7-1-1970

A Survey of Selected Business Firms in Willmar, Minnesota, To Determine Current Bookkeeping Practices

Rachel E. Helland

A SURVEY OF SELECTED BUSINESS FIRMS IN WILLMAR, MINNESOTA, TO DETERMINE CURRENT BOOKKEEPING PRACTICES

by

Rachel E. Helland

B.A. in Business Education, Augsburg College, 1955

An Independent Study

Submitted to the Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the Degree of

Master of Arts

Grand Forks, North Dakota

July
1970

This independent study report submitted by Rachel E. Helland in partial fulfillment of the requirements for the Degree of Master of Arts in the University of North Dakota is hereby approved by the Committee under whom the work has been done.

_____
Chairman

_____

_____

_____
Dean of the Graduate School

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

THE PROBLEM

Introduction

Bookkeeping is thought to be one of the oldest subjects in the business curriculum. Bookkeeping was one of the required subjects in Benjamin Franklin's well-known Franklin Academies. In the early secondary schools in the New England States "Casting Accounts" was a basic subject of the curriculum.[1]

The percentage of people attending high school today is very high; however, the number enrolled in the bookkeeping courses has not kept pace. Bookkeeping is no longer considered a basic subject in the curriculum. Because of the complexity of our society and the diversity of interests, many new electives are offered to high school students with the result that bookkeeping no longer holds the prominent place that it formerly did in the high school curriculum. It is from the standpoint of enrollment the second most popular business subject exceeded only by typewriting.[2]

Our curriculum must keep pace with our changing world. The advent of computer technology and its adoption by business has caused

---

[1]Hamden L. Forkner, Robert M. Swanson, and Robert J. Thompson, The Teaching of Bookkeeping, Monograph 101, (Cincinnati: South-Western Publishing Company, Inc., 1960), p. 1.

[2]Herbert A. Tonne, Principles of Business Education, (New York: Gregg Publishing Division, McGraw-Hill Book Company, Inc., 1954), p. 26.

changes in business and other enterprises. These changes should have an effect on high school instruction. When technological advances are so rapid, many procedures may be outdated even as we teach them.

When bookkeeping was done manually by one individual, bookkeeping easily included a range of bookkeeping practices in the community. The bookkeeper carried the responsibility for all the business and financial records of the employer. At the present time in a small firm, a bookkeeper may still handle these functions, but the methodology of bookkeeping and accounting is changing rapidly. Even small businesses may find it desirable to use data processing equipment now that banks and data processing centers are making it available to them. Small business is learning that modern machines aid greatly in their accounting, invoicing, and sales activities.

Our struggle to keep abreast of a technological age in which an invention today may be obsolete tomorrow has created some real problems. To deal with these problems, business education must be aware of what is being done in business; must accept the fact of change, knowing what was being done in business five years ago may not be done today. We need to evaluate the aspects of our changing bookkeeping scene in terms of the broadening needs of students.

Gone are the days of the proverbial bookkeeper sitting on his high stool and wearing his green eye shades. Business has transformed the old bookkeeper into an office worker who performs accounting duties in a climate-controlled environment. Yes, business has changed the old bookkeeper, his duties, his title, and his environment. These changes must be reflected in any business program that prepares students to work in business.

Bookkeeping as taught in the high schools has been suspected of not providing the skills and concepts required for those who seek bookkeeping positions. Recent trends seem to indicate that there have been changes in what bookkeepers actually do on-the-job. The books and records of today's businesses are prepared by workers whose positions range from clerks who handle the routine entries to accountants who analyze records and advise management.

What do bookkeepers, recordkeepers, and clerks really do on the job? Does this correlate with what is taught in the high school bookkeeping course in the Willmar Senior High School?

Statement of the Problem

This project will assess the bookkeeping practices and procedures currently being used in the businesses of Willmar, Minnesota, to determine the suitability of the content of high school bookkeeping in Willmar, Minnesota. Is the preparation of high school students for an initial bookkeeping position adequate, and based on the results of this study, what are some suggested changes for improving the high school course in bookkeeping.

Analysis of the Problem

The analysis of this problem can be broken down into three main areas: (1) the number and duties of bookkeepers in Willmar, (2) trends in bookkeeping procedures in Willmar, and (3) changes needed in the bookkeeping course at the high school level in Willmar.

In order to resolve the first part of the problem, the number and duties of bookkeepers in Willmar, some additional questions need to be answered:

1. What skills and activities are required of persons employed in bookkeeping positions in Willmar?
   a. What machines are used by the bookkeeper in the small office?
   b. What duties does the bookkeeper perform in addition to bookkeeping?
2. How many bookkeepers are employed in each of the businesses in Willmar and what is the sex of the bookkeeping employees?

The second major category, trends in the bookkeeping procedures in Willmar, suggests the following questions:

1. What bookkeeping activities are done within the business? How do they handle cash receipts, cash payments, petty cash, purchases, sales, payroll, inventory, and financial statements?
2. What bookkeeping activities are done by agencies or outside people hired to do them?
3. Have the methods of keeping books changed within the last five years?
4. Are any changes in the bookkeeping system anticipated in the future?
5. What effect has automation or data processing had on the bookkeeping systems of local businesses?
6. What is the attitude of the employer toward hiring a high school graduate as a bookkeeper?

The third major breakdown, changes needed in the high school bookkeeping course, poses the following questions:

1. Are the procedures taught in the high school bookkeeping course actually performed on the job in the local community?
2. What suggestions do businessmen have for improving the high school bookkeeping course to make it more relevant.

Limitations of the Study

This study was limited to 25 selected business firms in Willmar. Because all of these firms are relatively small, the bookkeeping systems were not as elaborate as one would find in a larger metropolitan area.

Need for the Study

There has been a growing emphasis on education for business at all levels and the Vocational Act of 1963 has emphasized this even more. The advent of the computer and rapid technological development has brought radical changes in occupational requirements and demands. New jobs are created while other jobs disappear. A look at the current demands and opportunities for bookkeeping jobs should give some indication of the type of bookkeeping instruction that will be needed in the future.

The city of Willmar, Minnesota, is located 96 miles west of Minneapolis. It is situated in West Central Minnesota, 209 miles southwest of the nearest seaport terminal of Duluth-Superior. The city covers approximately 3 3/4 square miles.

Agricultural products are the major resources of the area. The establishment of Willmar as a division point on the Great Northern Railway exerted a strong influence on the growth of the city. Poultry processing and the related industries have shown the greatest growth

in recent years. Plastics, tool and die, sheet metal plants, and a fertilizer spreader plant are located in Willmar offering the opportunity for greater employment. During the past fifteen years Willmar's growth in the wholesale distribution field has been most phenomenal. The junior college and the area vocational school have also helped to bolster the economy of the community.

Willmar is the largest community in West Central Minnesota and serves as a retail trade center. The 1966 population estimate is 12,000. It is the largest city within a 60 mile radius, so it attracts people seeking employment. All of the businesses in the city are classified as small businesses.[3]

To assume that the same employment opportunities exist in all communities would be a contradiction to what is known. All communities are different. "Certainly one of the first steps in justifying the bookkeeping course in any high school is to make an occupational survey of the employment community."[4] One must at the same time realize that with our mobile population, many students find employment in the larger cities such as St. Paul and Minneapolis.

Boynton in an article in The Balance Sheet said, "It is a fact that every bookkeeping teacher should know the kind and extent of the bookkeeping practices in his community."[5] The bookkeeping teacher

---

[3]Chamber of Commerce, "You Will Do Well in Willmar," 1966.

[4]Vernon A. Musselman and J. Marshall Hanna, Teaching Bookkeeping and Accounting, (New York: Gregg Publishing Division, McGraw-Hill Book Company, Inc., 1960), p. 6.

[5]Lewis D. Boynton, "Manual Bookkeeping In An Era of Automation," The Balance Sheet, XLVI (September, 1964), p. 4.

needs to know the kind of work his graduates will be performing, the skills, and the necessary know-how for success and advancement on the job. Only in this way can the teacher make the best choice of subject matter and teaching tools.

With the increasing emphasis on business education, it was believed that a study of the bookkeeping procedures and equipment would be valuable for the business teachers at Willmar Senior High School. This study was undertaken to help the Business Education Department improve its bookkeeping course of study and to aid in the planning and purchasing of equipment. Only in this way can the business department keep up-to-date on current practices in business and meet the needs of the students.

CHAPTER II

A REVIEW OF RELATED LITERATURE

The Development of Bookkeeping

Changes have taken place in education of revolutionary proportions. The changes have gained momentum and certainly their effects can be felt in business education and in bookkeeping. The changes we have seen in the past century, limitless though they may seem, are infinitesimal compared to the progress that will be made in the next few years in business, government, education, medicine, and science, because of the adaptations being discovered for the use of computers. There is no field that will remain unaffected.

Bookkeeping is nearly as old as recorded history. It is thought by some that the Egyptians were the first to use red ink indicating losses, and later the Romans made use of slaves to keep accounts.[1] Double-entry bookkeeping seems to date from the time of the Crusades. Even Profit and Loss accounts were kept by the Venetians as early as the Fifteenth Century. Pacioli, called the father of bookkeeping, had formulated many of the double-entry principles by 1494.[2] By 1751 it was being taught by schoolmasters in the school room.

---

[1] Harm Harms, Methods in Vocational Business Education, (Cincinnati: South-Western Publishing Company, 1949), p. 13.

[2] J. W. Baker, History of Bookkeeping Instruction in the United States, Monograph 28, (Cincinnati: South-Western Publishing Company, 1940), p. 3.

In the early days of the twentieth century, records in business were very simple. They were designed to give the owner of the business the information that he wanted and needed. There were reports to the government but there were no income taxes to concern him. There were no internal or external regulations telling him what he must do. He simply had to satisfy himself as to the kind of bookkeeping information he wanted.

The Internal Revenue Act, and later the Social Security Act, imposed on business many new requirements in keeping records and reporting income and expenses. At first these requirements were simple, but these requirements have become more and more technical and more and more numerous. Now businesses are required to make numerous reports to governments and employees weekly, monthly, quarterly, and yearly.[3]

The twentieth century is noted for its achievements in business and commerce. This century is also noted for its trend toward the utilization of systematic planning and programming. Most of the developments in modern accounting have taken place in this century.

Trends Toward Automation

Automation has often been referred to as a Second Industrial Revolution. Automated data processing has already had an effect on office jobs. It will continue to bring about changes as new equipment and new systems of record handling make their appearance.

---

[3]Paul A. Carlson, Bookkeeping Instruction in the Twentieth Century, Monograph 118, (Cincinnati: South-Western Publishing Company, 1967), p. 1.

Wood states in one of his articles on data processing that "Automated data processing exists in some form on almost any office job. . . . Automated data processing is not just another fad that will fade from the scene in a few years. It is here to stay."[4]

Today's business depends on high-speed collection and analysis of information. The population explosion in itself is enough to justify automated data processing; more people require more services, and providing these services requires speedy information-handling equipment.

Automation is not something that has come into being during the last five or ten years. It has received attention because of the introduction of electronic office equipment that operates at incredible speeds. "Data processing" has been going on ever since the first cavemen learned to count on their fingers. It continued thousands of years ago as the merchants along the Nile dictated business transactions to their scribes, who wrote the information on clay tablets with a sharpened stick. The invention of paper by the Egyptians speeded up the evolution of data processing tremendously. One of the most significant developments in data processing systems occurred in Italy less than 400 years ago when double-entry bookkeeping was created.[5]

Punched cards were first used by the government in 1890 in conducting the public census. It had taken the Census Bureau seven years

---

[4]Merle W. Wood and Robert G. Espergren, "Data Provessing: An Introduction for Students," Business Education World, VXL, No. 2 (October, 1964), p. 15.

[5]Ibid. p. 15.

to complete the previous census using manual methods. The process had to be done more rapidly, and thus the punched card method of data processing was born and used for the first time in processing the 1890 census data.

One might say that automated data processing began when machines were invented and introduced into the office. Some of these early machines were crude, but they were the beginning of what has, in the past ten years, become one of the most startling revolutions of modern times. Some authorities are calling this the "Automation Revolution" and comparing it to the Industrial Revolution of the late eighteenth century.

In its simplest definition, data processing is simply the handling of information. Automation is the use of mechanical devices to accomplish a job. Automated data processing is the mechanical handling of information.

For years office workers have been using machines in their work. Printing devices are an important part of data processing. The office typewriter is a processor of data. The adding machine and calculator have made tremendous contributions to the increased speed and accuracy of handling office computations. Filing systems make it possible to store records in a systematic way so that individual documents can be located quickly. Laborsaving devices have always been welcomed by office workers. These new machines and processes should be no more mysterious and frightening than any of the other machines that have made their appearance on the office scene.

Few things have aroused the interest of business teachers in recent years more than the appearance of these new machines that represent electronic marvels. The questions arise, "What should be included in the bookkeeping course in the light of automation and its effect on office employment?" "What types of automated equipment are being used in offices?" "What are the implications of office automation for schools offering training for office jobs?"

To learn the answers to these questions, the Buffalo (New York) Public Schools made a survey of businesses in the area. It was found that nearly all the large firms were using punched card systems and a large percentage of the smaller businesses were using them also. Electronic computers were being used in 23 of the 70 businesses surveyed, and 4 more were planning to add such equipment.[6]

In 1959 the Newark, New Jersey, Chapter of NOMA presented a seminar entitled, "The NOMA Business Education Seminar--Bookkeeping." The committee surveyed a number of representative industries to examine just one bookkeeping function, Accounts Receivable, and determine its method of operation in various businesses. Some companies used a manual method, others the bookkeeping machine method, and still others used the punched card or computer method.

The purpose of this particular study was to gain a knowledge of the types of equipment used, how long the system had been in effect, the number of employees, and the number of recent high school graduates working in each function.

---

[6]Bernard A. Shilt, "Office Automation: How Extensive Is It? What Are Its Implications?" The Balance Sheet, XL, No. 5 (January, 1959), p. 210.

In larger industries it was found that less than 30% were using the manual method, and over 70% were using either bookkeeping machines or punched card and computer systems. In small industries in the area, about 55% were still using manual methods and 45% were using a bookkeeping machine or punch card and computer system.

The need in this particular area appears to be to train present bookkeeping students to be prepared for positions using all three methods of operations described, but there appears to be a definite trend toward automation.[7]

Bookkeeping is being influenced more and more by the computer. Small businesses can avail themselves of these by using service centers. Medium sized businesses may install at least partial automation, while large corporations may use computers almost exclusively.

> Many large business firms have moved rapidly in the direction of automation in the office. . . . Many corporations are now using machines to perform most of the bookkeeping operations formerly performed by a large staff of bookkeeping clerks. Many of the clerks have been trained and retrained to service the integrated data processing operation. However, the high cost of renting or buying the complicated equipment needed in a fully automated accounting operation has kept many medium-sized firms from making radical changes in their accounting systems and procedures. These companies have introduced automated systems for handling some specialized bookkeeping operations like payrolls or inventories.[8]

Just a few years ago automated data processing was confined to the largest business and government offices. Through the development

---

[7]Donald R. Coffman, "Constant Change in Today's Bookkeeping," Journal of Business Education, XLI, No. 3 (December, 1965), p. 98.

[8]Doris H. Crank and Floyd L. Crank, "Desired Outcomes in the Development of Vocational Competence," New Perspectives in Education for Business (Washington D. C.: National Business Education Association, 1963), p. 44.

of less costly and more complex data processing systems, the advantages of time-, money- and labor-saving automated data processing has been made available to thousands of smaller business offices. If these systems are large or small, their function is essentially the same. Information is translated into a form that can be read by the machines. The machines are told how to handle the information. Besides saving time and money, these systems perform many of the routine, boring functions and release office personnel for more challenging jobs.

The Place of Bookkeeping Instruction In An Era of Automation

Recent articles on bookkeeping have been greatly concerned with the impact of automation. The general consensus seems to be that recent developments will necessitate changes in bookkeeping instruction. Coffman states in one of his articles, "The sooner bookkeeping teachers face up to the facts that changes must be made in their bookkeeping classes, the sooner business education in general will be able to move forward."[9] So far, however, very few specific ideas have been offered.

Some bookkeeping authorities have suggested that more emphasis should be given to the fundamental principles and less to the mechanics of recording. They say the principles of keeping financial records will not change under the impact of the automated office--the change will be in the tools used. It is said by some that the typewriter and the calculator replaced the pen and scratch pad, and the bookkeeping machine helped to speed recording functions. Through all these changes debits still equal credits.

---

[9]Donald R. Coffman, "Constant Change in Today's Bookkeeping," Journal of Business Education, XLI, No. 3 (December, 1965), p. 98.

There are many who have gone so far as to say that manual bookkeeping is on the way out. Mautz emphasizes this fact by saying "Hand-kept and hand-posted bookkeeping systems may soon become a matter of historical interest only."[10] It is pertinent to note that manual bookkeeping is still widely used and probably will continue to be used especially where the volume of business is relatively small.

In the current excitement of automated bookkeeping, teachers must not eliminate the study of principles. Tools go out of date and newer tools are appearing, but the foundation stands.

> It is a fact that the principles of bookkeeping and accounting remain essentially the same regardless of the tools used. A knowledge of basic accounting principles is necessary for a full understanding of punched card data processing applications since these principles underlie most data processing procedures.[11]

Forkner emphasized this point also when he says:

> Even though automated equipment is used, it is still necessary to know and to understand the records automated equipment can produce. Of even more importance is the fact that before business data can be organized for automatic processing, it is necessary to know the fundamentals of bookkeeping because machines can only produce the kinds of records that they are directed to produce. This means that the one who plans the work for data processing on automated equipment must know what accounts are to be debited and what accounts are to be credited for each type of transaction.[12]

It is true that data processing and the computer have brought about some changes that should be incorporated into manual bookkeeping. Automatic data processing equipment is now being used in all phases of

---

[10]H. K. Mautz, " . . . About the Future of Bookkeeping and Accounting," Business Education Forum, XX (December, 1965), p. 13.

[11]Lewis D. Boynton, "Manual Bookkeeping In An Era of Automation," The Balance Sheet, XLVI, No. 1 (September, 1964), p. 5.

[12]Hamden L. Forkner, "Bookkeeping Is Data Processing," The Balance Sheet, XLIII (February, 1962), p. 269.

keeping records. In addition, the principles of integrated data processing are being applied to many record systems. Thus, the high school bookkeeping students should have some knowledge of the principles of data processing.

A number of city schools have taken surveys to discover current bookkeeping practices in their individual cities and the effect that automation has had in their particular area. Minneapolis made a bookkeeping survey in small business firms to discover current bookkeeping practices in 1957. The purpose of the survey was to help in developing a New Guide to Teaching Bookkeeping in Minneapolis Schools. It was found that most small businesses do the entire bookkeeping cycle, but there appeared to be a trend toward employing outside firms to prepare financial statements.[13]

A 1968 study of duties performed by bookkeeping and accounting employees in Minnesota indicated that of the 80 bookkeeping and accounting duties listed on the employee questionnaire, 74 per cent were performed in the same proportion in all cities, regardless of city size. Thirty-four of the 80 duties were performed by over 50 per cent of the bookkeepers. Among these duties were:

Payroll entries and tax forms
Journalizing to books of original entry
Posting
Accounts Receivable
Banking

This study gave some indication of the areas of bookkeeping that need emphasis and which areas can be de-emphasized in rural high schools. The author felt that the basic principles of debit and credit

---

[13]Margaret E. Andrews, "Minneapolis Bookkeeping Survey," Journal of Business Education, XXXII, No. 5 (February, 1957), p. 213-214.

needed emphasizing. All books of original entry need mastery. Posting was done by more than 50 per cent of the employees. The author says, "The positions available to high school graduates do not demand the use of the complete set of double-entry bookkeeping principles. Yet, a mastery of the basic principles will enable high school graduates to obtain employment in the majority of firms in rural cities."[14]

Detroit has done a study to determine the effect of automation in Detroit offices. It was found that all the companies surveyed were doing something with automation and most of the companies had a number of employees in the office working in automation, but nearly one-fourth of the businessmen thought the high school bookkeeping course helped prepare students for automation. Many of the businessmen stressed the importance of fundamentals and human relations even in this era of automation.[15]

In order to secure an up-to-date picture of bookkeeping practices in business and employment practices when hiring bookkeepers, a survey was made by business teachers in graduate study during the summer of 1965 in Greeley, Colorado. They surveyed 325 businesses or about one-half of the businesses.

One purpose of the survey was to determine where various parts of the bookkeeping cycle were being done. It was found that most businesses do their own journalizing, payroll, and posting to subsidiary

---

[14]Gayle A. Stelter, "Rural High School Bookkeeping," Journal of Business Education, XLV, No. 5 (February, 1970), p. 194.

[15]Leslie J. Whale, "What's Automation Been Up To In Detroit," Business Education World, XXXVIII, No. 2 (October, 1957), p. 30-31.

ledgers for customers and creditors. Many businesses had their end of the year entries and financial statements prepared by outside accountants.

Very few of these businesses used data processing centers for their bookkeeping work. Most of the businessmen said that their bookkeeping activities were basically the same now as they were five years ago and that they expected little change in the next five years.[16]

In a study done in Sarnia, Ontario, the investigator concluded that in small businesses bookkeeping is generally done manually. In medium sized businesses it may be done manually or by a key-driven operation. Large businesses may use all three methods--manual, key-driven, and punched card operation.

This particular study showed a direct relationship between the double-entry bookkeeping taught in the high schools of Ontario and the double-entry system found in all of the offices visited. The journals used in businesses were similar to those found in the bookkeeping texts.[17]

In 1962 Robert R. Bolin conducted a survey that concurs with several others mentioned. His purpose was to determine whether the major operations taught in the traditional high school bookkeeping course were actually performed on the job and to determine what type

---

[16]Eugene Jentges and Others, "A Survey of Bookkeeping Practices," Business Education Forum, XX, No. 3 (December, 1965), p. 9-11.

[17]Eudene M. Stuart, "The Relationship Between Bookkeeping Practices in the City of Sarnia, Ontario and the High School Commercial Course in the Province of Ontario," (unpublished M. A. thesis, University of North Dakota, 1962.)

of bookkeeping instruction businessmen would advocate for high school students. Bolin contacted 20 Minnesota business firms. He found that the major operations presently taught in the traditional high school course were performed to a relatively high degree on the job.

It was the general consensus of businessmen that the student should be taught the basic fundamentals of double entry bookkeeping. Machine instruction, particularly adding and calculating machines, should receive emphasis in the high school bookkeeping course. Operations such as vouchers, payroll forms, and invoices should receive more emphasis in the high school bookkeeping course while taxes, depreciation, and financial statements should be examined in the light of current emphasis. They believed that bookkeeping instruction has value, especially in the area of promotion on the job.[18]

If bookkeeping is to have a place in this era of automation, bookkeeping teachers have a responsibility to provide students with a firm grasp of bookkeeping principles. This does not mean to delete automation. Brower in an article in The Business Education Forum says that the problem is when should automation instruction be provided, not should automation instruction be provided. He feels that the need for automation instruction is evident but the time and method of providing this instruction are not nearly so evident.[19]

---

[18]Robert R. Bolin, "A Survey of Businessmen to Determine the Value of High School Bookkeeping Instruction," National Business Education Quarterly, XXXI (October, 1962), p. 10-11.

[19]Edward Brower, "Automation in Bookkeeping: A Problem of Timing," Business Education Forum, XXI (May, 1967), p. 24.

The bookkeeping course can be brought up-to-date by introducing automated data processing principles along with the basic bookkeeping principles. This will make the course more meaningful to the students. One of the objectives of the bookkeeping course is to teach students the why and how of bookkeeping. A short introductory unit on automation and data processing should acquaint students with the basic features of automated data processing. It will provide students with a background of information from which they can draw in order to understand the relationship of automated data processing to bookkeeping principles.[20] With the ever-increasing emphasis on automation, it is becoming evident that it must be integrated into the high school bookkeeping course.[21]

Other Reactions of Teachers and Businessmen To Data Processing and Bookkeeping

In 1966 a survey of high school bookkeeping teachers and businessmen was conducted to determine methods of adapting content and teaching of high school bookkeeping to the automated data processing systems commonly used in the business systems in this particular Illinois metropolitan area. The survey indicated that automated data processing is widespread in the area surveyed and some bookkeeping employees were losing their jobs as a result of advanced forms of data processing. To combat the fear and apprehension of job loss, and to prepare better future bookkeeping employees, most of these high school

---

[20] John A. Majernik, "Automation: First Aid for Bookkeeping," The Journal of Business Education, XLIV, No. 2 (November, 1968), p. 57.

[21] Herbert A. Tonne, "Anticipating Future Changes in Teaching Bookkeeping," Business Education Forum, XXII, No. 16 (December, 1967), p. 14.

bookkeeping teachers were agreed that data processing should be taught in high school bookkeeping.[22]

Data processing should be included in the bookkeeping course. Routine bookkeeping tasks are the first to be automated, not only by means of punch card equipment and computers, but by office machines and systems of all kinds. If the student has no background in data processing, he will feel himself rather limited and his job will be rather routine. The bigger firms undoubtedly make more use of automated systems and equipment, so the person with some background in this area will have a better opportunity to meet this challenge.

Many business educators feel that in high school the introduction to data processing should consist of fundamentals only, such as terminology, the machines and their functions, and the relationship between data processing and the other business subjects. Installation of expensive equipment will not be necessary to teach data processing in bookkeeping. They also feel that data processing knowledge and information should be presented as an integral part of specific topics rather than as a separate, unique topic by itself at the end of the course. The logical starting place is shortly after the bookkeeping cycle has been presented in the traditional way.

The development and use of automated equipment for data processing has grown steadily for the past several years. It appears that this trend will accelerate as more offices will be able to install the less

---

[22]Edward F. Koch, "Similarities and Differences in the Opinions of Business Teachers and Businessmen in Regard to the Effect of Automated Data Processing on the Teaching of High School Bookkeeping," National Business Education Quarterly, XXXV (October, 1966), p. 35.

expensive equipment now being put on the market.[23] For some years business educators have pondered the possible effects of automation on established bookkeeping and accounting practices. This impact has been the source of considerable debate among businessmen and educators.

Gratz[24] made a survey in 1961 of thirty-eight prominent business educators to find some of their opinions. These are among some of the opinions expressed:

> Regardless of the extent to which automation is used, students will continue to need the understanding of bookkeeping principles and methods taught in a bookkeeping course in a secondary school.
>
> At present, automation in the office will have little effect on the teaching of bookkeeping on either the high school or college level. Even the long range point of view seems to indicate that there will be little change.
>
> Automation is applied . . . to one or more segments of the entire accounting process, such as billing, accounts receivable, inventory control. There is always need for much manual bookkeeping with the automated parts. . .
>
> Bookkeeping and accounting content must be reorganized or else it will die out as a subject.

Linnaus states that a thorough search of the literature written since 1960 seems to indicate general agreement on three points:

1. Accounting principles and data processing mathematics are recommended as basic components for data processing training.

2. Data processing procedures may be related integrally to certain bookkeeping and accounting instruction or data processing may be treated as an adjunct to bookkeeping and accounting instruction.

---

[23]John C. Roman, The Business Curriculum, Monograph 100 (Cincinnati: South-Western Publishing Company, 1966), p. 47.

[24]Jerre E. Gratz, Major Issues in Business Education, Monograph 106 (Cincinnati: South-Western Publishing Company, 1962), pp. 15-17.

3. The constantly changing business world and the great unknown potential of automated equipment will bring even greater attention to course content in the future.[25]

A survey of data processing employers in a city of approximately 50,000 people located in the Central Illinois Corn Belt revealed an intense desire for cooperative work-education programs. The demand for trained data processing personnel in this locality is great. The employers were generally agreed that the high schools could render a valuable service by teaching the basic terms and concepts of data processing. This basic background will help the students realize the tremendous effect the computer has had upon business and industry. They felt that it is important that the student does not fear the computer and automation, but rather realizes the value of this new tool for the good of all mankind.

The survey concluded that there is a need for a well-developed program of education in data processing at the high school, junior college, and university levels. The businessmen interviewed favor a high school program which provides a basic understanding of computer terminology, application, and operation. They think the junior college should train programmers and provide them with a general business background. The employment opportunities are rapidly increasing for those who have the aptitude and the education necessary for work in the field of electronic data processing.[26]

---

[25]Vernon F. Linnaus, "Impact of Automation on High School Accounting," The Journal of Business Education, XLIV, No. 69 (May, 1969), p. 316.

[26]Stephen F. Hallam, "Businessmen Talk About Data Processing Education," The Balance Sheet, XLIX, No. 1 (September, 1967), p. 15-17.

Businessmen have conflicting opinions about the place of bookkeeping and data processing in the curriculum. A survey taken of company officials in the Milwaukee area revealed some interesting, useful information. It was stated that the long-range effect of data processing will be felt strongly in the fields of bookkeeping and accounting. These courses will have to keep pace.

Another suggestion made by these businessmen was that the business education curriculum should be expanded to include a one-semester course in basic data processing techniques. They also thought that a card punch course in the senior year could be valuable as there are many openings in this field. However, they believed the basic bookkeeping course is still needed because machine operators need to know debits, credits, assets, liabilities, expenses, and income.[27]

Other businessmen have suggested that the student should understand the "why" in bookkeeping and the place of machine bookkeeping in the office. Still others believe that emphasis should be given to building skills and proper attitudes, neatness, accuracy, promptness, and speed. The ability to detect errors and the ability to correct them are additional skills that need to be acquired in the bookkeeping classroom.

> The criticisms of bookkeeping students centered around their failure to understand "basic concepts" and their inability to perform certain operations. The most common complaint was, "Teach these kids the difference between debit and credit." As usual, the lack of neatness and of accuracy came in for considerable censure."[28]

---

[27]Sister M. Catherine, "What Does Automation Mean to Our High School Program?" Business Education World, XLIV, No. 10 (June, 1964), p. 22.

[28]Weston C. Wilsing, Is Business Education in the Public Schools Meeting the Needs and Desires of Businessmen? Monograph 99, (Cincinnati: South-Western Publishing Company, Inc., 1960), p. 16.

Bookkeeping as taught in the secondary schools has been suspected of not providing the skills and concepts needed by those who seek beginning bookkeeping positions. Some of the more recent trends seem to indicate that there have been changes in what beginning bookkeepers really do on the job. What do bookkeepers do? Does this correlate with what is taught them in the high school bookkeeping course? To find the answers to these questions a study was made of what beginning bookkeeping workers who keep records need to know about bookkeeping according to public accountants who audit their records. The results of the study were to suggest changes for improving the high school course in bookkeeping.

Some of the major conclusions of this study are:

1. Teaching the financial statements and worksheet for mastery would appear unnecessary according to public accountants.
2. Beginning bookkeeping workers should be able to prepare schedules of accounts receivable and accounts payable.
3. Most beginning bookkeeping workers should be able to prepare simple bank reconcilations.
4. Beginning bookkeeping workers should be able to prepare bank deposits.
5. Beginning bookkeeping workers do some kind of payroll work.
6. Beginning bookkeeping workers do journalize entries especially in special journals.
7. Beginning bookkeepers seldom make entries in a general journal.
8. Beginning bookkeepers post to some form of subsidiary ledger.
9. Beginning bookkeeping workers should be proficient on the ten-key adding machine, rotary calculator, and typewriter.
10. Work habits of beginning bookkeepers are generally acceptable.
11. More beginning bookkeepers prepare W-2 forms than any other form.

12. No definite conclusion could be drawn on whether public accountants prefer an average student who has had a course in bookkeeping or a bright student who has no bookkeeping background.[29]

Businessmen are not always eager to hire our graduates. MacDonald pointed this out by saying:

> Examine the question whether your graduates are doing the job for the businessmen that you had expected them to. How many will enter jobs requiring the bookkeeping you taught them? How many will be doing routine clerical work they could easily learn on the job? How many will not be accepted for jobs involving bookkeeping theory and procedures until they take accounting courses in a business or evening school? How many of your students have sufficient ability to be able to handle a bookkeeping job?[30]

Bookkeeping and accounting have become very specialized. It has become difficult for a student with only one year of high school bookkeeping to qualify for these highly specialized jobs. He may need further education and he should be encouraged to continue to be better qualified for a bookkeeping job.

Carlson has summed up bookkeeping and accounting as a career field by stating:

> A person who is satisfied to remain in a routine type of bookkeeping position can get by with one year of high school bookkeeping. If he wishes to advance through home-study courses, or on-the-job training programs, or evening classes, two years of high school bookkeeping should be taken.
>
> A college education is essential to an accountant in today's world of business. The business leader today must be able to speak and write fluently and must have a knowledge and appreciation of our cultural heritage as well as business and finance. A year of graduate study is desirable.[31]

---

[29]Anthony Amelio, "Competencies Needed by Beginning Bookkeeping Workers According to Public Accountants," The Journal of Business Education, XLIV, No. 6 (March, 1969), p. 239-242.

[30]Robert D. MacDonald, "Can You Justify Your Bookkeeping?" Business Education World, XLIII (October, 1962), p. 39.

[31]Arthur E. Carlson, "A Career in Bookkeeping and Accounting," Business Education Forum, XVIII (January, 1964), p. 11.

Future of Bookkeeping

The advent of the computer has had a very definite effect on bookkeeping occupations and the future of the bookkeeping occupations can be projected only in terms of the past and present trends. An official of the United States Department of Labor made the following suggestion about automation:

> With more automation will come more new types of jobs--in office and industry. New types of accounting, calculating, computing, bookkeeping and other office machines, for example, will be used. Vocational schools can do this training job, too.[32]

The majority of business firms are and will continue to be small organizations. These small firms employ relatively few employees and generally need only one office employee to take care of the bookkeeping work. Another factor to be considered is that medium sized firms that are not large enough to afford expensive automated equipment will continue to hire people for the bookkeeping work.

Another obvious factor is that large corporations are using automation in their accounting operations. Many of these firms have to hire college-trained office managers and senior accounting clerks to handle the electronic data processing systems.[33]

It seems quite safe to say that the bookkeeping occupations will provide employment for many beginning office workers in years to come. The U. S. Labor Department in its 1963-64 Occupational Outlook Handbook reported:

> About a million workers were employed in bookkeeping jobs in 1960. . . . The great majority of bookkeeping workers either

---

[32]Doris H. Crank and Floyd L. Crank (ed.) New Perspectives in Education for Business (Washington D. C.: National Business Education Association, 1963), p. 20.

[33]Ibid. p. 20.

do general bookkeeping or are accounting clerks. Bookkeeping machine operators probably number considerably fewer than 100,000.

In predicting future employment, the Labor Department says:

> More than 50,000 openings for bookkeeping workers are expected each year during the remainder of the 1960's. . . . Although employment opportunities for bookkeepers qualified to assume responsibility for a complete set of books will probably continue good, more and more bookkeeping positions that open up in the future are likely to be for machine operators and accounting clerks to handle relatively routine assignments.
>
> Bookkeeping is an important skill, and both men and women are needed in this continually expanding field of work.[34]

Employment opportunities for high school graduates of bookkeeping and accounting can be expected to be plentiful throughout the next decade according to Conover in an article in the FBE Bulletin. He states that many of these jobs will be in large firms utilizing electronic accounting machines, computers, and other modern data-handling equipment. High school graduation will be the minimum educational qualification for employment, with many firms demanding two years of college education or willingness on the part of the employee to attend on-the-job courses.

> Without question, future graduates of high school curriculums in bookkeeping and accounting must be prepared for an employment atmosphere dominated by change--changes in data processing systems, hardware, forms design, and day-to-day operational procedures.[35]

Bookkeeping is in an era of change. The objectives must meet the needs of business. Change takes place very slowly but it does take place. This is true in the course content in bookkeeping too.

---

[34]Lewis D. Boynton, "Manual Bookkeeping In An Era of Automation," The Balance Sheet, XLVI, No. 1 (September, 1964), p. 5-6.

[35]Hobart H. Conover, "Vocational Competence in Bookkeeping and Accounting," Foundations for Business Education Bulletin, Vol. 14, No. 53 (March, 1968), p. 14.

Instructional methods in bookkeeping are constantly changing to keep up with the modern conditions. It is somewhat difficult to anticipate future changes in bookkeeping, but Tonne[36] has made a few predictions.

First, he believes that we can expect a continued trend minimizing double-entry bookkeeping. Second, he says that double-entry is not characteristic of electronic data processing input. Third, he believes that we should expect further emphasis on the management use of bookkeeping records. A fourth significant change that Tonne believes we must expect in the teaching of bookkeeping is the emphasis upon systems.

Walker has made the following statements about the future of bookkeeping that may be disturbing to some teachers of bookkeeping, and it will certainly cause all bookkeeping teachers to do some critical thinking:

> I predict by the year 2000 A.D. that the bookkeeping teacher will find himself out of a job. . . . He will find that business and industry will no longer be seeking "double-entry organizers" or "hand-posting postment." He will be relieved of his present position as "textbook-follower of the year." . . . He will find that bookkeeping taught in the traditional manner will be something that the "old diehards" remember in the "good ole days." . . . the course is obsolete now and is on a steady "uphill climb to the bottom."[37]

The first electronic computer installed in business was used to facilitate the rapid handling of bookkeeping tasks. Since then, processing data and maintaining records by means of this electronic device has become commonplace. In view of these trends, Walker believes

---

[36]Herbert A. Tonne, ". . . Anticipating Future Changes in Teaching Bookkeeping," Business Education Forum, XXII (December, 1967), p. 15.

[37]Marian P. Walker, "Prediction for 2000 A. D." Bookkeeping Will Be Dropped from the High School Curriculum," The Journal of Business Education, XLIV, No. 5 (February, 1969), p. 200.

that her predictions will come true unless certain drastic changes occur in the bookkeeping curriculum and in the general attitude of business teachers toward this subject.

A computer is merely a tool used to make man's work easier. It is mechanical and can only do what it is programmed to do. The operator must know "why." He must be able to think logically and arrive at decisions based on his ability to reason and analyze problems. The decision maker for the computer must still know the fundamentals of debit and credit. If he is to provide the "program" for this machine, he must still be thoroughly familiar with the basic bookkeeping principles.

Some of her recommendations are:

1. The bookkeeping curriculum should be geared toward theory development.
2. Fundamentals of electronic data processing must be integrated into the entire bookkeeping course.
3. Interpretative analyses of problem situations should be encouraged in class.
4. The student should become familiar with flowcharts and systems and procedure charts.
5. It is not necessary to have the actual computer in the classroom.
6. The community resources should be used to the fullest extent possible.
7. Creativity in teaching bookkeeping is a must.

The high school must plan a curriculum that will enable the high school graduate to qualify for future participation in data processing. Concentration on the inclusion of theory of data processing systems throughout the teaching of the theory of bookkeeping must be

included. The "why" of bookkeeping systems is more important in today's pattern of practical bookkeeping than only the manual practice of rules in problems. Bookkeeping students must prepare for entry into automated accounting departments where they perform clerical tasks that prepare input for the computer. The high school has a definite responsibility to students in regard to automation and data processing.

Most of the writers on bookkeeping and accounting in current literature have become realistic. They recognize that automation is here to stay. There is little need to fear that bookkeeping will become extinct as a result of automation, but at the same time there is a definite need for overhauling objectives and methods of implementing these in terms of course content and teaching.

"Bookkeeping classes no longer are a place where workers are produced who spend their lives bent over account books."[38] Today in our society all individuals have a need to understand money. A bookkeeping course should not be stressed as a vocational subject alone; it should appeal to the general student as well. In personal life, students need to know how to endorse checks, make deposits, write checks, reconcile a bank statement, to mention but a few functions. Bookkeeping can offer a place to learn these concepts. The author of this article believes that if bookkeeping is to have a future, it must be a realistic course including practical activities for post high school life as well as job preparation. Our material is not isolated or obsolete but rather a foundation for future learnings and experiences.

---

[38]Geraldine Amrein, "To Survive--Bookkeeping Must Come Alive!!" The Journal of Business Education, XLIII, No. 6 (March, 1968), p. 235.

To make bookkeeping an effective high school course, bookkeeping instruction must be adapted to the needs of the time. "The best advice that we have from the experts is to try to educate students for adaptability--to prepare them for change and lots of it. . . ."[39]

---

[39]Enoch J. Haga, "What Automation Means for Bookkeeping," Business Education Forum, XX (December, 1965), p. 56.

CHAPTER III

PROCEDURES

Because of the nature of the study, the descriptive survey method was used primarily. The study constituted a survey of bookkeeping practices in the City of Willmar, Minnesota, with a view to relating them to the present course of study in Bookkeeping in the Willmar Senior High School.

The following procedures were utilized in conducting this study:

1. Library research
2. Selection of business firms to be surveyed
3. Development of the questionnaire
4. Collection of the data
5. Evaluation and interpretation of the data

After selecting a topic, an analysis of current bookkeeping practices in Willmar, the investigator listed the objectives of the study. Briefly, they were:

To determine if what is being taught in the high school bookkeeping course is relevant to what is actually done on the job

To determine what machines are most frequently used in Willmar businesses for bookkeeping purposes

To determine what functions or processes bookkeepers perform

To determine what kind of bookkeeping systems are used in Willmar businesses

To determine the effects of automation on bookkeeping operations in Willmar

To determine the prospects for employment of high school bookkeeping students

To determine what the objectives of the high school bookkeeping course should be and how to more adequately meet these objectives

The Chester Fritz Library at the University of North Dakota and the St. Cloud State College Library were used to locate related literature. An examination of professional Business Education literature proved most helpful in obtaining material for this study. Included in this perusal were the following publications: The Journal of Business Education, Business Education Forum, Business Education World, and The Balance Sheet. Articles, methods books, and theses were also read to obtain information on the subject. Professional literature in business education and theses were especially helpful in designing the questionnaire.

The data found in the literature was recorded on 4 by 6 cards listing the subject, author, title, magazine, date, page number, and volume number of the various articles and books. Important thoughts and ideas were jotted down on the note cards to assist the writer in remembering and assembling her information later. At the same time bibliography cards were made for each article that seemed to apply to the subject. The cards were arranged by the subject area.

The Kandiyohi County Library in Willmar was consulted to obtain some background information on Willmar from the Kandiyohi Historical Society. Once again notes of the useful information were kept on 4 by 6 note cards.

The Willmar Chamber of Commerce provided some background information about Willmar. Mr. Beich, the chamber manager, gave suggestions about which businesses would employ bookkeepers and which ones it would be the most profitable to contact and interview.

From the above information the first two chapters of this study were written. The articles and information are some of the most recent available. In a field that involves data processing, the information must be relatively recent or it is of very little value because of the rapid changes in this particular area.

The related literature section was of necessity broken down into the various broad divisions. There is a great deal of current literature and thought on the second section, Trends Toward Automation. It was interesting to notice when reading and studying the articles, the diversity of thought and opinions on the subject.

Many controversial articles appeared under the third section, the Place of Bookkeeping Instruction In An Era of Automation. There isn't a great deal of agreement among educators and businessmen in this area either. It appeared that this question of the place of bookkeeping is probably uppermost in the minds of many business educators because of the many surveys that are made to discover current bookkeeping practices in many communities.

Because of the nature of the study, the personal interview questionnaire method was used. Questionnaires were used to facilitate assembling the data and to make the questions more objective. It was believed that this method would obtain reliable data.

Before making out the questionnaire, the Department Chairman of the Business Education Department at the Willmar Senior High

School was consulted to get his ideas and suggestions for the study. Several other questionnaires of the same type were studied to get some ideas about what should be included. Then the questionnaire was constructed using as guidelines the purposes of the study.

The questionnaire was prepared to determine what the general job analysis of bookkeepers were. The questionnaire permitted the subjects to state reasons for their positive or negative responses. No specific checklist of detailed tasks of bookkeepers duties was sought. Sampling was limited to 25 selected businesses in Willmar. The two Distributive Education Coordinators were consulted in deciding on the particular businesses since they were already familiar with many of them.

After completing the writing of the questionnaire, the writer had two businessmen complete it. The results of this small pilot study were examined to determine if the questionnaire supplied the information for which it was designed. A few changes were made as a result of the pilot study. The final questionnaire, which was used in the survey, can be found in the Appendix.

The businesses were divided into categories. Since most of the businesses in Willmar would be considered small, the questionnaire was sent to various kinds of businesses that employed bookkeepers to obtain as representative a sampling as possible. Most of the businesses are locally owned, but a couple of chain stores such as Sears and Woolworths were included as a matter of contrast. The classifications were chosen after looking through the classified section of the telephone book. There were a few additional businesses that fell

under none of the classified categories but they were sent a questionnaire because of the interest that the writer had in the particular business and its bookkeeping system. The classifications are as follows:

Type of Firm

Attorney
Automobile dealer
Bank
Building contractor

City government offices
Clothing stores (men and women)
Department stores
Farm equipment dealer

Drug store
Furniture store
Grocery store
Hospital

Insurance agency
Jeweler
Manufacturer
Newspaper

Real estate
School
Service station
Variety store
Wholesalers and distributors

The bookkeeping study was conducted by means of interviews with the 25 selected businesses. All 25 cases reported were usable. After discussing the type of bookkeeping system that the business used, the interviewer usually left the questionnaire, together with a self-addressed, stamped envelope, which was then completed and mailed to the writer.

The questionnaire included questions concerning the basic bookkeeping duties, but additional duties were also stressed. The purpose was to find out what duties were performed in the various offices

in addition to the bookkeeping duties. Questions were included about the principal types of equipment used in the various offices.

Another section of the questionnaire dealt with the bookkeeping practices in certain businesses in relation to the curriculum of the high school bookkeeping course. What procedures does the business follow for handling cash receipts, petty cash, purchases, sales, payroll, and financial statements? What kinds of journals are used in the businesses? What seemed to be the most common method of adjusting the merchandise inventory?

Finally, one section of the questionnaire dealt with the current bookkeeping practices. Have they changed in the last five years? Are changes being planned in bookkeeping procedures in the near future? How extensively is data processing being used in the businesses of Willmar?

In addition to the questionnaire, the writer visited the businesses and left the questionnaire with the businessmen. There seemed to be a benefit to both the businessman and the interviewer through this direct contact. The businessmen were inclined to express themselves more freely. This gave the writer an "inside view" of the particular office and an opportunity to observe the business in operation. The businessman got an idea of what the school was doing in business education, and the Business Education Department got an idea of what various businesses are doing.

After this data was tabulated, an analysis was made to determine the types of businesses that are found in Willmar, the number of bookkeepers that they employ, and the duties the bookkeepers perform. From

the tabulations it was possible to conclude the types of bookkeeping systems that are used and the types of machines that are used by the bookkeepers. If automation has had any effect on bookkeeping procedures in these small businesses, it became evident from the study.

CHAPTER IV

ANALYSIS OF THE DATA

The writer interviewed one employer from each of the 25 selected business firms in Willmar, Minnesota. The data received were recorded on the questionnaires. The recorded data has been tabulated and is presented in this chapter.

Table 1 shows that of the 25 businesses surveyed, 1 was a single proprietorship, 5 were partnerships, 17 corporations, and 2 could not be classified.

TABLE 1

TYPE OF BUSINESS ORGANIZATION OF THE 25 SELECTED FIRMS IN WILLMAR

Type of Business Organization	Number of Firms
Single Proprietorship	1
Partnership	5
Corporation	17
No Classification	2
Total Firms	25

Table 2, page 41, indicates the types of firms selected to participate in this study. Since Willmar serves as a retail trade

center in West Central Minnesota, it is understandable that 52 per cent of the businesses included in this study fell into this category.

TABLE 2

NUMBER OF BUSINESS FIRMS REPORTED IN THE SURVEY OF WILLMAR ACCORDING TO THE TYPE OF BUSINESS

Type of Business	Number of Firms	Per Cent of Total Firms
Trade, Wholesale, Retail	13	52.0
Manufacturing	4	16.0
Utilities	2	8.0
Construction	1	4.0
Finance	1	4.0
Not classified under any of the above categories	4	16.0
Totals	25	100.0

Table 3, page 42, shows the number of bookkeepers and other office workers employed in the 25 firms. Twelve male and 36 female bookkeepers were employed. No male and only 9 female bookkeepers were employed on a part-time basis. The 25 firms employed a total of 57 bookkeepers. Seventy-three other office workers were employed in these firms, 19 were male and 54 were female.

As revealed in Table 4, page 42, nine firms employed a maximum of 2 full-time workers. Five employed either 3 or 4 office workers while 6 firms employed from 5 to 10 workers. Two firms hired as many

TABLE 3

NUMBER OF BOOKKEEPERS AND OTHER OFFICE WORKERS EMPLOYED BY THE 25 SELECTED BUSINESSES IN WILLMAR

Working Time	Male	Female	Total
Bookkeepers			
Full-time	12	36	48
Part-time	0	9	9
Other Office Workers	19	54	73

as 11 to 15 workers, but only 1 firm employed 16 to 20 office workers. In the firms surveyed, 2 firms indicated that this information was not for publication.

TABLE 4

ANALYSIS OF THE NUMBER OF BOOKKEEPERS AND OFFICE WORKERS IN THE 25 SELECTED FIRMS SURVEYED IN WILLMAR

Number of Employees	Number of Firms
0	0
1 - 2	9
3 - 4	5
5 - 10	6
11 - 15	2
16 - 20	1
Not for Publication	2
Total Firms	25

One of the problem areas pertaining to bookkeeping in business was, what principal types of bookkeeping equipment were used in Willmar offices. Other studies have shown that there is an increasing use of punched-card and electronic data-processing equipment, especially in larger offices. While the trend in Willmar was toward office mechanization, the electronic computer was rarely found.

Adding machines were widely used in Willmar office firms. Table 5, page 44, indicates that there were more ten-key adding machines than any other mathematical process machine used in the Willmar offices participating in this survey. The machine that ranked second was the full-keyboard adding machine. It is significant to notice that relatively few calculators were used in Willmar offices. Four firms used 4 printing calculators; 4 firms used 4 rotary calculators; 3 firms used 4 key-driven calculators; and 1 firm used an electronic calculator. The bookkeeping machine was found in nearly half of the offices surveyed or 12 bookkeeping machines were used in 12 offices.

In the 25 businesses surveyed, 6 copying machines were used. Fluid and stencil duplicators were found infrequently. Only 1 firm used the stencil duplicator and 2 firms used the fluid duplicator. The checkwriter was used in 12 of the businesses interviewed.

The manual typewriter was the most popular machine used in the business offices. Sixteen of the 25 businesses surveyed used 54 manual typewriters while 26 electric typewriters were used in 18 firms.

It is significant to note the extent to which mechanization was found in the small offices in the city. The information on Table 5 indicates that 80 per cent of the offices used ten-key adding machines. The electric typewriter was found in 72 per cent of the offices; the

full-keyboard adding machine was found in 40 per cent of the offices. Some type of adding machine was found in 95 per cent of the offices, and some type of calculator was found in 35 per cent of the offices. It is interesting to note that the bookkeeping machine was found in 48 per cent of the offices. Key-punch equipment was not used in any of the businesses.

TABLE 5

MAJOR BUSINESS MACHINES USED IN OFFICES IN 25 SELECTED FIRMS IN WILLMAR

Type of Machine	Number of Firms Using Machine	Number of Machines in Use
Typewriter		
Manual	16	54
Electric	18	26
Adding Machine		
Ten-Key	20	38
Full-Keyboard	10	14
Bookkeeping Machine (posting)	12	12
Check Writer	12	12
Copying Machine	6	6
Calculators		
Ten-Key Printing	4	4
Rotary	4	4
Key-Driven	3	4
Electronic	1	1
Duplicator - Fluid	2	2
Duplicator - Stencil	1	1

From the tables and the statistics, it will be observed that beginning workers need to know how to operate the electric typewriter and mathematical process machines. Some students may also need to know how to use the bookkeeping machine or punched card type of equipment. The only machines not found in the majority of offices were key-punch equipment, calculators, and duplicators. The key-punch needs specialized training and the calculators may some day replace some of the adding machines.

Eight of the businesses surveyed mentioned that they used some type of computer service instead of or in combination with some of the business machines. One stated that they used a computer only for figuring payrolls. Two of the firms used computers for accounts receivable and payable while several others were thinking strongly of using computer services for various aspects of their businesses.

Since it may be concluded that the beginning worker would be well advised to be familiar with all of these machines, it is a problem to know how much the potential worker should know about them. Before this can be ascertained, the next problem is to know the use for each of these machines in relation to bookkeeping.

By definition a bookkeeper is the person who records the financial operations of a business in a systematic manner. The survey of the 25 selected businesses indicated that bookkeepers were expected to know how to perform many functions.

According to Table 6, page 48, ninety-two per cent of the businessmen expected that bookkeeping workers should be able to write checks and prepare deposit slips, a relatively simple task.

Eighty-four per cent of those interviewed said that bookkeeping workers endorse checks and 72 per cent perform the function of reconciling the bank statement.

The majority of those interviewed, 68 per cent, indicated that their bookkeeping workers do some kind of payroll work. It was noted that automation is taking over some of the payroll functions in some of the firms. It was also pointed out that computer centers more and more are taking over completely this important accounting function for businesses. Fifty-six per cent of the firms had their bookkeepers prepare withholding statements and 12 per cent figured income tax returns.

It was found that 72 per cent of the bookkeeping workers made journal entries, whereas approximately 88 per cent posted to the various ledgers.

In the interviews it was discovered that 48 per cent of the bookkeepers prepared a trial balance, 52 per cent prepared a worksheet, 32 per cent prepared income statements, and 56 per cent prepared balance sheets. There is no definite trend as to whether the trial balance should or should not be done by the bookkeepers. Many of these firms have an accountant handle these functions and this may be a reason for the above findings.

Table 6 also indicates that 72 per cent of the bookkeepers prepared a schedule of accounts receivable and 68 per cent prepared a schedule of accounts payable.

Much of the year end work in the small firms in this study was done by an accounting firm. This may account for the fact that 64 per cent of the bookkeepers made adjusting entries, 48 per cent closed accounts, and 56 per cent balanced and ruled accounts.

Of the 25 firms surveyed, 16 used petty cash vouchers. Nineteen businesses had their bookkeepers prepare invoices; 12 prepare purchase orders; 14 kept inventory records; 9 computed interest; and 6 depreciated fixed assets.

Another question that arises is the additional duties that bookkeepers must perform in the small offices of Willmar. Sixteen of the bookkeepers had receptionist duties as well as bookkeeping duties. Twenty-one of the 25 businesses surveyed indicated that their bookkeepers engaged in some filing duties, and 19 businesses indicated that their bookkeepers had some typing jobs. In 16 of the businesses the bookkeepers also served as cashiers.

A few bookkeepers had additional duties such as cleaning and dusting, repair work, PBX operation, investigation of credit ratings, checking computer listings, and serving as relief tellers.

It becomes evident from this survey in Willmar, that a bookkeeper is not just a bookkeeper. He has a number of non-bookkeeping duties to perform, and he needs to have skills beyond bookkeeping. If he must perform typing duties, then he must have an acceptable typing production rate that will justify his employment. If he is required to do filing, then some knowledge of filing procedure is essential. Receptionist duties also require special skills such as greeting callers graciously and in general, making people feel welcome. The tasks of a receptionist are important and only through conscientious awareness of their importance can the receptionist do the job in a completely satisfactory manner. Cashier duties probably fall into line with a bookkeeper's main job.

TABLE 6

FUNCTIONS BOOKKEEPERS PERFORM IN THE 25 SELECTED BUSINESS FIRMS IN WILLMAR

Function	Number of Firms	Per Cent of Total Firms
Write Checks	23	92
Prepare Deposit Slips	23	92
Post to any Type of Ledger	22	88
Endorse Checks	21	84
Prepare Invoices	19	76
Prepare a Schedule of Accounts Receivable	18	72
Make Journal Entries	18	72
Reconcile Bank Statements	18	72
Pay Employees	17	68
Keep Time Cards	17	68
Prepare a Schedule of Accounts Payable	17	68
Keep Petty Cash Vouchers	16	64
Make Adjusting Entries	16	64
Calculate Payrolls	16	64
Prepare Withholding Statement	14	56
Prepare a Balance Sheet	14	56
Balance and Rule Accounts	14	56
Keep Inventory Records	14	56
Prepare a Work Sheet	13	52
Prepare a Trial Balance	12	48

TABLE 6--Continued

Function	Number of Firms	Per Cent of Total Firms
Close Accounts	12	48
Prepare Purchase Orders	12	48
Compute Interest	9	36
Prepare an Income Statement	8	32
Depreciate Fixed Assets	6	24
Figure Income Tax Returns	3	12

The second area, trends in bookkeeping procedures, is concerned with an examination of the bookkeeping practices in selected businesses in relation to the high school bookkeeping course. It is divided into these areas of inquiry:

1. What are current bookkeeping practices in the business offices as far as the journals used? Does a business use special journals or a combination journal and the implications for high school instruction.
2. What bookkeeping activities are done by agencies or outside people hired to do them?
3. How often is an inventory taken?
4. Have bookkeeping methods changed within the last five years and are any changes anticipated in the near future?
5. What effect has automation had on the bookkeeping systems of Willmar businesses?
6. What is the attitude of the employer toward hiring a high school graduate with one year of bookkeeping as a bookkeeper?

Table 7, page 50, indicates that the majority of the businesses surveyed used special journals. Not all businesses used all five special

journals such as is taught in the typical bookkeeping course. One business used only a purchases journal while another business used only a general journal. Many of the businesses used various combinations of the special journals.

Of the 14 businesses using the general journal, eleven of them wrote explanations for the various entries. Seven firms, or 28 per cent, used the combination journal. It has been assumed that most large firms use special journals and smaller businesses use the combination journal, but this study doesn't follow that assumption. One of the businesses, a chain store, used the central bookkeeping pool in the Twin Cities.

TABLE 7

BOOKKEEPING JOURNAL PREFERENCE IN 25 SELECTED FIRMS SURVEYED IN WILLMAR

Kind of Journal	Number of Firms	Percentage of Firms
Special Journals	17	68
Cash Receipts	14	
Purchases	14	
Sales	14	
General	14	
Cash Payments	12	
Combination Journal	7	28

Of the 25 businesses surveyed, 16 kept a petty cash fund. It was generally kept in either the cash register or in a special petty cash box. All those using a petty cash fund used vouchers. The

responsibility for handling the petty cash was generally the bookkeepers or a secretaries or stenographers.

Twenty-one of the 25 businesses interviewed used subsidiary ledgers such as accounts receivable and accounts payable. Some of the firms used loose leaf ledgers while others had a file-type of set up. When they sent out statements at the end of the month, a copying machine was frequently used to speed up the operation.

Twenty of the businesses surveyed indicated that they prepared their own payroll tax returns while 5 firms indicated that they did not. This is an area, together with payroll, that is covered rather extensively in most high school bookkeeping classes.

Only 1 of the 25 businesses surveyed prepared their own income tax returns while 22 hired an outside firm or accountant to handle this aspect of the business. Two businesses did not reply because the question was not applicable to their particular situation. This might indicate that it is not necessary to include income tax units in bookkeeping except for its personal use value to the student in preparing his own tax returns.

In discussing the topic of inventory, the businesses were asked these questions:

1. Do you keep a perpetual inventory?
2. How often is a physical inventory taken?

Nine of the businesses surveyed use a perpetual inventory system while 12 do not. Two businesses use a partial inventory system and for two businesses the question was not applicable.

A physical inventory was taken yearly by the majority of the Willmar firms. Four firms, or 16 per cent, took a physical inventory

semi-annually while 20 per cent of the firms took some yearly, and some monthly or weekly. Five of the firms included in this survey were the type of business that does not have an inventory.

TABLE 8

FREQUENCY OF TAKING PHYSICAL INVENTORY IN SELECTED BUSINESSES IN THE CITY OF WILLMAR

Frequency	Number of Businesses
Yearly	11
Twice Yearly	4
Some yearly, some monthly or weekly	5
No Inventory	5
Totals	25

Development and use of automated equipment for data processing has grown steadily in the past several years. It appears that this trend will accelerate as more offices will be able to install the less expensive equipment now being put on the market. The impact of data processing on high school bookkeeping instruction has been the source of considerable debate. It is significant to note that ten businesses, or 40 per cent of the Willmar businesses included in this study, either use the services of data processing centers or have some equipment in their own businesses. Thirteen of the businesses, or 52 per cent, do not use a center or have any equipment, but some of them are planning or anticipating future changes in this direction.

IBM computers, sorters, collators, verifiers, and key-punch machines were utilized in some of the various offices. The chain stores used data processing from the home offices which were frequently in the Twin Cities area.

It becomes evident that a number of small businesses hire agencies or accountants to do some bookkeeping activities. Twelve businesses, or 48 per cent of the businesses surveyed, hired an accountant to do their year end entries while 11, or 44 per cent, did not. Sixteen businesses, or 64 per cent, hired an accountant to prepare financial statements at the end of a fiscal period. The same number, 16 or 64 per cent, hired an accountant to prepare their income tax returns. Two businesses were not included because this question was not applicable. This information indicates that even small businesses were taking advantage of the accounting services that are available.

TABLE 9

NUMBER OF BUSINESSES IN THE SURVEY THAT HIRE ACCOUNTANTS FOR CERTAIN AREAS OF THE BOOKKEEPING PROCESS

Process	Number that Hire Accountants	Number that Do Not Hire Accountants
Prepare Year End Entries	12	11
Prepare Financial Statements	16	7
Prepare Tax Returns	16	5

Table 10, page 54, indicates that 13 businesses, or 52 per cent of the Willmar businesses surveyed, do their bookkeeping manually. Eight

of the businesses indicated that they used some type of key-driven operation and 4 businesses, or 16 per cent, used a punched card operation. Five businesses, or 20 per cent, indicated that they used a computer operation for their bookkeeping. There is a discrepancy in the totals because some businesses used a combination of two or more methods. One business stated that it used all 4 methods in some form, while one used the card punch for accounts receivable and another used it for payrolls. While the trend in Willmar is toward office mechanization, the key-punch and computer were not frequently found. This could drastically change in a very short time.

TABLE 10

TYPE OF BOOKKEEPING SYSTEM USED BY 25 SELECTED BUSINESSES IN WILLMAR

Method	Number of Firms Using Method
Manual	13
Key-Driven Operation	8
Punched-Card Operation	4
Computer Operation	5

Another interesting aspect of trends in bookkeeping procedures in Willmar is the answers to the questions:

1. Have your bookkeeping methods changed in the last five years?

2. Are you planning any changes in the near future?

Fifteen businesses, or 60 per cent, stated that their bookkeeping methods have changed in the last five years while 9 firms were anticipating

changes in the near future. The changes anticipated were overwhelmingly toward the use of more electronic data processing equipment and computers. Some firms were thinking of putting receivables as well as perpetual inventory on computer. Several firms in this study were looking very closely at the possibilities of electronic data processing and computers while others believed they need some revision in their bookkeeping system but as yet they are not certain just what it will be.

The section on employees was included in the study to determine whether businessmen would hire a high school graduate with one year of bookkeeping and to determine if businessmen think the high school bookkeeping course is of value as far as training their employees. Twenty-one businessmen said that they would hire a high school graduate with one year of bookkeeping, while 1 said that he would not although he gave no reason for his reply. Several that indicated that they would hire a high school graduate with one year of bookkeeping qualified their answer with statements such as: "It would have to be a very dependable and able person," or "It depends on the person." This is definitely a factor because it is known that there are good bookkeeping students as well as poor bookkeeping students.

Twenty-two businessmen, or 88 per cent of those included in the survey, thought that the high school bookkeeping course was of value while 1 thought that it was not and another stated that it was of questionable value. Several businessmen remarked that the students seemed to be well trained.

Table 11, page 56, shows that most businesses accepted students into their employ on recommendations from the schools and a personal interview. Eleven firms gave tests to applicants; 4 of these firms

used aptitude tests, 2 used intelligence tests, 4 used aptitude and typing, 1 used aptitude and personality, while 1 firm used only the oral interview.

TABLE 11

TYPE OF TEST ADMINISTERED TO OFFICE WORKERS IN SELECTED BUSINESSES IN THE CITY OF WILLMAR

Type of Test	Total Firms
No Test Administered	13
Aptitude	4
Attitude and Typing	4
Intelligence Test	2
Aptitude and Personality	1
Oral Interview	1
Total	25

Table 12, page 57, shows that in general businessmen liked to promote employees. This was not always possible because of the number of small offices where there was no opportunity for promotion and because employees were not always able to do the senior job. The basis for promotion was generally ability. A number of firms that did not rotate or promote employees stated that the size of the staff did not warrant this.

The last part of the questionnaire related to whether the high school bookkeeping course met the needs of business and suggestions for improving the high school bookkeeping course to make it more relevant.

TABLE 12

PROMOTIONAL POLICIES FOR OFFICE WORKERS IN SELECTED BUSINESSES IN THE CITY OF WILLMAR

Policy of Business	Total Businesses
Rotate Employees	14
Do not Rotate Employees	10
Promote Employees	14
Do not Promote Employees	10
Promote on Ability	10
Promote on Ability and Seniority	4
No Reply	1

In small businesses, the bookkeeping was done manually in a very similar method to that taught in the schools. Larger businesses used manual, or a key-driven, and sometimes all four operations including punched-card and computer.

There is a direct relationship between the double-entry bookkeeping system taught in the Willmar Senior High School to the double-entry bookkeeping systems found in the offices visited.

There is a direct relationship between the manual type of bookkeeping taught in the high school and the manual type of bookkeeping operation found in the firms interviewed. The journals used in business were very similar to those taught in the bookkeeping classroom.

There is an indirect relationship between the manual type of bookkeeping taught in the Willmar Senior High School and the key-driven and punched card type of operations found in certain businesses.

This indirect relationship exists because of the need to understand the principles of debit and credit.

A few businessmen made the comment that workers must be flexible--able to do at least 2 jobs so if one worker is gone, the office does not come to a standstill. Another businessman emphasized accuracy. He felt that accuracy should be given preference over speed.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study has attempted to determine current bookkeeping practices in 25 selected business firms in the City of Willmar, Minnesota, with the objective of relating them to the present course of study in Bookkeeping I in the Willmar Senior High School. The opinions of businessmen were obtained concerning the necessity for training on the various machines. It was hoped that the information obtained in this study would be of value to the Business Education Department in the Willmar Senior High School in preparing future bookkeepers as well as office workers so as to provide adequately for the needs of businessmen in this geographic area.

Before the survey was conducted, professional literature was reviewed relating to trends toward automation in bookkeeping, the place of bookkeeping instruction in an era of automation, and the future of bookkeeping. A review of this literature is presented in Chapter II.

After a questionnaire-interview pilot study was conducted in two firms, the questionnaire was re-evaluated and some of the suggested changes were incorporated into a final questionnaire. The researcher then arranged for appointments with one employer from each of the 25 firms surveyed. The writer conducted a personal interview with each

employer and used the questionnaire as a guide in asking questions and recording replies. Chapter III presents the procedures used to obtain the data.

Conclusions

The information obtained from the survey has been classified and is presented in detail in Chapter IV. From the data gathered from the 25 employers, certain significant information was obtained:

1. Twelve male and 36 female bookkeepers were employed on a full-time basis and 9 female bookkeepers were employed on a part-time basis in the 25 firms surveyed for a total of 57 bookkeepers. Seventy-three other office workers were employed in these firms, 19 male and 54 female.
2. The manual typewriter was the most common business machine used. Sixteen of the 25 businesses surveyed used 54 manual typewriters while 26 electric typewriters were used in 18 firms.
3. The ten-key adding machine was used in more offices than any other arithmetic machine. The full-keyboard adding machine was the next machine most often used. The bookkeeping machine was used in nearly half of the offices surveyed. Calculators were found in 35 per cent of the offices.
4. The office appliances used only occasionally were: copying machines and stencil and fluid duplicators. Key-punch equipment was not found.

5. Bookkeepers needed to know how to write checks, endorse checks, make deposits and reconcile bank statements.
6. Most bookkeeping workers did some kind of payroll work.
7. The majority of bookkeeping workers journalized entries and posted to some kind of ledger.
8. Some of the accounting work at the end of the fiscal period was done by accountants so many bookkeepers were not required to do this work.
9. In a small office, bookkeepers performed a large number of bookkeeping duties. The work was not specialized into various areas but covered the whole general area.
10. Most bookkeepers prepared schedules of accounts receivable and accounts payable.
11. The majority of bookkeepers engaged in non-bookkeeping activities such as receptionist, file clerk, and typist duties.
12. The majority of businesses surveyed used special journals or various combinations of special journals.
13. Businesses frequently made use of a petty cash fund.
14. Subsidiary ledgers such as accounts receivable and accounts payable were used in most of the businesses.
15. Few firms prepared their own income tax returns, but rather hired an accountant to come in and do this work.
16. Less than half of the businesses kept a perpetual inventory.
17. A physical inventory was taken yearly by the majority of Willmar firms surveyed.

18. The use of data processing and computers has grown steadily in the past few years.

19. Small businesses frequently hired accountants to prepare financial statements at the end of the fiscal period.

20. A large number of businesses still did their bookkeeping manually, but the trend was toward mechanization.

21. A number of businesses stated that their bookkeeping methods had changed in the last five years and some were anticipating changes in the near future probably toward the use of more electronic data processing and computers.

22. Most businessmen would hire a high school graduate with one year of bookkeeping.

23. Most businesses accepted students into their employ on recommendations from the schools and a personal interview. Some of the businesses gave some type of employment test.

24. In general, businessmen liked to promote employees.

25. Preparing for and adaptability to change were the keynotes for both teachers and students in high school bookkeeping and accounting.

26. A one-year bookkeeping course should emphasize the basic principles of double-entry bookkeeping.

27. There was a direct relationship between the double-entry bookkeeping system taught in the Willmar Senior High School to the double-entry bookkeeping system found in the offices visited.

28. There was a direct relationship between the manual type of bookkeeping taught in the high school and the manual type of operations found in the firms interviewed. The journals used in business were very similar to those taught in the bookkeeping classroom.

29. There was an indirect relationship between the manual type of bookkeeping taught in the Willmar Senior High School and the key-driven and punched card type of operation found in certain businesses. This indirect relationship existed because of the need to understand the principles of debit and credit.

In general, businessmen were satisfied with the bookkeeping training beginning workers received in school. They did, however, stress the need for understanding basic bookkeeping principles. A few felt that accuracy and neatness should be stressed in the high school bookkeeping classes.

Recommendations

Modern business is an exceedingly complex and competitive organization. Automation will continue to have an effect. The best preparation is a sound knowledge of business principles, competencies, business skills, plus a willingness to work. The business teacher must be prepared to develop a curriculum that is challenging.

1. It is recommended that a machines course be available to all students in grades 11 and 12.

2. Instructions should provide an acquaintanceship level of skills on many types of machines used in offices.

3. Extensive training should be given on the electric typewriter, bookkeeping machine, and ten-key adding machine.
4. Modern equipment should be available to the schools so that students can become familiar with the actual equipment found in business offices.
5. The bookkeeping room should be equipped with both ten-key and full-keyboard adding machines.
6. While key-punch equipment and bookkeeping machines are expensive and specialized, their purchase should be considered in view of the Federal Aid to vocational education.
7. Bookkeepers need a background in clerical skills as well as bookkeeping.
8. More time should be spent teaching some of the functions that bookkeepers perform most frequently, and less time should be devoted to the less-used functions.
9. Not everything can be taught in a limited time. Therefore, it is imperative that priorities be placed on the topics that will be used most frequently on the job.
10. The long-range effect of electronic data processing will be felt strongly in bookkeeping. This course must keep pace by incorporating data processing into the course of study.
11. Fundamentals of electronic data processing should be integrated into the instructional units throughout the entire bookkeeping course.

12. The basic bookkeeping course must remain because machine operators need to know debit, credit, assets, liabilities, expenses, and income. Much bookkeeping is still done manually.

13. Students must be educated for adaptability--they must be prepared for change and lots of it.

14. Creativity in teaching is a must in the field of bookkeeping.

It should be the desire of all schools offering courses in business education and particularly in bookkeeping, to prepare students to make the transition from school to work with a minimum of re-education and adjustment.

In view of the rapidly changing office and equipment, a similar survey should be made from time to time so that business education teachers know what is going on in business in their own communities.

Appendix

EXHIBIT A

AN ANALYSIS OF BOOKKEEPING DUTIES IN WILLMAR

pe of Business (check one) _____Single Proprietorship _____Partnership
_____Corporation

nd of Business (Grocery, Manufacturing, Hardware, etc.) _____

w many full time bookkeepers do you employ? _____Men _____Women
w many part time bookkeepers do you employ? _____Men _____Women
w many other office workers do you employ? _____Men _____Women

---

ich machines are used in your Bookkeeping Department? Indicate requested information with a check mark in the first two columns and a name in the last column.

	Electric	Manual	Make or Manufacturer
ll-Keyboard Adding Machine			
n-Key Adding Machine			
inting Calculator			
y-Driven Calculator			
tary Calculator			
okkeeping Machine (Posting)			
pewriter			
eck Writing Machine			

her: _____

---

you use computers or computer service instead of any of the above machines? _____

---

tivities and Business Forms

ich of the following functions are your bookkeepers expected to know how to perrm? Please check the ones that apply.

_____Write checks
_____Prepare deposit slips
_____Endorse checks
_____Reconcile bank statements

_____Pay employees _____Cash _____Check
_____Keep time cards
_____Calculate payrolls

_____Prepare withholding statements
_____Figure income tax returns

_____Make journal entries
_____Post to any type of ledger
_____Prepare a trial balance
_____Prepare a work sheet
_____Prepare income statements
_____Prepare a balance sheet

_____Prepare a schedule of accounts receivable
_____Prepare a schedule of accounts payable
_____Make adjusting entries
_____Close accounts
_____Balance and rule accounts

_____Keep petty cash vouchers
_____Prepare invoices
_____Prepare purchase orders
_____Keep inventory records
_____Compute interest
_____Depreciate fixed assets
Any others: _____

your bookkeepers engage in any other activity such as: (check those that apply)

_____Receptionist
_____File clerk
_____Typist
_____Cashier

Others: _____

o you in your bookkeeping system:

Use a single entry system? . . . . . Yes No
Use special journals? . . . . . Yes No
a cash receipts journal? . . . . . Yes No
a cash payments journal? . . . . . Yes No
a purchases journal? . . . . . Yes No
a sales journal? . . . . . Yes No
a general journal? . . . . . Yes No
Are explanations written for entries in this journal? . . Yes No
Use a combination journal? . . . . . Yes No
Use a two-page cash book? . . . . . Yes No
Use a voucher system? . . . . . Yes No
Use a petty cash fund? . . . . . Yes No
Use subsidiary ledgers such as Accounts Receivable and Accounts Payable? . Yes No
Prepare your own payroll tax returns? . . . . . Yes No
Prepare your own income tax returns? . . . . . Yes No
Use a perpetual inventory system? . . . . . Yes No
How often is a physical inventory taken?_____
Use the services of data processing centers or have some equipment in your business? . . . . . Yes No
If you have some of your own equipment, will you please identify the type of equipment?_____

_____

Hire someone outside your business, such as an accountant, to prepare your year end entries? . . . . . Yes No
Financial statements? . . . . . Yes No
Tax returns? . . . . . Yes No
Is your bookkeeping done manually? . . . . . Yes No
Is your bookkeeping done by a key-driven operation? . . . . . Yes No
Is your bookkeeping done by a punched card operation? . . . . . Yes No
Is your bookkeeping done by a computer operation? . . . . . Yes No
Have your bookkeeping methods changed in the last five years? . . . Yes No
Are you planning any changes in the near future? . . . . . Yes No
If you are, will you please explain._____

_____

Would you hire a high school graduate with one year of bookkeeping as a bookkeeper? . . . . . Yes No
If you would not, why not?_____

_____

Do you think the high school bookkeeping course is of value? Yes No

What tests do you administer before hiring an employee?_____

_____

Do you rotate or promote employees? . . . . . Yes No

e invite your comments on any phase of training for a bookkeeper that you feel may e helpful to us in planning our high school course of study. If there is any dditional information about your bookkeeping methods that may be of interest to us, lease give these also.

EXHIBIT B

CLASSIFICATION OF BUSINESS FIRMS SURVEYED
IN WILLMAR, MINNESOTA

1. Attorneys
   Johnson, Schmidt, & Thompson Law Firm

2. Automobile Dealer
   Swenson Motor Company

3. Bank
   First National Bank of Willmar

4. City Government Offices
   Municipal Utilities

5. Clothing Store
   Torgerson Clothing

6. Department Stores
   Sear's Roebuck and Company
   Habicht's

7. Farm Equipment Dealer
   Lindstrand Implement Company

8. Drug Store
   White Drug

9. Furniture Store
   Erickson Furniture

10. Grocery Store
    Juba's Super Value

11. Hospital
    Rice Memorial Hospital

12. Insurance Agency and Real Estate
    Corneil-Elkjer

13. Jeweler
    Van's Jewelry

14. Manufacturing
    Molenaar Plastics
    Willmar Manufacturing

15. Newspaper
    West Central Tribune

16. Schools
    Willmar Public Schools, District 347

17. Service Station
    Broman Oil Company

18. Variety Store
    Woolworth's

19. Wholesalers and Distributors
    Oman Auto Supply
    Welder's Supply

20. Utilities
    Minnesota Natural Gas Company

21. Not Classified
    Farmer's Produce

Bibliography

BIBLIOGRAPHY

Books

Boynton, Lewis D., Carlson, Paul A., Forkner, Hamden L., and Swanson, Robert M. 20th Century Bookkeeping and Accounting. Cincinnati: South-Western Publishing Company, 1967.

Crank, Doris H., and Crank, Floyd L. (ed.) New Perspectives in Education For Business. Washington, D. C.: National Business Education Association, 1963.

Harms, Harm. Methods in Vocational Business Education. Cincinnati: South-Western Publishing Company, 1949.

Kahn, Gilbert. Business Data Processing--Basic Principles and Applications. New York: Gregg Division, McGraw-Hill Book Company, 1966.

Musselman, Vernon A., and Hanna, J Marshall. Teaching Bookkeeping and Accounting. New York: Gregg Publishing Division, McGraw-Hill Book Company, Inc., 1960.

Tonne, Herbert A. Principles of Business Education. New York: Gregg Publishing Division, McGraw-Hill Book Company, Inc., 1954.

Articles

Adamson, Douglas T. "Where Data Processing Fits Into Bookkeeping," Business Education Forum, XX (January, 1966), 32.

Amelio, Anthony. "Competencies Needed by Beginning Bookkeeping Workers According to Public Accountants," The Journal of Business Education, XLIV, No. 6 (March, 1969), 239-242.

Amrein, Geraldine. "To Survive--Bookkeeping Must Come Alive!!" The Journal of Business Education, XLIII, No. 6 (March, 1968), 235.

Andrews, Margaret E. "Minneapolis Bookkeeping Survey," Journal of Business Education, XXXII, No. 5 (February, 1957), 213-214.

Atwell, Beverly. "Let's Update Bookkeeping by Being Realistic," Business Education World, XLVI, No. 1 (November, 1965), 24-25.

Bolin, Robert R. "A Survey of Businessmen to Determine the Value of High School Bookkeeping Instruction," National Business Education Quarterly, XXXI (October, 1962), 10-11.

Boynton, Lewis D. "Manual Bookkeeping In An Era of Automation," The Balance Sheet, XLVI, No. 1 (September, 1964), 4-6.

Brower, Edward. "Automation in Bookkeeping: A Problem of Timing," Business Education Forum, XXI (May, 1967), 24.

Carlson, Arthur E. "A Career in Bookkeeping and Accounting," Business Education Forum, XVIII (January, 1964), 11.

Catherine, M. Sister. "What Does Automation Mean to Our High School Program?" Business Education World, XXXIV, No. 10 (June, 1964), 22-23.

Coffman, Donald R. "Constant Change in Today's Bookkeeping," Journal of Business Education, XLI, No. 3 (December, 1965), 98-99.

Conover, Hobart H. "Vocational Competence in Bookkeeping and Accounting," Foundation for Business Education Bulletin, Vol. 14, No. 53 (March, 1968), 14-15.

Cornwell, Robert C., and Stetler, Gayle A. "Can We Justify One Year of High School Bookkeeping?" Business Education World, XLV, No. 4 (December, 1965), 23-24.

Cross, L. F. "High School Bookkeeping Graduates Can Satisfy Business Requirements," The Balance Sheet, XLII, No. 5 (January, 1966), 200-203.

Forkner, Hamden L. "Bookkeeping Is Data Processing." The Balance Sheet, XLIII (February, 1962), 269.

Haga, Enoch J. "What Automation Means to Bookkeeping," Business Education Forum, XX, No. 3 (December, 1965), 14-15.

Hallam, Stephen F. "Businessmen Talk About Data Processing Education," The Balance Sheet, XLIX, No. 1 (September, 1967), 15-17.

Harger, J. C. "We Need to Modernize Bookkeeping," Business Education World, XLVII, No. 6 (February, 1967), 21-22.

Henderson, Braxton. "A Broader Base for Bookkeeping Instruction," The Balance Sheet, XLVI, No. 5 (January, 1965), 196-198.

Jentges, Eugene and others. "A Survey of Bookkeeping Practices," Business Education Forum, XX, No. 3 (December, 1965), 9-11.

Judith, Mary Sister, and Williams, Clarence M. "Data Processing In the Business Curriculum," Journal of Business Education, XL, No. 2 (November, 1964), 52-54.

Koch, Edward F. "Similarities and Differences In the Opinions of Business Teachers and Businessmen In Regard To the Effect of Automated Data Processing on the Teaching of High School Bookkeeping," National Business Education Quarterly, XXXI (October, 1966), 35.

Ledger, Gerald W. "Data Processing: Its Effect on the Teaching of Bookkeeping at the High School Level," National Business Education Quarterly, XXXV (October, 1966), 36-37.

Linnaus, Vernon F. "Impact of Automation on High School Accounting," The Journal of Business Education, XLIV, No. 69 (May, 1969), 316-317.

MacDonald, Robert D. "Can You Justify Your Bookkeeping?" Business Education World, XLIII (October, 1962), 39.

Majernik, John A. "Automation: First Aid for Bookkeeping," The Journal of Business Education, XLIV, No. 2 (November, 1968), 57-58.

Mautz, R. K. " . . . About the Future of Bookkeeping and Accounting," Business Education Forum, XX, No. 3 (December, 1965), 13.

Morrow, Joseph H. "A Businessman Looks at Business Education in the High School," The Balance Sheet, XLV, No. 3 (November, 1963), 105-108.

Olson, Milton C. "Bookkeeping and Modern Business Practices," Business Education Forum, XIX, No. 3 (December, 1964), 9-10.

Satlow, I. David. "Current Thought on the Teaching of Bookkeeping," The Journal of Business Education, XLII, No. 3 (December, 1966), 108-114.

Shilt, Bernard A. "Office Automation: How Extensive Is It? What Are Its Implications?" The Balance Sheet, XL, No. 5 (January, 1959), 208-210.

Stelter, Gayle A. "Rural High School Bookkeeping," The Journal of Business Education, XLV, No. 5 (February, 1970), 193-194.

Tonne, Herbert A. "Anticipating Future Changes in Teaching Bookkeeping," Business Education Forum, XXII, No. 16 (December, 1967), 14-16.

Thorstad, Lenus Edwin. "Analysis of Current Bookkeeping Practices In Selected Businesses in Minnesota," National Business Education Quarterly, XXXV (October, 1966), 60.

Uthe, Elaine. "Responsibilities for Teaching Automated Data Processing," Business Education Forum, XIX, No. 5 (February, 1965), 7-9.

Walker, Marian P. "Prediction for 2000 A.D.: Bookkeeping Will Be Dropped from the High School Curriculum," The Journal of Business Education, XLIV, No. 5 (February, 1969), 200-202.

Weaver, David H. "Are My Bookkeeping Students Ready for Jobs?" Business Teacher, XLIV, No. 4 (March-April, 1967), 4-5.

Whale, Leslie J. "What's Automation Been Up To In Detroit?" Business Education World, XXXVIII, No. 2 (October, 1957), 30-31.

Williams, Jackie G. "Data Processing in Beginning Bookkeeping," Business Education Forum, XXI (November, 1966), 18-19.

Wood, Merle W. and Espergren, Robert G. "Data Processing: An Introduction for Students," Business Education World, VXL, No. 2 (October, 1964), 15-18.

Unpublished Material

Chamber of Commerce. "You Will Do Well in Willmar." Pamphlet.

Fagerstrom, James Everett. "Analysis of Bookkeeping Duties in Grand Forks, North Dakota." Unpublished Master's Thesis, University of North Dakota, 1952.

Parsche, J. Joanina Sister. "The Effect of Technical Changes in Accounting in Industry on Teaching Bookkeeping in the High School." Unpublished Master's Thesis, University of North Dakota, 1966.

Stuart, Eudene M. "The Relationship Between Bookkeeping Practices in the City of Sarnia, Ontario and the High School Commercial Course in the Province of Ontario." Unpublished Master's Thesis, University of North Dakota, 1962.

Other Sources

Baker, J. W. History of Bookkeeping Instruction in the United States, Monograph 28. Cincinnati: South-Western Publishing Company, Inc., 1940.

Carlson, Paul A. Bookkeeping Instruction in the Twentieth Century, Monograph 118. Cincinnati: South-Western Publishing Company, 1967.

Douglas, Lloyd Virgil. The Business Education Program in the Expanding Secondary School. A Report Prepared for The National Association of Secondary School Principals. 1963.

Forkner, Hamden L., Swanson, Robert M., and Thompson, Robert J. The Teaching of Bookkeeping, Monograph 101. Cincinnati: South-Western Publishing Company, Inc., 1960.

Gratz, Jerre E. Major Issues in Business Education, Monograph 106. Cincinnati: South-Western Publishing Company, 1962.

Roman, John C. The Business Curriculum, Monograph 100. Cincinnati: South-Western Publishing Company, 1966.

Wilsing, Weston C. Is Business Education in the Public Schools Meeting The Needs and Desires of Businessmen? Monograph 99. Cincinnati: South-Western Publishing Company, Inc., 1960.