understand the techniques better than others, and some accept their use better than others. We are interested in the level of understanding and acceptance by each of the following groups within your organization.

How much do each of the following groups understand and accept the employment of Work Study techniques within your organization?

Understanding	Acceptance		UNDERSTANDING (Not understood at all) 1	2	3	4	5	6	(Completely understood) 7
(133-0)	(131-2)	a. Top Management	(1)	(7)	(6)	(19)	(38)	(39)	(23)
(133-0)	(129-4)	b. Middle Management	(1)	(2)	(9)	(22)	(39)	(41)	(19)
(129-4)	(127-6)	c. Foremen	(2)	(3)	(18)	(32)	(37)	(23)	(14)
(130-3)	(126-7)	d. Semi-skilled Workers	(5)	(16)	(37)	(31)	(20)	(12)	(9)
(127-6)	(121-12)	e. Unskilled Employees	(15)	(27)	(44)	(16)	(15)	(7)	(3)
(89-44)	(85-48)	f. Labor Unions	(5)	(2)	(10)	(14)	(28)	(17)	(13)

	ACCEPTANCE (Not accepted at all) 1	2	3	4	5	6	(Fully accepted) 7
Top Management	(1)	(2)	(6)	(12)	(19)	(38)	(53)
Middle Management	(1)	(1)	(6)	(14)	(29)	(41)	(37)
Foremen	(1)	(5)	(13)	(22)	(47)	(20)	(19)
Semi-skilled Workers	(6)	(11)	(15)	(40)	(25)	(17)	(12)
Unskilled Employees	(11)	(12)	(24)	(35)	(21)	(14)	(4)
Labor Unions	(5)	(9)	(12)	(15)	(25)	(13)	(6)

9. Specific Work Study Techniques Utilized

How extensively are the following Work Study techniques used with your organization?

	(Not used at all) 1	2	3	4	5	6	(Used very extensively) 7	Average
(129-4) a. Work Sampling	(11)	(24)	(21)	(20)	(25)	(17)	(11)	3.92
(131-2)) b. Stop Watch	(10)	(11)	(14)	(14)	(11)	(19)	(52)	5.06
(127-6) c. Predetermined or analytical time estimation	(14)	(22)	(19)	(21)	(19)	(13)	(19)	3.98
(120-13) d. Methods Analysis (only)	(15)	(15)	(21)	(24)	(25)	(11)	(9)	3.82
(116-17) e. Micromotion (Film) Analysis	(76)	(27)	(5)	(7)	(0)	(0)	(1)	1.55
(114-19) f. Machine Utilization	(12)	(10)	(16)	(21)	(18)	(20)	(17)	4.32
(120-13) g. Standard Data Files	(19)	(11)	(16)	(17)	(19)	(13)	(25)	4.21
(12-121) h. Other	(0)	(1)	(2)	(0)	(3)	(5)	(1)	5.00

10. Application Areas

To what extent are Work Study techniques presently used in each of the following applications areas, and do you anticipate any changes within the next 1-2 years?

		(Work Study not used at all) 1	2	3	4	5	6	(Work Study used extensively) 7
a.	Direct Individual Wage Incentives							
(126-7)	Present use	(57)	(4)	(0)	(5)	(4)	(15)	(41)
(122-11)	Anticipated level of use	(54)	(4)	(2)	(4)	(6)	(13)	(39)
b.	Direct Group Wage Incentives							
(123-10)	Present use	(67)	(13)	(6)	(3)	(2)	(14)	(18)
(121-12)	Anticipated level of use	(60)	(14)	(7)	(5)	(6)	(9)	(20)
c.	Indirect Labor Control							
(130-3)	Present use	(32)	(12)	(26)	(23)	(18)	(8)	(11)
(126-7)	Anticipated level of use	(21)	(3)	(9)	(24)	(25)	(26)	(18)
d.	Production Planning/Scheduling							
(130-3)	Present use	(32)	(14)	(12)	(24)	(20)	(18)	(10)
(128-5)	Anticipated level of use	(26)	(7)	(8)	(15)	(18)	(36)	(18)
e.	Employee Efficiency Measures							
(129-4)	Present use	(15)	(8)	(8)	(24)	(25)	(22)	(27)
(126-7)	Anticipated level of use	(12)	(5)	(7)	(13)	(20)	(35)	(34)
f.	Bidding and Cost Estimation							
(126-7)	Present use	(32)	(7)	(14)	(11)	(18)	(25)	(19)
(123-10)	Anticipated level of use	(28)	(4)	(12)	(11)	(19)	(26)	(23)
g.	Order Picking or Warehouse Operations							
(125-8)	Present use	(40)	(17)	(16)	(11)	(14)	(14)	(13)
(124-9)	Anticipated level of use	(34)	(10)	(8)	(9)	(22)	(25)	(16)
h.	Administrative or Office Operations							
(127-6)	Present use	(60)	(29)	(21)	(9)	(5)	(3)	(0)
(125-8)	Anticipated level of use	(42)	(21)	(15)	(21)	(17)	(8)	(1)

11. Approximately what percentage of your Work Study efforts are involved in each of the following?

		1	2	3	4	5	6	7	8	9	0
(74-49)	Wage Determination	(12)	(4)	(1)	(8)	(9)	(2)	(4)	(13)	(8)	(13)
(90-43)	Bidding and Cost Estimation	(35)	(15)	(9)	(3)	(9)	(2)	(1)	(6)	(2)	(8)
(90-43)	Scheduling and/or Production Control	(34)	(13)	(13)	(5)	(9)	(0)	(2)	(10)	(1)	(3)
(60-73)	Other	(10)	(4)	(4)	(5)	(4)	(1)	(3)	(12)	(5)	(12)

Note: Coding scale is identical to scale for Question B.6

(124-9)12. Influence of Labor Unions.

How much influence do Labor Unions have in deciding how the results of organizational Work Study will be used?

(No influence at all) 1	2	3	4	5	6	A great deal of influence) 7	(Average)
(54)	(20)	(13)	(14)	(12)	(3)	(8)	2.60

C. PREREQUISITES FOR WORK STUDY PERSONNEL

1. How desirable do you rate each of the following characteristics for a Work Study practitioner in your organization?

		(Not needed at all) 1	2	3	4	5	6	(Absolutely Necessary) 7	(Average)
(128-5)	a. Organizational Training Course in Work Study Methods	(4)	(1)	(10)	(7)	(11)	(28)	(67)	5.91
(120-13)	b. Outside Training Course	(20)	(9)	(16)	(29)	(21)	(11)	(14)	3.92
(123-10)	c. High School Education	(0)	(0)	(0)	(4)	(4)	(6)	(109)	6.79
(130-3)	d. College Degree	(10)	(8)	(9)	(34)	(32)	(17)	(20)	4.55
(125-8)	e. Job Experience	(7)	(2)	(9)	(27)	(32)	(25)	(23)	4.94
	f. Personal Traits								
(129-4)	(1) Tact	(0)	(0)	(0)	(6)	(9)	(39)	(75)	6.42
(129-4)	(2) Enthusiasm & Self Confidence	(0)	(0)	(2)	(6)	(25)	(43)	(53)	6.08
(130-3)	(3) Ability to get along with people	(0)	(0)	(1)	(5)	(10)	(36)	(78)	6.42
(125-8)	(4) Sincerity and Honesty	(0)	(0)	(0)	(2)	(7)	(27)	(89)	6.62
	g. Formal Education in the following areas:								
(132-1)	(1) Industrial Engineering	(9)	(6)	(5)	(36)	(34)	(26)	(16)	4.68
(129-4)	(2) Industrial and Experimental Psychology	(18)	(21)	(30)	(35)	(21)	(2)	(2)	3.26
(127-6)	(3) Design and Measurement	(13)	(11)	(17)	(38)	(27)	(17)	(4)	3.96
(129-4)	(4) Statistical Analysis	(7)	(2)	(20)	(31)	(37)	(25)	(7)	4.49
(125-8)	(5) Basic Industrial Law	(39)	(25)	(31)	(19)	(10)	(0)	(1)	2.52
(127-6))	(6) Theory of Probability	(13)	(18)	(21)	(28)	(29)	(14)	(4)	3.79
(124-9)	(7) Industrial Sociology	(28)	(21)	(26)	(28)	(16)	(4)	(1)	2.99
(122-11)	(8) Physiology	(30)	(30)	(22)	(22)	(13)	(4)	(1)	2.79
(124-9)	(9) Union/Management Relations	(18)	(16)	(4)	(30)	(28)	(18)	(10)	4.03
(126-7)	(10) Engineering Economy	(13)	(8)	(8)	(31)	(30)	(27)	(9)	4.38
(13-120)	(11) Other	(1)	(0)	(0)	(1)	(5)	(3)	(3)	5.31
	h. Other Prerequisites	(0)	(0)	(0)	(1)	(5)	(3)	(5)	5.86

D. LICENSING OF WORK STUDY PRACTITIONERS

1. Should Work Study Practitioners be Licensed?

There has been some discussion recently concerning the possibility of requiring Work Study practitioners to be licensed in a manner similar to doctors, land surveyors, engineers, CPA's, etc. Very briefly, those proposing a licensing requirement argue that such would standardize and evaluate the professional status of Work Study analysts as well as to provide for public protection. On the other hand, those opposing such a requirement argue that it would be too restrictive to modern industry.

(132-1) What are your views on the desirability of requiring licensing for Work Study practitioners?

(4-3.03%) I am convinced that licensing would be desirable.
(30-22.73%) I am inclined to support licensing, but would need to give the idea more thought.
(26-19.70%) I neither support nor oppose licensing.
(52-39.39%) I am inclined to oppose licensing, but would need to give the idea more thought.
(20-15.15%) I am convinced that licensing would be undesirable.

(22-111) Additional comments as desired:

(22) Yes

(111) No

(120-13) 2. In your opinion, who should be included in a proposed licensing regulation?

(41-34.17%) Work Study practitioners who advertise as consultants.
(0 - 0) Work Study personnel who are federally employed.
(0 - 0) Analysts in private companies who work on government contracts.
(22-18.33%) All Work Study practitioners.
(5-4.17%) Other
(40-33.33%) I am opposed to licensing.
(10-8.33%) Consultants who are federally employed.
(2-1.67%) Consultants in private companies who work on government contracts.

3. What criteria for professional Work Study personnel should be included in a possible License Law?

		NECESSARY	DESIR-ABLE	UNNEC-ESSARY	NO OPINION
	a. Education Level (select one)				
(94-39)	(1) College degree or equivalent	(21)	(42)	(28)	(3)
(72-61)	(2) Minimum of 2 years of college	(27)	(32)	(10)	(3)
(68-65)	(3) High School diploma	(57)	(6)	(1)	(4)
(8-125)	(4) Other	(6)	(1)	(1)	(0)
(102-31)	b. Affiliation with Professional Organization	(10)	(44)	(40)	(8)
(98-35)	c. Labor Union affiliation	(2)	(2)	(86)	(8)
(102-31)	d. Written Examination	(50)	(35)	(12)	(5)
	e. Job Experience (select one)				
(33-100)	(1) Of at least 1 year	(17)	(11)	(1)	(4)
(61-72)	(2) Of at least 2 years	(33)	(22)	(2)	(4)
(41-92)	(3) Of at least 5 years	(19)	(11)	(7)	(4)
(6-127)	f. Other	(3)	(2)	(1)	(0)

(120-13) 4. Renewal Provision

Following the enactment of a possible License Law for Work Study practitioners, license renewal provisions would be mandatory. Which of the following possible provisions do you consider as necessary?

(15-12.5%) Periodic renewal required
(4-3.33%) Written retesting required
(1- .83%) Oral retesting only
(8-6.67%) No retesting required
(6-5.0%) No renewal provisions are necessary
(25-20.84%) I have no opinion concerning license renewal
(31-25.83%) I am opposed to licensing
(23-19.17%) Periodic renewal with retesting
(7-5.83%) Periodic renewal with no retesting

5. Labor Union Involvement

(123-10) a. Should Labor Unions be requested and/or permitted to assist in outlining the basic requirements of a License Law governing Work Study personnel to be utilized on a full-time basis within the organization?

(30-24.39%) Yes
(44-35.77%) No
(24-19.51%) No opinion
(25-20.33%) I am opposed to licensing

(16-117) b. Additional comments
(16) Yes
(117) No

E. ADDITIONAL COMMENTS AS DESIRED:

(17) Comments added
(116) No comments added

APPENDIX C

SUMMARY OF LEGAL CASES AS PRESENTED

IN CHAPTER III

1. Plumley v. Com., 155 U.S. 461 15 SCt 154, 39 L.ed. 223; License Tax Cases, 5 Wall (U.S.) 462, 18 L.ed. 497.

2. Mason v. Lancaster, 4 Bush (Ky) 406; Druggist Cases, 85 Tenn 449, 3 SW 490.

3. Howe Mach Co v. Gage, 100 U.S. 676, 25 L.ed. 754.

4. Atlantic, etc., Tel Co v. Philadelphia, 190 U.S. 160, 23 SCt 817, 47 L.ed. 995.

5. American Mfg Co v. St. Louis, 250 U.S. 459, 39 SCt 522, 63 L.ed. 1084.

6. Camp v. State, 171 Ga 25, 27, 154, SE 436 (1930).

7. Jones v. City of Atlanta, 51 Ga. App. 218, 222, 179, SE 922 (1935).

BIBLIOGRAPHY

1. Abruzzi, Adam, Work, Workers and Work Measurement, Columbia University Press, New York, 1956.

2. Adolfsson, Bo, "Views on MTM," The MTM Journal, Fair Lawn, New Jersey, Volume XVI, Number 3, 1971, pp 11-13.

3. American Jurisprudence, 2d Edition, Volume 51, The Lawyers Cooperative Publishing Company, Rochester, New York, 1970.

4. Argyris, Chris, Organizations and Innovation, Richard D. Irwin, Homewood, Illinois, 1965.

5. Associated Press, "Executives and Union Jaw Over Steel Productivity," The Atlanta Journal, Friday, December 15, 1972, p 19D.

6. Barnes, Ralph M., "Industrial Engineering Survey - 1967," Journal of Industrial Engineering, Volume XVIII, Number 12, December, 1967, pp xi-xiv.

7. Barnes, Ralph M., Motion and Time Study: Design and Measurement of Work, Sixth Edution, John Wiley & Sons, Inc., New York, 1968.

8. Carroll, Phil, Timestudy Fundamentals for Foremen, McGraw-Hill Book Company, New York, 1951.

9. Code of Georgia Annotated, Book 24, Title 84, Professions, Businesses & Trades, The Harrison Company, Publishers, Atlanta, Georgia, 1970.

10. Cohen, Abraham, Time Study and Common Sense, MacDonald and Evans, London, England, 1947.

11. Copley, F. B., Frederick W. Taylor, Father of Scientific Management, Volumes 1 and 2, Harper & Brothers, New York, 1923.

12. Corpus Juris, Volume 37, Libel and Slander to Lis Mota, edited by William Mack and Donald J. Kiser, The American Law Book Company, New York, 1925.

13. Davidson, Harold O., Functions and Bases of Time Standards, American Institute of Industrial Engineers, Columbus, Ohio, 1957.

14. Dreyfuss, Henry, The Measure of Man, Whitney Library of Design, New York, 1960.

15. Drury, H. B., Scientific Management; A History and Criticism, Columbia University Press, New York, 1922.

16. Encyclopedia of Georgia Law, Volume 19, written and prepared by Georgia Attorneys and Law School Faculty Members, The Harrison Company, Atlanta, Georgia, 1971.

17. Forrester, Jay W., Industrial Dynamics, John Wiley & Sons, New York, 1961.

18. Georgia Digest, Volume 15, Licenses - Master & Servant, West Publishing Company, St. Paul, Minnesota, 1966.

19. Ghiselle, Edwin E., Personnel and Industrial Psychology, 2d Edition, McGraw-Hill Book Company, New York, 1955.

20. Gilbert, Owen, A Manager's Guide to Work Study, John Wiley & Sons, London, England, 1968.

21. Glassey, William Charles, The Theory and Practice of Time Study, Business Publications Limited, London, England, 1966.

22. Larkin, J. A., Work Study, McGraw-Hill Book Company, Berkshire, England, 1969.

23. McGeary, Nancy, Work Measurement and Methods Engineering Division, American Institute of Industrial Engineers, Atlanta, Georgia, personal communication, 1973.

24. Mitchell, R. L., Introduction to Work Study, Revised Edition, Impression Couleurs Weber, Switzerland, 1970.

25. Nesmith, Jeff, "How a Bill Moves to Become a Law," The Atlanta Journal and Constitution, Sunday, January 7, 1973, p 11A.

26. Niebel, Benjamin W., Motion and Time Study, 4th Edition, Richard D. Irwin, Inc., Homewood, Illinois, 1967.

27. Presgrave, Ralph, The Dynamics of Time Study, The University of Toronto Press, Toronto, Canada, 1944.

28. Presgrave, Ralph and Bailey, G. B., Basic Motion Time-study, McGraw-Hill Book Company, New York, 1958.

29. Smith, Victor, "Work Study for High Results," Work Study, Sawell Publications Ltd., London, England, Volume 17, Number 10, October, 1968, pp 35-38.

30. Smith, Victor, "Method Study in the Melting Pot," Work Study, Sawell Publications, Ltd., London, England, Volume 19, Number 3, March, 1970, pp 17-24.

31. United Press International, "Labor Woes Plague GM and America," The Atlanta Journal and Constitution, Sunday, November 12, 1972, p 13B.

32. Walton, W., "A Short Review of Theory and Practice of Work Measurement," Work Study, Sawell Publications, Ltd., London, England, Volume 17, Number 11, November, 1968, pp 21-26.