

A COMPARISON OF THREE METHODS OF TEACHING
BUSINESS SUBJECTS FOR JOB ENTRY
IN MEMPHIS HIGH SCHOOLS

By

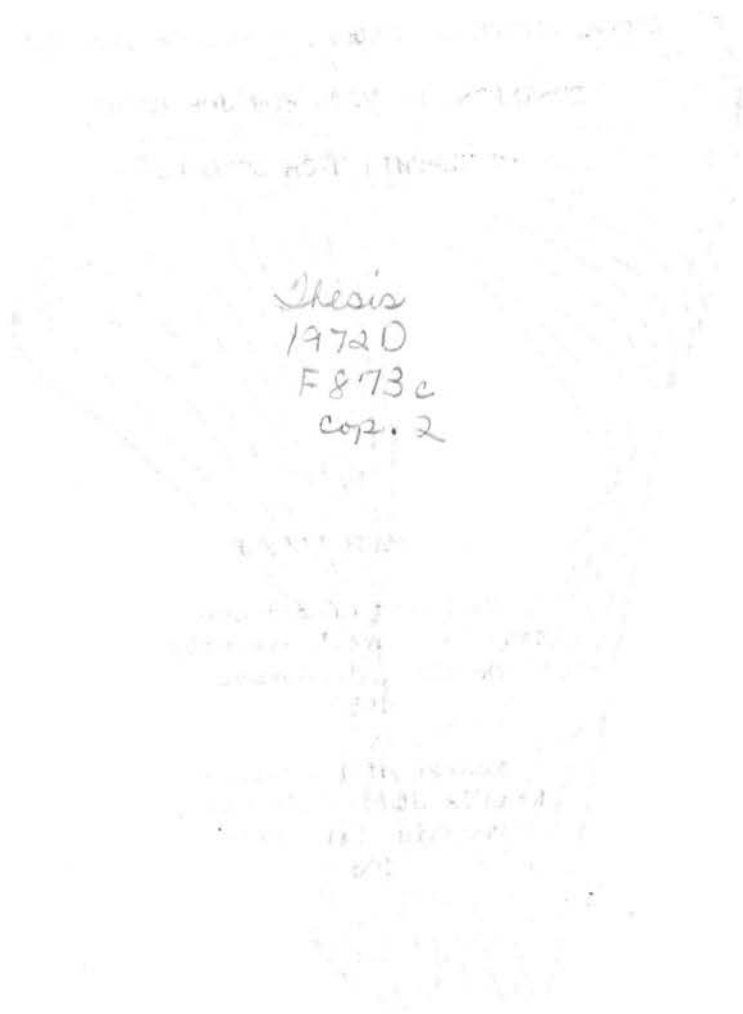
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CHAPTER I

INTRODUCTION

Business Education has always been vocational in nature. But it has been funded as a part of the general education budget, and business teachers, as a group, have not considered themselves as vocational teachers. However, with the passage of the Vocational Act of 1963, Business Education was recognized as a vocational service and, consequently, received substantial federal aid for initiating and maintaining vocational office education programs at the secondary level.

The Memphis City Schools in seeking to implement the mandates of the Vocational Act of 1963 - to teach high school business subjects for job entry upon graduation - established the vocational office education program in nine high schools during the 1964-65 school year, utilizing the three-hour simulated office approach. In addition to the three-hour simulation, the cooperative office education program was added in three high schools as an additional phase of vocational business during the 1967-68 school year.

Fragmentation of the business curriculum resulted, as well as duplication of administration and supervision services, since the traditional office practice course has also been continued as a phase of the general education program in those schools offering the vocational programs.

Today, however, the trend of thinking is toward the integration of vocational education and general education. One urgent goal proposed by the Education Commission of the State of Tennessee, Ad Hoc Committee on Vocational-Technical Education, 1968, was for "the placement of occupational education in the mainstream of education."

The Vocational Education Amendments of 1968 also incorporated the concept of an integrated approach to occupational education. Beaumont (2) quoted statements which the House Committee on Education and Labor felt were worthy of serious consideration. Two of these considerations were:

- (1) Any dichotomy between academic and vocational is outmoded.
- (2) Vocational preparation should be used to make academic education concrete and understandable, and academic education should point up the vocational implications of all education.

Morgan and Bushnell (37) support the non-separation philosophy when they contend that:

The tendency in the past to separate general and vocational education has penalized both those who are college bound and those who plan to terminate their formal education at the end of high school or junior college.

The National Advisory Council on Vocational Education in its third report submitted July 10, 1970 states that:

What America needs most is a commitment to fulfill its most basic ideal. This nation was founded on a belief in the inherent worth of every individual. The fulfillment of individual potential is the country's historic mandate.

To meet this mandate for students interested in the business sector, educational dollars must not be wasted in overlapping or duplication of programs but a flexible and dynamic curriculum must be evolved which will adequately fulfill the individual learning needs of all

students, and also provide the necessary skill competencies required for an increasingly technological society.

Nature of the Problem

The demand for office workers continues to grow, and there seems to be no decrease in demand for the future. The U. S. Department of Labor's Monthly Labor Review (36) reports that at the end of the Fourth Quarter, 1968, there were an estimated 12,889,000 clerical workers employed in the United States. This was an increase of 204,000 from the end of the First Quarter, 1968. The Occupational Outlook Handbook, 1968-69, estimates that there will be an increase of approximately 325,000 new clerical and office positions through the mid 70's. This figure is in addition to the number of workers needed each year for replacement of persons leaving jobs because of retirement, death, and withdrawal.

The national picture is reflected in the following studies:

Wellington (52) in his study of clerical demand between 1965-75, indicated a 30.8% increase in clerical jobs. And the total employed, in business occupations, will grow from 11,200,000 to 14,600,000. He also indicated that the greatest opportunity for employment will be for secretaries and stenographers which will increase 27% from 2,225,000 in 1965 to 2,825,000 in 1975. Positions for typists will be fewer in number but will increase 37% to 875,000. Those involved in bookkeeping or some phase of record-keeping will increase 16% to a total of 1,350,000. These growth figures are in contrast to the total of all United States employment which will grow only 22.8%.

Other studies point out the broad range of skills required in being a successful office worker. Wellington (52) points out that:

The American economy employs 12 million people to keep records or do other paper work, handle communications, receive and ship merchandise, or handle fantastically complex electronic gear, and clerical workers cover a broad band of skills ranging from executive secretaries and computer operators to file clerks and messengers. More than one-half of all girl graduates of high schools work in clerical and related activities.

Kallaus (25) calls attention to the growing office function but indicates that job levels in the office will remain relatively stable.

The office function continues to expand. As it does, it develops new jobs, uses new machines, designs new systems. At the same time, it clings to necessary old jobs (using traditional office skills) and maintains the same job levels while adding new positions and deleting obsolete ones. It is clear then that job levels remain relatively stable while the types of jobs continue to change at an accelerated pace.

Kirk (28) states that business teachers and curriculum specialists need to become informed as to the job opportunities available and qualifications necessary to fill these positions and then make needed curriculum changes. Kirk also concluded that there should be a closer cooperation between businessmen and educators so that schools can more adequately fulfill business needs.

Most of the studies conducted to determine the characteristics of beginning workers dealt with local situations. However, Kaufman and Brown (26) implied that there is need for knowing what the local opportunities are for graduates. In business education, evidence seems to indicate that the local situation may be of more concern than the national picture. Frace (17) found that 79% of the placements of

business graduates were in the metropolitan area within a radius of 25 miles of the school from which they were graduated.

Tonne (46) quotes Dawson Dean, Director of Personnel for American Home Products who states:

'The great demand ... for beginning typists, stenographers, business machine operators, and skilled technicians compel most personnel officers to settle for less than the minimum and to do a lot of on-the-job training. Much of this training is necessarily in the fundamentals of spelling, punctuation, language usage, letter style and format, etc.'

'Since these beginning office jobs are now easily obtained by even the marginal candidate, the high school business student is apparently less anxious to develop his skills to the maximum. To encourage business teachers, however, to maintain high standards as far as possible, it is pointed out that in due time the pressing need for beginning employees with serious deficiencies will fail to make desired and expected job and salary progress. The less fit will be forced out of employment.'

'Now as always, the thoroughly schooled office worker commands a higher beginning salary and a more selected position. He will fit in more quickly and easily and will realize more rapid promotional opportunities. Moreover, he will be less likely to become involved in friction growing out of lack of knowledge and skill. Deficiencies in new employees create irritations for supervisors who have not previously found it necessary to train and develop their workers.'

These studies indicate the need for research to determine the most effective approach to business curriculum development which is broad enough in scope to encompass the two-fold philosophy of business education comprised of vocational and economic understanding as articulated by Daughtrey (13) who states:

Business education offers to every individual an opportunity to develop those skills, abilities, and understanding that will enable him to handle competently his personal business affairs; to develop an understanding of the vocational opportunities available in the broad field of business; and to assume his citizenship responsibilities through enlightened participation in and understanding application of the American free enterprise system.

It offers to the student who wishes to pursue a career in business those skills, abilities, and understandings that will enable him to enter, perform, and progress in a business occupation after graduation from high school and it provides him with the occupational intelligence to enable him to fit into and find job satisfaction in the labor force of our complex and dynamic economy.

Specific Statement of the Problem

The foregoing studies indicate the need for continuing investigation to determine those curriculum factors, that contribute positively towards job success in office occupations. Previous studies have not fully answered the questions of which basic strengths should be identified and incorporated in a more relevant and effective business curriculum. The primary purpose of this study was to determine, with respect to selected variables, the relationship between specific units of three types of business curriculums and on-the-job success ratings of selected graduates of these business curriculums. Relationships to be tested involved differences as to over-all job performance, basic skill development, and personal characteristics.

The secondary purposes of this study were: (1) to determine which units of instruction should be maintained in the business curriculum; (2) to determine attitudes of employers relative to the job competency of vocational business graduates.

Variables

Due to the nature of the variables involved, this was a descriptive study.

Data on variables were collected from State Department of Education Records, Local Board of Education Records, individual firms employment

records, individual students, and parents.

Variables considered were:

A. Basic Skill Development

1. Typing skill
2. Shorthand skill

B. Related Skill Development

1. 10-key adding machine
2. Printing calculator
3. Transcribing machine
4. Duplicating machine
 - a. Photo-copier
 - b. Mimeograph
 - c. Ditto machine

C. General Business Understanding

1. Business vocabulary and business mathematics
2. Basic knowledge of business operation

D. Variables Related to Job Success

1. Knowledge of work
2. Quality of work
3. Job attitude
4. Quantity of work
5. Initiative
6. Personal characteristics
7. Job progress

Hypotheses

The variables lend themselves to the statement of the following hypotheses:

1. There is no difference at the .05 level of confidence in the basic skill development of those students enrolled in the Office Practice Course, the Office-Simulation Three-Hour Block, or the Cooperative Education Course.
2. There is no difference at the .05 level of confidence in related skill development of those students enrolled in the Office Practice Course, the Office-Simulation Three-Hour Block, or the Cooperative Office Education Course.
3. There is no difference in general business understanding at the .05 level of confidence of those students enrolled in the Office Practice Course, the Office-Simulation Three-Hour Block, or the Cooperative Office Education Course.
4. There is no difference in job success at the .05 level of confidence of those students enrolled in the Office Practice Course, the Office-Simulation Three-Hour Block, or the Cooperative Office Education Course.

Definition of Terms

Vocational Office Education is considered to be any instructional unit or series of related units of instruction designed to provide the student with the necessary skills and techniques to be gainfully employed in the field of business after graduation from the secondary program.

Office Practice is considered to be the traditional method of teaching business subjects in the twelfth grade in which the student meets the class for one hour per day, five days a week, and receives one unit of credit toward graduation.

Office-Simulation (Three-Hour Block) is considered to be an innovative method of teaching business subjects specifically for job entry after graduation from the secondary program. The student meets this class for a three-hour period each day, five days a week, and receives two credits toward graduation.

Cooperative Office Education is considered to be a vocational business course in which the student is in school one-half day during the morning and is on the job in a business training position during the afternoon. The student receives two credits toward graduation.

Limitations

The study was limited to those students graduating from the secondary program during the 1970-71 school year, and who were enrolled in one of the established business programs for the entire school year. The study is also limited to only those students entering a full-time position and remaining employed for a minimum six-month period.

The study is further limited in that variables of I. Q., Socio-Economic Status, or general health were not controlled.

Assumptions

The following basic assumptions were made in this study:

1. That the findings of this study would be comparable to the findings of a similar study conducted in another large metropolitan area.
2. That each teacher involved in the study was a fully qualified business teacher with equivalent teaching skills in basic skill subjects and related skill subjects.
3. That the subject areas of both skill and related areas are representative of those taught in any established secondary business program.
4. That the job opportunities available to graduates are similar to those found in any metropolitan area.

Organization of the Study

Chapter I contains the introduction to the problem, the nature of the problem, specific statement of the problem, the variables considered in the study, the hypotheses to be researched, a definition of terms, the limitations to be considered, and the basic assumptions underlying the study.

Chapter II is a review of related literature, with specific emphasis on the need for relating general and vocational education, problems related to specific features of developing a viable business curriculum and studies identifying characteristics relating to successful transition from a school to a work situation.

Chapter III contains a description of student population involved, methods of selecting subjects, and data collecting procedures. A description of criterion measures and statistical treatment of data in order to answer the research hypotheses is also included in this chapter.

Chapter IV is an analysis of the statistical results. The chapter format follows the sequence of the outlined hypotheses.

Chapter V includes the summary of the study, conclusions derived from the study, and recommendations for the use of findings and possibilities for additional research to be conducted.

CHAPTER II

REVIEW OF LITERATURE

Since the passage of the Vocational Act of 1963, thousands of vocational business programs have been introduced throughout the nation intended to better meet the needs of business and industry for a more qualified employee in office occupations. However, by and large these have been mere extensions of the traditional methods of teaching business subjects and very few studies have been designed to determine the effectiveness of the vocational programs, in preparing students for job entry, as related to the traditional business programs.

This survey of literature, therefore, is concerned with those studies which are related and which have application to this study in the areas of (1) preparation for clerical and stenographic positions, (2) business program development and evaluation, and (3) cooperative work experience studies.

Preparation for Clerical and Stenographic Positions

Studies conducted to determine the initial job requirements for clerical and office occupations have been conducted by Downey (14), Pekar (41), Lindseth (33), and Lovern (34). These studies point out that, in general, a high school diploma is required for employment as typists, stenographers, secretaries, and other clerical positions by

most businesses. Kirk (28) reported that most employers were satisfied with present high school business graduates and would hire persons who had no training above the high school level. Armstrong (1) concluded that, in general, the schools seemed to be doing an effective job of providing the kinds and types of instruction that meet the needs of the workers in the entry office positions. Noodell (38), investigating the requirements needed for successful employment in clerical positions, also found that high school graduates with business training can perform clerical duties successfully. However, the businessmen surveyed in this project felt that clerical workers needed both business training and a good general education to enable them to perform the wide variation of duties necessary to meet the changing demands of business. Kesten (27) found that although high school graduation was recommended in most cases it was not required, provided the applicant had previous office experience. In addition to the high school diploma, a majority of employers also required some knowledge of business machines, telephone techniques, mailing services, and receptionist training (Downey, 14).

The above studies lend support to the rationale supporting the need for the establishment of vocational business programs since the need for office employees who have had a broad range of experience with the various skills and techniques required in today's business world has been underscored repeatedly.

Surveys of employers also indicated that improved courses of study were needed in the areas of related office skills, arithmetic, grammar, courtesy, good grooming, and a thorough knowledge of the economics of business in general (Pekar, 41). Lehto (32) found that "social graces" were mentioned by employers as a factor frequently overlooked in

employment preparation. Many employers also expressed a demand for persons capable in skills involving shorthand, typing, and spelling. No indications were given in these studies relating to the type of programs students had participated in prior to graduation.

Telephone usage and typewriting were the most frequent duties performed; with accuracy, promptness, neatness, use of common sense, and ability to follow directions listed as highly desirable qualities for individuals filling clerical positions (Lindseth, 33).

Lovern (34) states that following directions, ability to concentrate on one's work, and the ability to work well with others were important factors for successful office employment.

Kirk (28) found that most beginning office workers began work in clerical positions, with some starting in such jobs as typing, filing, and operating bookkeeping machines. Also copying machines, electric and manual typewriters, and ten-key adding machines were found to be the most commonly used machines in local businesses. Some character weaknesses of poor attitude, lack of responsibility, and lack of respect for property were listed in this study.

Noodell (38) found that instructional units on automation, human relations, office machines, and office procedures should be included in the office practice curriculum. He also stated that a clerical worker's ability to do work accurately, neatly, and according to instructions is of greater importance to the employer than the quantity of work produced. The employer also felt that social, character, and technical traits were of greater importance to the employer than mental or physical traits.

The above studies seem to lend support to the need for a thorough evaluation of the present business curriculum to determine why they are not meeting the needs of employers in the areas indicated.

Another study conducted by George (18) was especially critical of the current programs designed to prepare beginning office workers. His findings were as follows: (1) One-third of the employers interviewed indicated that beginning employees did not know the kind of job for which to look; (2) That the beginning worker's lack of ability to assess his qualifications and skills in relation to the demands of the job, led employers to believe that beginning office workers often chose jobs for which they were temperamentally unsuited and for which there was little employment demand; (3) Two-thirds of the employers expressed the view that beginning workers had received no instructions concerning the important success factors and personal qualities necessary for job success.

Studies conducted relating to post-secondary training were conducted by Paddock (40) and Wegner (51). Paddock reported that a great deal of upgrading was necessary to develop employees for high level secretarial positions. She concluded that generally it would seem that a minimum baccalaureate degree in business administration would be required. There was also evidence of a need for career-oriented personnel who are prepared for the position from the standpoint of education and experience.

Wegner in her study relating to top-level secretaries found that today's secretaries perform two types of duties: (a) those which are clerical in nature, but are performed by the secretary in the capacity of assisting the executive; and (b) those which are more narrowly

defined as secretarial duties for which the secretary is primarily and usually responsible and which require knowledge and understanding possible only through close contact with the situation. She points out that the secretary's role is changing because the functions and duties related to written communication and those that assist the executive are of greater importance than formerly.

The functions and duties related to office management and accounting are of lesser importance than formerly and have been delegated to others to perform because of increased specialization in these areas.

Business Program Development

The current types of vocational business programs such as Office Simulation, Cooperative Office Experience, and Intensified Office Training are attempts to provide the thorough and diversified experiences required for today's high school graduate to successfully compete for job opportunities in the business community. Whether these programs are meeting their stated vocational objectives has been debated and is continuing to be debated as the following studies indicate.

Morgan and Bushnell (37) point out that there is a need to incorporate new philosophy as well as encompassing some of the recent forces affecting curriculum, and one of the newer programs is the Educational System of the 1970's involving 18 experimental schools in the United States and partially funded through the U. S. Office of Education. The basic feature of this program is a curriculum that is "learner centered" rather than process or subject matter centered. The integration and interaction of the components will be a result of careful systems design. There will be no discrete demarcation between academic and

vocational skill training or between these and other parts of the systems. The curriculum must be developed so that each activity relates logically to all other activities and leads to the efficient attainment of the behavioral objectives.

Lanham and Tryten (30) stated that: "The status of the curriculum in business education is one of uneasiness and confusion." They based this statement on the percentage of studies designed to investigate, improve, or evaluate curriculum appearing in the National Business Education Quarterly each year.

A number of guides have been prepared for use by business teachers, supervisors, teacher educators, and curriculum directors for the improvement of the business curriculum. These bulletins are usually prepared by study groups representing the two main purposes of business education -- education about business (economic understanding) and education for business (occupational preparation). Most of these guides are prepared under the sponsorship of and are financed by federal or state governments.

Wanous (50) in reference to business program planning stated:

A convincing majority of the leaders involved in this study believed that one or more programs should be organized and offered around major occupational areas. They did not believe that all business courses should be offered on an elective basis to all students.

The majority favored the offering of sequences organized around general clerical, stenographic, and distributive occupations. The majority also favored the organization of a general business sequence consisting of such courses as economics, general business, business law, typewriting, and merchandising.

In the judgement of these leaders, typewriting, general business, economics, and bookkeeping should be required of all students pursuing a major business sequence. Office Practice, which frequently appears on the required list, was

placed on the required list by only a small percentage of the leaders. In practice, at least, economics is a newcomer to this list.

However, many of the business education programs in the secondary schools remain over the years, rather traditional and possess a certain degree of "sameness" from school to school and state to state.

Francis Brown (7) compared the effectiveness of an experimental business education system called the Senior Intensified Program with the traditional business education system in preparing students for entry level clerical and retail occupations. Brown concluded that both systems were equally effective in preparing students to perform satisfactorily in entry jobs in clerical and sales occupations. He added, however, that the experimental system was more efficient than the traditional system because it prepared the students in 50 per cent less time.

The majority of the research undertaken in the curriculum area, however, continues to be done through studies designed to investigate or evaluate the curriculum, and not to change it. Gibson (19) studied the status of the offerings available and enrollments in business education and the relation of business education to other subject fields in Mississippi high schools. His study revealed that even though business education is entirely elective, it ranks immediately after English, social studies, mathematics, and science as measured by the number of teachers, number of classes taught, and class-period enrollments. Business programs (total business subjects taught in a school) differ widely with 136 different programs existing in the 439 schools. Offerings in many schools seemed to be adequate for the needs of the students, and the subjects were chosen by an impressive number of students.

Offerings in other schools were inadequate, with the array of subjects offered in some schools inappropriate. Gibson's data revealed a glaring weakness in that the actual objectives of office practice, shorthand, and typewriting were not identified as employment-oriented.

Hitzelberger and Hollinseed (21) compared the opinions of selected business classroom teachers with those of business education leaders. Comparisons were made of current classroom objectives, practices, and requirements in bookkeeping, general business, office practice, shorthand, and typewriting. Desirable objectives, practices, and requirements in these five subjects were also investigated.

Their findings led them to conclude that:

Not only do the opinions of teachers and leaders differ concerning desirable objectives, practices, and requirements in the subject matter areas of bookkeeping, general business, office practice, shorthand, and typewriting; the actual objectives, practices, and requirements in these subject areas in the secondary schools throughout the nation do not reflect the opinions of teachers or leaders.

Carter (8) surveyed several hundred office supervisors throughout the Los Angeles area. Based on his findings, Carter concluded that business teachers should: (1) use more class time for teaching spelling, punctuation, penmanship, numbers, symbols, numeric filing rules, procedures for handling office mail, typing from rough draft material, and for teaching the use of telegraph and cablegram services, the switchboard, and reference books; (2) use less time for teaching alphabetical filing rules, data processing, skill in typing letters and business forms, and the use of the telephone; (3) emphasize the fact that there is a demand for office employees who are able to follow both oral and written directions; and (4) stress the importance of desirable personal traits, and how important they can be in maintaining a job.

Kobylus (29) concluded that: (1) the number of clerical workers is increasing rather than decreasing; (2) there is at the present time a general need for school prepared general clerical workers; (3) it is possible to identify knowledges and skills that are basic to most clerical jobs; (4) there is a place for a specialized clerical program at the high school level; (5) the clerical office practice program is significant and of primary importance in the clerical curriculum; and (6) there are essential units of instruction which should be included in the development of a clerical office practice course.

Povodnik (43) surveyed selected high schools in Kansas, Oklahoma, Arkansas, and Missouri to determine the content of the office machines courses. She recommended that: (1) since office machines have become an important part of today's business world, the primary objective of the course should be to develop vocational competence in the use of office machines; (2) office machine instruction should be given during the senior year; (3) the basic machines that should be included in the office machines courses are ten-key adding-listing machines, full keyboard adding-listing machines, key driven calculators, printing calculators, dictating machines, stencil and fluid duplicators, and manual and electric typewriters.

Studies Concerning the Cooperative

Work-Experience Programs

Cooperative work experience in business education has been called the ultimate in vocational business programming. Several recent studies point out the weaknesses and strengths of this approach towards development of a strong business curriculum.

Driska (16) studied the current and recommended practices and procedures in office education at the public secondary school level. His study included both cooperative and non-cooperative programs. State supervisors of business education were asked to report current practices and procedures in office education in their states. Chairmen of business education departments in National Association of Business Teacher Education schools and teacher educators of office education were asked to recommend practices and procedures in office education for their states.

Based on data collected, Driska indicated:

1. Cooperative office education programs and block programs are, and should be, the most frequently offered office education program at the secondary school level.
2. Cooperative office education classes are, and should be, offered at the senior grade level; non-cooperative office education classes are, and should be, offered at the junior and senior levels.
3. Data processing, human relations, and office machines are the areas of office education in which additional materials are most needed; simulated office materials and programmed materials are the kinds of materials most needed.
4. Non-cooperative office education students are, and should be, selected on the basis of a career objective in office occupations and business course prerequisites.
5. Cooperative office education students are, and should be, selected on the basis of career objectives in office occupations and employability from the standpoint of having fundamental skills and personality traits.

Pendleton (42) investigated the cooperative programs presently operating in high schools and junior colleges of Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, and South Dakota. Office education coordinators in these states completed a questionnaire concerning their cooperative office education program, school enrollment

and teacher staff statistics, and the education and work experience background of the coordinators. Pendleton's findings indicated that: (1) the one-year clerical program is the predominant office education program; (2) Typewriting I is a prerequisite for participation in the large majority of the programs offered; (3) about one-half of the coordinators require a "C" average in the prerequisite subjects; (4) the majority of the coordinators include both senior semesters for cooperative training programs on the high school level; (5) the most frequent cooperative office education program is one-half day of school and one-half day of work. The problem areas receiving the greatest response were lack of coordinating time, inadequate school facilities, scheduling of students classes, and selecting competent student trainees.

Lee (31) studied the cooperative office education program to determine the nature and extent to which the programs serve the needs of low-average ability students. Lee reported that interviews conducted with teacher coordinators indicated that low-average ability students benefited from participation in cooperative programs. Major problems encountered in working with low-average ability students were: (1) difficulties in obtaining training stations for this type of student; (2) the development of appropriate personal qualities in low-average ability students, and (3) the lack of adequate classroom materials for the classroom instruction of such students.

Summary

In brief, the review of literature indicates that a confusion exists as to what constitutes an effective business curriculum for preparing students for job entry upon graduation from the high school

program. There is general agreement that a high school diploma should be required for employment as typists, stenographers, secretaries, and in other business positions. Most employers agreed that no higher level of schooling should be required for job entry and that, in general, the high schools seemed to be doing an effective job in providing the type of instruction needed.

However, there is wide disagreement concerning specific units to be taught which will adequately provide the student with a broad range of skills to more adequately meet the needs of an increasingly technological society. Many employees indicated that, in addition to the basic skills of typewriting and shorthand, skill development in the use of the ten-key adding machine, the printing calculator, duplicating, and data processing machines should be emphasized. Other employees listed such supplemental skills as telephone answering techniques, knowledge of mailing services, and receptionist training as desirable units for inclusion in the business curriculum. Almost all studies indicate that units stressing personal characteristics such as good grooming, and proper job attitudes are of the utmost importance.

The studies underline the need for a continuing evaluation and investigation of the effectiveness of current business curriculum. A prevailing weakness is the continuing dichotomy between general education and vocational skill training. This dichotomy creates confusion among business educators and prevents the establishment of a sound viable business curriculum which would adequately meet the needs of all students. Most business teachers and administrative planners agree that comprehensive business programs should be organized and offered around

major occupational areas. The majority focused the offering around general clerical, stenographic, and distributive occupations.

The great majority of the research undertaken in the curriculum area, however, continues to be done through studies designed to investigate or evaluate the curriculum, rather than change it. These studies predicate the need to initiate studies designed to structure a more comprehensive and realistic curriculum especially in light of studies indicating the increasing popularity of business courses. Gibson's study in particular makes this point clear as he states that even though business education is entirely elective, it rates immediately after English, social studies, and mathematics as measured by the number of teachers, number of class-period enrollments, and number of classes taught.

Further studies in the area of cooperative office education stress the fact that although this type of business education program has been called the ultimate in business programming there are some serious weaknesses, along with the obvious strengths, which prevent it from being the final answer to the need for a comprehensive business curriculum that will provide job entry for students of varying capacities and needs.

Some of the most glaring weaknesses were: (1) difficulties in obtaining adequate training stations, especially for low-average ability students; (2) the lack of time for training in the development of appropriate personal qualities especially with low-average ability students; and (3) the lack of adequate classroom materials for classroom instruction of cooperative education students especially those of low-average ability.

The cooperative programs were the most frequently offered business program, and it was generally agreed that the program should be offered

at the senior level only with those indicating a strong career orientation towards business being selected as participants. It was further pointed out that those students with above-average ability seemed to benefit most from the program.

CHAPTER III

DATA COLLECTION AND METHODOLOGY

The sample population, geographic area, the instruments, and the methods of analysis in determining the effectiveness of business training relative to business understanding and on the job performance are described in this chapter. This chapter is divided into the following sections: (1) sources of data; (2) description of the business community of Memphis, Tennessee; (3) description of local high school business programs; (4) population; (5) sample; (6) instrumentation; (7) data collection; and (8) analysis of data.

Sources of Data

The data for this study were provided from civil service test results of graduates, with majors in business education, from the 1970-71 senior class who have entered the labor market, and have continued in full-time employment for a period of at least six months.

Data relating to job performance were obtained from questionnaires completed by local employers of these graduates. (See Appendix E.)

Description of Memphis Business Community

Memphis is a large metropolitan city of over 600,000 population, located at the extreme western tip of Tennessee. Memphis is considered the commercial hub of the Mid-South, and is the trading center for

Mississippi, Arkansas, and Tennessee. It has been speculated that by 1980 Memphis will be among the top ten largest cities in the United States.

Due to its strategic location, the growth of business and industry has been phenomenal during the past ten years. Population has more than doubled during this period and job opportunities in the business area have also increased proportionately. Graduates of the local high school business programs, therefore, have many opportunities to apply the office skills gained during their high school careers.

Description of Local High Schools

The Memphis City School System is ranked twelfth largest in the nation, with approximately 150,000 students in attendance. Memphis has 28 high schools with a student population of approximately 35,000 and a graduating class of approximately 7,000 annually.

Enrollment in business is approximately 8,000 students. A variety of business programs are offered. All high schools except five offer some phase of vocational business education; these five schools are academically oriented and offer traditional business subjects only. The remaining high schools all have some phase of vocational business as well as the traditional business subjects. All 28 high schools participated in this study.

The traditional business subjects offered are Typewriting, Short-hand, Bookkeeping, General Business, and Office Practice. The Vocational Business programs offered only at the junior and senior levels are Vocational Office Education-Clerical Program (three-hour block), Vocational Office Education-Stenographic (three-hour block), Cooperative

Office Education, and Data Processing. A one-hour course entitled Advanced Typing and Office Machines is offered at the eleventh grade level. This course is considered primarily as a feeder for the Cooperative Office Education program.

The variety of business courses offered lends itself to the structuring of many differing plans of study for interested students. However, this may result in diluting the quality of teaching as well as a reduction in the number of students enrolled in the various programs. This is especially true in those schools which may offer two or more of the established business sequences.

This proliferation of programs with its resulting overlapping of administrative and supervisory functions, promotes a continuing dichotomy between general education programs and vocational education. Consequently, we do not achieve the mandate of the House Committee on Education and Labor to provide a quality education which enables the individual to achieve at his highest potential.

Population

Graduates from the three types of business programs studied: the Office Practice Program, the Vocational Office Three-Hour Block, and the Cooperative Office Education program were identified from Board of Education pupil records and local school student records. All graduates with business majors were scheduled to take the Civil Service test for clerical employees. Out of 1,544 eligible students, 961 achieved a GS-2 or GS-3 rating which placed them on the Federal Register for consideration as federal employees. Of those passing the test, a representative sample of twenty-five students, from each of the three senior level

programs, was chosen for purposes of this study. The samples were drawn using Kendall's table of random numbers.

Sample

Van Dalen, author of Understanding Education Research, states:

No specific rules on how to obtain an adequate sample have been formulated, for each situation presents its own problem. If the phenomena under study are homogeneous, a small sample is sufficient, and increasing the size of the sample is of little value if units are not chosen in a way that increases representativeness of the sample. In general, three factors determine the size of the sample: the nature of the population, the type of sampling design, and the degree of precision desired. The researcher gives careful attention to these factors and then selects the sampling design that will provide the desired precision at minimum cost.

With the above criteria as a guideline, it was felt that the three groups representing slightly more than 7% of the total population were statistically valid.

Instrumentation

The standard Civil Service Examination for clerical employees consists of two parts, A and B. Part A contains questions concerning competency in business english and general business understanding. Part B contains questions pertaining to business mathematics comprehension. This test has been validated by testing experts and is used by the federal government as the basic criterion measure for selection of clerical workers. Included with this test are proficiency scores in typewriting and shorthand certified by individual teachers participating in the study. The typewriting test was a standard five-minute timed writing from the standard high school typing text, 9th edition, published by Southwestern Publishing Company. The shorthand test was a three-minute take at 80, 100, and 120 words a minute. These tests were

taken from the regular Gregg high school text published by McGraw-Hill Publishing Company.

Job success attributes were measured by a standardized rating form used by major manufacturing companies in identifying employees with potential for promotion and advancement. The questionnaire identifies those elements that have been selected by psychologists as most indicative of potential job success. In addition to job success indication, part two of the questionnaire deals with related office machine development which is scored by the employees' immediate supervisor. The questionnaire uses a standard five point Likert scale for scoring purposes.

Data Collection

Approximately six weeks prior to graduation, the Civil Service test was administered and scored by federal examiners. Test results were sent to the Board of Education, Memphis City Schools. The results were tabulated by school and indicated student name, composite score (Part A and Part B), breakdown of individual scores for Part A and Part B, typing score, and shorthand score. Students who scored below a composite score of 70 were declared ineligible for federal employment.

In January of the following year, a follow-up study was conducted to identify those students who had been employed a minimum of six months continuous employment after graduation. Questionnaires relating to job success were sent to the employers of these students so identified.

The following letters initiating the study were sent (see Appendix A):

1. Letter to Superintendent of Schools requesting permission to do the study.
2. Letter to Attendance Division Director for permission to review records.
3. Letter to Principals requesting permission to review school records.
4. Letter to business teachers concerning purpose of study.
5. Letter to parents of students involved stating purpose of study.
6. Letter to students regarding extent and purpose of study.
7. Letters to employers requesting cooperation in the study.
8. Follow-up letters of appreciation to all concerned.

Analysis of Data

The basic design for the study was a control group with two experimental groups. Criterion measures were applied on a post-test basis only.

The traditional Office Practice students were considered as the control group, with the Vocational Office (three-hour block) considered as Experimental Group I, and the Cooperative Office Education students as Experimental Group II.

Analysis of variance was computed between the three groups in the areas of basic skill development, typing and shorthand proficiency, related machine skill development, general business understanding, and job success.

Popham, author of Educational Statistics, states that:

Single classification analysis of variance provides the researcher with a technique for simultaneously testing whether

means of two or more groups are significantly different. This statistical model capitalizes on the integral relationship between the mean and the variance so that by analyzing variances of several groups, conclusions can be drawn regarding the similarity of the means of those groups.

Analysis of variance was used to test the null hypotheses that there is no difference in the mean increase in (1) typing skill, (2) shorthand proficiency, (3) related skill development, (4) general business understanding, and (5) job success, as measured by the Civil Service test and job success questionnaires, between those students participating in the Vocational Office Education (three-hour block) program, the Cooperative Office Education program, or the traditional Office Practice course.

Duncan's multiple range test was also applied between groups to determine which program may have contributed most heavily toward rejecting the null hypotheses relative to the tested variables.

A significance level of .05 was considered necessary to reject the null for all hypotheses. The table of F was used to determine if the obtained F was significant at the .05 level of confidence.

Summary

The sample population, geographic area, the methods of sample selection, and the gathering, analysis, and interpretation of collected data were described in this chapter.

The population consisted of 1970-71 graduates who were business majors and had participated in one of the established business sequences, (1) Office Practice, (2) Vocational Office Education (three-hour block), or (3) Cooperative Office Education, in the twelfth grade.

The standard Civil Service test for clerical employees was administered to all eligible seniors prior to graduation and three random

samples of twenty-five students each representing the three office programs were selected for purposes of this study. The mean differences between the variable of typing skill, shorthand skill, and business fundamentals understanding were analyzed using the analysis of variance technique. The mean differences in such variables as related skill development and job success patterns were tested through a standardized rating sheet completed by employers of those students who had been in their employ at least six months on a continuous basis. Analysis of variance was used to compare those differences and to indicate whether those differences were significant at the .05 level of confidence.

Duncan's multiple range test was applied between groups to determine which program was primarily responsible for the rejection of the null hypotheses.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

The data obtained from the Civil Service test scores and the job evaluation follow-up forms were analyzed in this chapter. The data were comprised of scores made by students who graduated from the secondary program in June of 1971. These students majored in business education and had completed one of the following senior level courses; Office Practice, Vocational Office Education, or Cooperative Office Education. A total of 1,544 graduates from the twenty-eight Memphis city high schools participated in this study. (See Appendix D for listing of schools participating.)

Three groups of 25 students each, representing the Office Practice, Vocational Office Education, and Cooperative Office Education programs, were randomly selected from those students who had received a minimum composite score of 70 on the Civil Service test for clerical employees, Parts A and B. A minimum score of 70 meets the eligibility requirements for a listing on the Federal Register which is prerequisite to employment.

The Civil Service tests were administered approximately six weeks prior to graduation and were scored by Federal examiners. The complete Civil Service profile consisted of a composite score of Parts A and B of the standard Civil Service Examination and proficiency scores in shorthand and typing certified by business teachers of the Memphis city

system. These scores were returned to the Board of Education by the Inter Agency Office of the Civil Service Commission by September, 1971.

A job evaluation follow-up was completed in March of 1972 of the students who had entered employment after graduation from the secondary program and had been employed for at least six months. (See Appendix B for a sample of the evaluation form.)

Scores made by the three representative groups of students representing Office Practice, Vocational Office Education, and Cooperative Office Education were analyzed from these instruments and analysis of variance was used to compare the mean scores for the three groups on the Civil Service composite scores and the proficiency scores in typing and shorthand as indicated by the correct words a minute score as certified on the proficiency forms. Analysis of variance was also used to compare the mean scores from the job evaluation form for the variables of related skills development, production usage of typing, shorthand and filing, and job success.

The null hypotheses for the study were that there is no significant difference in those students who have completed the standard Office Practice program, the Vocational Office Education program, or the Cooperative Office Education program relative to the variables of Civil Service test scores, proficiency scores in typing and shorthand, related skills development, and success on the job. The obtained F values were tested for significance at the .05 level of confidence.

Analysis of Composite Civil Service Test Scores

The composite test score of the standardized Civil Service test represents knowledge acquired in basic business understanding, business

vocabulary, and business mathematics. Table I outlines the mean differences and standard deviation for the three groups. Means range from the low of 82 points for the Cooperative Office students to a high of 84.6 for the Office Practice students and the standard deviation from a low of 5.87 for the Cooperative Office students to a high of 6.01 for the Office Practice students.

TABLE I
COMPOSITE CIVIL SERVICE TEST SCORES,
PARTS A AND B

Treatment Group	Office Practice	Vocational Office	Cooperative Office
Sample Size	25	25	25
Mean	84.6359	82.4479	82.0039
Standard Deviation	5.8741	6.5396	6.0120

The analysis of variance for the composite Civil Service test scores is given in Table II. The obtained F value of 1.3127 does not exceed the .05 confidence level as found in the table of F; therefore, there was no significant difference in the composite Civil Service test mean scores of 84.6359 for the Office Practice group, 82.4 for the Vocational Office group, and 82.0 for the Cooperative Office group.

TABLE II
ANALYSIS OF VARIANCE OF COMPOSITE CIVIL SERVICE
TEST SCORES, PARTS A AND B

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	99.2555	2	49.6278	1.3127
Within Groups	2721.9629	72	37.8050	
Total	2821.2183	74		

Duncan's Multiple Range test, designed to show direction and indicate significant differences by a comparison of each mean with every other mean, further underlines the result of no significance by the ranking of means as indicated in Table III.

TABLE III
DUNCAN'S MULTIPLE RANGE, .05 PROTECTION LEVEL
COMPOSITE CIVIL SERVICE TEST SCORES,
PARTS A AND B

Sample	Means	Ident	Rank
25	82.004	Cooperative Office	1
25	82.448	Vocational Office	2*
25	84.636	Office Practice	3

*Tied ranks 1 through 3 inclusive indicate no significant difference between the ranked means of the three groups.

Analysis of Proficiency Certificates for Basic
Skill Development in Typewriting

The complete Civil Service profile consisted of proficiency scores in the basic skill area of typewriting as well as the composite Civil Service aptitude scores. The null hypothesis for this part of the study states that there is no difference in basic skill development between students of the Office Practice, Vocational Office Education, or Cooperative Office Education programs.

Proficiency certificates, listing a gross-words-a-minute score and a total error score on a standardized five-minute timed writing (see Appendix B) were certified by business teachers of the Memphis city school system. From these certificates a correct-words-a-minute score was determined for purposes of analysis (see Appendix C).

Table IV illustrates the mean differences of the three groups' range from a low of 47.1 for the Office Practice program to a high of 54.8 for the Vocational Office program. Standard deviation ranged from 4.3 for the Office Practice program to a high of 8.5 for the Cooperative Office Education program.

TABLE IV
BASIC SKILL DEVELOPMENT - PROFICIENCY SCORES IN TYPEWRITING

Treatment Group	Office Practice	Vocational Office	Cooperative Office
Sample Size	25	25	25
Mean	47.1200	54.7600	52.0000
Standard Deviation	4.2848	8.0534	8.5294

Results of the analysis of variance for the mean differences between basic skill development scores of the three groups are shown in Table V. The F value of 7.1973 was tested for significance at the .05 level of confidence. The obtained value of 7.1973 was determined to be significant beyond the .01 level of confidence since it exceeds the value of 4.88 found in the table of F.

Results of the Duncan Multiple Range test in Table VI illustrates the direction of the significant difference through the ranking of means which varied from the low of 47.12 for Office Practice to the high of 54.76 for the Vocational Office program. Tied ranks 2 and 3 indicate no significant difference between the Vocational Office and the Cooperative Office program. The significant difference is indicated by the untied rank 1 of the Office Practice program.

TABLE V
ANALYSIS OF VARIANCE OF BASIC SKILL DEVELOPMENT
IN TYPEWRITING FROM PROFICIENCY SCORES

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	748.3535	2	374.1768	7.1973*
Within Groups	3743.1953	72	51.9888	
Total	4491.5469	74		

Tabled F_{2, 72} - 4.88 at .01 level of confidence.

*Significant beyond .01 level of confidence.

TABLE VI
DUNCAN'S MULTIPLE RANGE, .05 PROTECTION LEVEL
BASIC SKILL DEVELOPMENT - TYPEWRITING

Sample	Means	Ident	Rank
25	47.120	Office Practice	1 **
25	52.000	Cooperative Office	2]*
25	54.760	Vocational Office	3]

*Tied ranks 2 and 3 indicate no significant difference between these two ranks.

**Untied rank 1 indicates significant difference exists between rank 1 and tied ranks 2 and 3.

Analysis of Proficiency Certificates for Basic
Skill Development in Shorthand

In continuation of the analysis of basic skill development, the shorthand proficiency scores were analyzed for the Office Practice program and the Vocational Office program. Proficiency scores were not available for the Cooperative Education program. Since this is a work experience program it requires on-the-job training for a one-half school day during the senior year. Consequently, the large majority of the cooperative students do not have time to take the advanced shorthand training required to achieve a proficiency rating in shorthand skill.

However, a valid comparison between the traditional Office Practice program and the Vocational Office program was made from the shorthand scores of students who were given a standardized three-minute shorthand take at 80, 100, and 120 words-a-minute (see Appendix C). Proficiency scores were certified by business teachers of the Memphis city system.

Table VII illustrates the comparison of the two groups the mean ranging from a low of 76.8 for the Office Practice program to 77.12 for the Vocational Office program. Standard deviations ranged from 9.1073 for the Vocational Office Program to 9.3572 for the Office Practice program.

Results of the analysis of variance for the mean differences between the basic skill development scores in shorthand for the Office Practice and the Vocational Office Education program are shown in Table VIII. The F value of .8798 was tested for significance at the .05 level. The obtained value of .8798 was not significant at the .05 level based on the table of F.

TABLE VII
 BASIC SKILL DEVELOPMENT - PROFICIENCY SCORES IN SHORTHAND

Treatment Group	Office Practice	Vocational Office
Sample Size	25	25
Mean	76.8400	77.1200
Standard Deviation	9.3572	9.1073

TABLE VIII
 ANALYSIS OF VARIANCE OF BASIC SKILL DEVELOPMENT
 IN SHORTHAND FROM PROFICIENCY SCORES

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	1.01	2	.50	.8798
Within Groups	4091.97	72	56.83	
Total	4092.98	74		

The application of the Duncan Multiple Range test illustrated in Table IX shows the direction of the mean differences between the Office Practice program and the Vocational Office program. The tied ranks 1 and 2 indicate no significant difference between the two programs in shorthand proficiency.

TABLE IX
DUNCAN'S MULTIPLE RANGE, .05 PROTECTION LEVEL
BASIC SKILL DEVELOPMENT - SHORTHAND

Sample	Means	Ident	Rank
25	76.840	Office Practice	1
25	77.120	Vocational Office	2

*Tied ranks 1 and 2 indicate no significant difference at the .05 level of confidence.

Analysis of Related Skill Development

The data for this part of the study were provided from a job evaluation form (see Appendix B) completed by the immediate supervisor of graduates who went into full-time employment after completion of the secondary program. Only those students who had been employed for a minimum of six months were considered. Three groups of 25 students representing the Office Practice, Vocational Office Education, and Cooperative Office Education programs were randomly selected and the form was completed by their employers (see Appendix E for listing of employers).

The evaluation for related skill development concerned the knowledge and ability to operate the following office machines: (1) 10-Key Adding Machine, (2) Printing Calculator, (3) Rotary Calculator, (4) Transcribing Machine, (5) Key Punch Machine, and (6) Duplicating Machine. These machines are typical of those found in all three programs. In some schools office practice students use the same

equipment as the vocational programs in other schools separate classrooms are maintained.

The null hypothesis for this part of the study was that there is no difference at the .05 level of confidence in related skill development of students who have completed either the Office Practice program, the Vocational Office Education program or the Cooperative Office Education program during the senior year.

Table X illustrates that the mean differences for the three groups ranged from a low of 11.84 for the Office Practice group to 27.36 for the Vocational Office group and to a high of 18.48 for the Cooperative Office group. Standard deviation ranged from 4.26 for the Cooperative Office group to 6.48 for the Office Practice group.

TABLE X
RELATED SKILL DEVELOPMENT - JOB EVALUATION FORM

Treatment Group	Office Practice	Vocational Office	Cooperative Office
Sample Size	25	25	25
Mean	11.8400	27.3600	28.4800
Standard Deviation	6.4787	5.0239	4.2634

The analysis of variance for related skill development mean scores is shown in Table XI. The obtained value of 75.9760 was tested at the .05 level of confidence. The F value of 75.9760 exceeds the value of 4.88 at the .01 level of confidence found in the table of F.

TABLE XI
ANALYSIS OF VARIANCE - RELATED SKILL DEVELOPMENT

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	4325.0937	2	2162.5469	75.9769*
Within Groups	2049.3525	72	28.4632	
Total	6374.4453	74		

*Significant above .01 level of confidence.

The results of applying the Duncan Multiple Range test to show direction of significant differences are shown in Table XII. The ranked means range from a low of 11.840 for the Office Practice group to a high of 28.48 for the Cooperative Office group. The tied ranks 2 and 3 indicate there is no significant difference for the Vocational Office and the Cooperative Office groups at the .05 level of confidence while the untied rank 1 indicates a significant difference at the .05 protection level between the Office Practice and the Vocational groups.

TABLE XII
DUNCAN'S MULTIPLE RANGE - .05 PROTECTION LEVEL
RELATED SKILL DEVELOPMENT

Sample	Means	Ident	Rank
25	11.840	Office Practice	1 **
25	27.360	Vocational Office	2]
25	28.480	Cooperative Office	3] *

*Tied ranks 2 and 3 indicate no significant difference.

**Untied rank 1 indicates significant difference at .05 protection level.

Employer Frequency Distribution Related Skill Development

As a corollary to the research question concerning related skill development, employers were also asked to state their evaluation of the need for related skill training for business students at the high school level. Employers were asked to circle the skill level which they considered necessary for job entry. The evaluation ranged from a level of 1 (for skill not necessary) to 5 (must be completely instructed in all machine operations). (See Appendix B.) Table XIII illustrates the results from the employers responses for the three groups - Office Practice, Vocational Office, and Cooperative Office Education.

Table XIV summarizes the findings for all three groups concerning the importance of related skill training for business education students as a prerequisite to job entry. The responses range from a low of 1.33

TABLE XIII

FREQUENCY DISTRIBUTION ON IMPORTANCE OF TEACHING RELATED MACHINE SKILLS AT THE
 SECONDARY LEVEL BASED ON EMPLOYERS RESPONSES TO QUESTION 8 - JOB
 EVALUATION FORM - (PAGE 2)

Response Level	5	4	3	2	1
	Must be Completely Instructed in All Machine Operations.	Should Have a Thorough Under- standing Most Machines.	Good Basic Knowledge Required.	Should Have Some Knowledge.	Not Necessary.
Response Percentage					
Office Practice	0.0	12.0	52.0	20.0	16.0
Vocational Office	0.0	12.0	68.0	16.0	4.0
Cooperative Office	4.0	12.0	80.0	4.0	0.0

TABLE XIV

SUMMARY OF FREQUENCY DISTRIBUTION ON IMPORTANCE OF TEACHING RELATED MACHINE SKILL AT THE SECONDARY LEVEL BASED ON EMPLOYERS RESPONSES TO QUESTION 8 - JOB EVALUATION FORM - (PAGE 2)

Response Level	5	4	3	2	1
Response Questions	Must be Completely Instructed in All Machine Operations	Should Have a Thorough Understanding Most Machines.	Good Basic Knowledge Required.	Should Have Some Knowledge.	Not Necessary.
Response Percentage					
All Programs	1.33	12.00	66.67	13.33	6.67 *

*80% indicated level 3 or above as a prerequisite to job entry.

percent of the employers considering the skill training unnecessary to a high of 66.67 percent who considered that some basic knowledge of the related machines is necessary for job entry. Eighty percent of all employers felt that a good-to-excellent knowledge of related machines should be acquired at the high school level.

Analysis of Job Success Test Results

The data obtained from page one of the job evaluation form (see Appendix B) were analyzed in this part of the study. The job success profile of the test subjects was composed of seven key factors which are common to merit rating devices used by most large companies in the United States. These seven factors are considered by personnel managers and consulting psychologists as the most important indicators of successful adaptation to the job while also providing a key to future job progress. These factors are as follows: (1) Quality of Work, (2) Quantity of Work, (3) Knowledge of Work, (4) Initiative, (5) Job Attitude, (6) Personal Characteristics, and (7) Job Progress. Each of these variables was tested separately for the three groups; Office Practice, Vocational Office Education, and Cooperative Office Education. These three groups represented randomly selected students who had been employed a minimum of six months after graduation from the secondary program. The null hypothesis for this part of the study stated that there is no difference at the .05 level of confidence in job success of these students graduating from the Office Practice program, the Vocational Office program, or the Cooperative Office Education program.

The data presented in Table XV illustrates the results of the employers evaluation concerning quality of work. The employers were

asked to consider neatness, accuracy, and dependability of results regardless of volume in making this evaluation. A five-point Likert type scaling technique was used. Results indicate that the mean differences varied from a low of 3.76 for the Vocational Office program to a high of 4.28 for the Cooperative Office program. Standard deviation varied from a low of .72 for the Vocational Office program to a high of .88 for the Office Practice program.

TABLE XV
QUALITY OF WORK SCORES FROM JOB EVALUATION FORM

Treatment Group	Office Practice	Vocational Office	Cooperative Office
Sample Size	25	25	25
Mean	3.8800	3.7600	4.2800
Standard Deviation	0.8813	0.7234	0.7371

Analysis of variance was applied to the data to determine if the mean differences were significant at the .05 level of confidence. Table XVI indicates that the obtained F ratio of 3.0163 was not significant at the .05 level of confidence since it did not exceed the indicated F ratio of 3.11 shown in the table of F.

TABLE XVI
ANALYSIS OF VARIANCE OF QUALITY OF WORK
FROM JOB EVALUATION FORM

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	3.7067	2	1.8533	3.0163
Within Groups	44.2399	72	0.6144	
Total	47.9466	74		

Quality of work was the next variable in the job success profile to be analyzed. Employers were asked to consider the volume of work produced under normal conditions, and to disregard errors in making the evaluation for quantity of work. Table XVII shows that the mean differences range from 3.80 for the Office Practice, and the Vocational Office groups to a high of 4.04 for the Cooperative Office group.

TABLE XVII
QUANTITY OF WORK SCORES FROM JOB EVALUATION FORM

Treatment Group	Office Practice	Vocational Office	Cooperative Office
Sample Size	25	25	25
Mean	3.8000	3.8000	4.0400
Standard Deviation	0.9574	0.7638	0.6758

Analysis of variance was applied to test the mean differences of the quantity of work evaluation scores for the three groups. The obtained F ratio of .7360 was determined non-significant at the .05 level of confidence since it did not exceed the F ratio of 3.11 for the .05 level of confidence as shown in the table of F. These results are illustrated in Table XVIII.

TABLE XVIII
ANALYSIS OF VARIANCE OF QUANTITY OF WORK FROM
JOB EVALUATION FORM

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	0.9600	2	0.4800	0.7360
Within Groups	46.9599	72	0.6522	
Total	47.9199	74		

Knowledge of work was the next variable tested in determination of the job success profile of the three groups of subjects. Employers were asked to consider knowledge of the job gained through experience, general education, and specialized training in making the evaluation for this variable. Table XIX shows that the mean differences range from a low of 3.48 for the Office Practice group to a high of 3.96 for the Cooperative Office group. The standard deviation varied from a low of

.7141 for the Vocational Office group to a high of the 3.96 for the Cooperative Office group.

TABLE XIX
KNOWLEDGE OF WORK SCORES FROM JOB EVALUATION FORM

Treatment Group	Office Practice	Vocational Office	Cooperative Office
Sample Size	25	25	25
Mean	3.4800	3.5200	3.9600
Standard Deviation	0.8718	0.7141	0.7895

Results of the analysis of variance applied to the knowledge of work scores are shown in Table XX. The mean differences were tested for significance at the .05 level of confidence. The obtained F ratio of 2.8099 was considered non-significant at the .05 level of confidence since it did not exceed the F ratio of 3.11 as indicated in the table of F.

TABLE XX
ANALYSIS OF VARIANCE KNOWLEDGE OF WORK SCORES
FROM JOB EVALUATION FORM

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	3.5467	2	1.7733	2.8099
Within Groups	45.4399	72	0.6311	
Total	48.9866	74		

The initiative variable was considered next in determining the job success profile for the subject groups. Employers were asked to consider the tendency to contribute, develop, and/or carry out new ideas or methods in evaluating the initiative variable. Table XXI illustrates the range of the mean differences from a low of 3.28 for the Vocational Office group to a high of 3.68 for the Cooperative Office Education group. The standard deviation ranged from a low of .6137 for the Vocational Office group to a high of .9883 for the Cooperative Office group.

The analysis of variance was applied to the initiative variable scores to test the mean differences for significance at the .05 level of confidence. The obtained F ratio of 1.3860 was not significant since it did not exceed the F ratio of 3.11 as indicated in the table of F.

TABLE XXI
INITIATIVE SCORES FROM JOB EVALUATION FORM

Treatment Group	Office Practice	Vocational Office	Cooperative Office
Sample Size	25	25	25
Mean	3.4400	3.2800	3.6800
Standard Deviation	0.9165	0.6137	0.9883

TABLE XXII
ANALYSIS OF VARIANCE OF INITIATIVE SCORES FROM
JOB EVALUATION FORM

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	2.0267	2	1.0133	1.3860
Within Groups	52.6397	72	0.7311	
Total	54.6664	74		

The job attitude variable was considered next as a part of the job success profile for the three groups. Employers were asked to consider general attitudes toward job, leading to job progress. Table XXIII points out that the mean differences range from a low of 3.7600 for the Office Practice group to a high of 4.2400 for the Cooperative Office group. Standard deviations range from a low of .6455 for the Vocational Office group to a high of 1.1648 for the Office Practice group.

TABLE XXIII
JOB ATTITUDE SCORES FROM JOB EVALUATION FORM

Treatment Group	Office Practice	Vocational Office	Cooperative Office
Sample Size	25	25	25
Mean	3.7600	4.000	4.2400
Standard Deviation	1.1648	0.6455	0.8794

The analysis of variance was applied to the job attitude scores to test mean differences for significance at the .05 level of confidence. The obtained F ratio of 1.6963 was determined to be not significant at the .05 level of confidence since it did not exceed the F ratio of 3.11 as given in the table of F. Table XXIV illustrates the results of the application.

TABLE XXIV
ANALYSIS OF VARIANCE JOB ATTITUDE SCORES
FROM JOB EVALUATION FORM

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	2.8800	2	1.4400	1.6963
Within Groups	61.1198	72	0.8489	
Total	63.9998	74		

Personal characteristics of the employee was next considered in determining the job success profile. Employers were asked to consider personal traits, orderliness, resentment to criticism, tendency to complain, and general job dissatisfaction. Table XXV illustrates that the mean differences for the three groups ranged from a low of 3.64 for the Office Practice and Vocational Office groups, to a high of 3.80 for the Cooperative Office group. The standard deviation ranged from a low of .8602 for the Vocational Office group to a high of .9574 for the Cooperative Office group.

TABLE XXV

PERSONAL CHARACTERISTICS SCORES FROM JOB EVALUATION FORM

Treatment Group	Office Practice	Vocational Office	Cooperative Office
Sample Size	25	25	25
Mean	3.6400	3.6400	3.8000
Standard Deviation	0.9522	0.8602	0.9574

Analysis of variance applied to test the mean differences obtained from the personal characteristics scores is illustrated in Table XXVI. The mean differences were tested for significance at the .05 level of confidence. The obtained F ratio of .2497 was determined to be not

significant at the .05 level of confidence since it did not exceed the F ratio of 3.11 indicated in the table of F.

TABLE XXVI
ANALYSIS OF VARIANCE PERSONAL CHARACTERISTICS SCORES
FROM JOB EVALUATION FORM

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	0.4267	2	0.2133	0.2497
Within Groups	61.5197	72	0.8544	
Total	61.9464	74		

The last variable considered in determining the job success profiles for the three groups was job progress. Employers were asked to consider promotions and salary increases in evaluating the job progress of the subjects. Table XXVII illustrates that the mean differences ranged from a low of 2.64 for the Office Practice and Vocational Office groups, to a high of 3.00 for the Cooperative Office group. Standard deviation ranged from a low of 1.1136 for the Office Practice and Vocational Office group to a high of 1.1902 for the Cooperative Office group.

The results of analysis of variance applied to test the mean differences of the job progress variable at the .05 level of confidence is illustrated in Table XXVIII. The obtained F ratio of .8315 was not

significant at the .05 level of confidence since it did not exceed the F ratio of 3.11 as indicated in the table of F.

TABLE XXVII
JOB PROGRESS SCORES FROM JOB EVALUATION FORM

Treatment Group	Office Practice	Vocational Office	Cooperative Office
Sample Size	25	25	25
Mean	2.6400	2.6400	3.0000
Standard Deviation	1.1136	1.1136	1.1902

TABLE XXVIII
ANALYSIS OF VARIANCE FOR JOB PROGRESS SCORES
FROM JOB EVALUATION FORM

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	2.1600	2	1.0800	0.8315
Within Groups	93.5198	72	1.2989	
Total	95.6798	74		

Summary Analysis Job Success Scores

A summary run of the combined scores for all seven factors of the job success profile is shown in Table XXIX. The combined scores for the variables of quality of work, quantity of work, knowledge of work, initiative, job attitude, personal characteristics, and job progress, making up the job success profile, yielded mean differences ranging from a low of 24.96 for the Office Practice group to a high of 26.88 for the Cooperative Office Education group. The mean gain of the Cooperative Education group was consistently higher throughout the analyses of all variables. The mean gains of the Vocational Office Education and the traditional Office Practice group reflected very little difference throughout the analyses of the seven variables of job success. The standard deviation of the summary run ranged from a low of 4.1665 for the Cooperative Office group to a high of 5.8878 for the Office Practice group.

TABLE XXIX

SUMMARY OF JOB SUCCESS SCORES FROM JOB EVALUATION FORM

Treatment Group	Office Practice	Vocational Office	Cooperative Office
Sample Size	25	25	25
Mean	25.0000	24.9600	26.8800
Standard Deviation	5.8878	4.2277	4.1665

An analysis of variance was applied to the summary run of the combined scores to test the mean differences for significance at the .05 level of confidence. The obtained F ratio of 1.2916 was not significant at the .05 level of confidence since it did not exceed the F ratio of 3.11 as indicated in the table of F. Table XXX illustrates these obtained results.

TABLE XXX
ANALYSIS OF VARIANCE FOR SUMMARIZED JOB SUCCESS SCORES
FROM JOB EVALUATION FORM

Source of Variance	Sum of Squares	DF	Mean Square	F Ratio
Between Groups	60.1863	2	30.0931	1.2916
Within Groups	1677.5977	72	23.3000	
Total	1737.7839	74		

The Duncan Multiple Range test was also applied to show direction by the ranking of means and to test the mean differences for significance at the .05 level of confidence. The tied ranks as shown in Table XXXI ranged from a low of 24.96 for the Office Practice group to a high of 26.88 for the Cooperative Education group. This test further underscores the minor differences between the Office Practice and the Vocational Office groups, and the consistently higher ranking of the Cooperative Office group in the analysis of the job success profile.

TABLE XXXI

DUNCAN'S MULTIPLE RANGE - .05 PROTECTION LEVEL JOB
SUCCESS SCORES FROM JOB EVALUATION FORM

Sample	Means	Ident	Rank
25	24.960	Vocational Office	1
25	25.000	Office Practice	2
25	26.880	Cooperative Office	3

*Tied ranks for groups 1 through 3 indicates no significant difference at the .05 level of confidence.

Summary

Data presented in this chapter were obtained from scores made by three groups of 25 students representing the senior level business programs of Office Practice, Vocational Office Education, and Cooperative Office Education. The instruments used to gather data were the standard Civil Service Examination for Clerical Employees - GS-2 and GS-3 ratings - Parts A and B; proficiency certificates in shorthand and typing; and a job evaluation form for analysis of related skill development and job success.

Analysis of variance for basic skill development in typing indicated no significant difference at the .05 level of confidence for the Vocational Office program and the Cooperative Office program, but a significant difference beyond the .01 level of confidence between the Office Practice and the Vocational programs. The obtained F ratio of

7.1973 exceeded the F ratio of 4.88 for the .01 level of confidence as shown in the table of F.

Analysis of variance for basic skill development in shorthand from the proficiency certificates indicated no significant difference between the Office Practice and Vocational programs at the .05 level of confidence since the obtained F ratio of .8798 did not exceed the F ratio of 3.11 as shown in the table of F.

Analysis of variance for basic business understanding, business vocabulary, and business mathematics scores as indicated by the Civil Service test - Parts A and B - shows that there is no difference between the Office Practice, Vocational Office Education, and Cooperative Office Education groups on these variables. The F ratio of 1.3127 was not significant since it did not exceed the F ratio of 3.11 at the .05 level of confidence as shown in the table of F.

Results of the analysis of variance for related skill development scores, obtained from page two of the job evaluation form, indicated that the obtained F ratio of 75.9769 was significant beyond the .01 level of confidence since it exceeded the F ratio of 4.88 indicated in the table of F. Duncan's Multiple Range test shows that the direction of the significant difference is between the Office Practice and the Vocational groups. There was no significant difference between the Vocational Office program and the Cooperative Office program.

As a corollary to the related skill development scores a frequency count of employers was made relative to the importance of teaching related machine skills in the high school program. Eighty percent of all employers felt that at least a good basic knowledge of the related office machines should be taught.

An analysis of variance was completed for all seven factors of the job success profile. These scores were obtained from page one of the job evaluation form. The results of these runs indicated no significant difference at the .05 level of confidence since the obtained F ratio did not exceed 3.11 as indicated in the table of F. A summary analysis of variance run of the combined scores was also completed and the obtained F ratio of 1.2916 was not significant since it did not exceed the F ratio of 3.11 as shown in the table of F.

Duncan's Multiple Range test was also applied to the summarized scores and the tied ranks indicated no significant difference between any of the three programs. The ranked means did indicate that the Cooperative Office Education program mean gain was consistently higher for all seven job success factors. There was very little difference in mean gains for the Vocational Office program and the traditional Office Practice program.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter contains a summary of the problem, review of literature, methods and procedures, and analysis and interpretation of the data relating to the study. Conclusions and recommendations are also presented in this chapter.

The Problem

Since the passage of the Vocational Act of 1963, in which business education was recognized as a vocational service, there has been a proliferation of vocational business programs throughout the United States. These programs involve the outlay of thousands of dollars for equipment and materials in addition to instructor salary.

Memphis City Schools have instituted vocational programs in all but five of its 28 high schools. The vocational programs have been added to the business curriculum while also maintaining the traditional office practice program. Some high schools, for example, in the Memphis City system have a Vocational Office Education program (3-hour block), a Cooperative Office Education program (on-the-job training), and the traditional Office Practice program (1 hour). Consequently, this has resulted in a continuing dichotomy between the general education and vocational education interests with the resulting dilution of administrative and supervisory services, the duplication of equipment, materials

and supplies budgets, and a general inefficiency in the use of the educational dollar in the important area of business education. This problem is not unique to the Memphis City system, but is common in school systems throughout the nation.

Since all of the business programs offered at the senior level have the basic objective of preparing students for job entry, it was imperative that a study be made to determine which programs were contributing the most effectively towards meeting this basic objective.

The purposes of this study, therefore, were to compare graduates of the traditional Office Practice programs, the Vocational Office program, and the Cooperative Office program in the following specific areas:

1. Basic Skill Development
 - a. Typewriting Skill
 - b. Shorthand Skill
2. Related Skill Development (Related Office Machines Skill)
 - a. 10-Key Adding Machine
 - b. Printing Calculator
 - c. Rotary Calculator
 - d. Transcribing Machine
 - e. Key Punch
 - f. Duplicating Machines
3. General Business Understanding
 - a. General Business Knowledge
 - b. Business Vocabulary and Business Mathematics
4. Job Success

Results of these comparisons would enable the investigator to determine which, if any, of the programs were most effective in

preparing students for employment and, in addition, to determine which units of instruction had contributed most to continuing success on the job.

Review of the Literature

A review of the related literature was made to provide the investigator with a thorough background of information relating to studies pertinent to this area of research. The review was presented in three major categories: (1) Preparation for clerical and stenographic positions, (2) Business program development and evaluation, and (3) Cooperative work experience studies.

The studies point out that much confusion exists as to what constitutes an effective business curriculum for preparing students for job entry, and there is wide disagreement concerning specific units to be taught. The studies also underline the need for a continuing evaluation and investigation of the effectiveness of the business curriculum, and point up the need for a reconciliation of the continuing dichotomy between general education and vocational education. Finally, the studies point out that the Cooperative Office program, which has been called the ultimate in business programming, has several inherent weaknesses which tend to exclude the lower ability level student. The Cooperative program is the most widely offered program, and it was generally concluded that it should be maintained as a part of the overall business curriculum.

Methods and Procedures

The population for this study was the business education graduates

of the Memphis City Schools for the 1970-71 school year. These were students who had majored in business education and who had taken one of the three senior level business courses; Office Practice, Vocational Office Education, or Cooperative Office Education. A total of 1544 graduates were given the Standard Civil Service Test for Clerical Employees and 961 achieved a GS2 or GS3 rating which automatically placed them on the Federal Register for consideration as Federal employees. Of those passing the test with a minimum composite score of 70, a representative sample of 25 students from each of the three senior level programs, was chosen for purposes of this study. These samples were drawn using Kendall's table of random numbers.

The analysis of variance was used to determine if there were significant differences at the .05 level of confidence between the three groups in Basic Skill Development, Related Skill Development, General Business Understanding, and Job Success. The instruments used to collect the data were the standard Civil Service Test, Proficiency Certificate in typewriting and shorthand skill, and a Job Evaluation Form indicating related skill development and job success.

The Civil Service Test was administered by Federal examiners approximately four weeks prior to graduation. The proficiency tests were administered by regular business teachers one week prior to the administration of the Civil Service Test. The Job Evaluation Forms were sent out during January, 1972 after the students had been employed a minimum of six months.

Analysis and Interpretation of the Data

The analysis of variance applied to the proficiency scores of the

three groups in Typewriting and Shorthand skill revealed that there is no difference at the .05 level of confidence between the Office Practice and Vocational group in shorthand skill, the obtained F ratio of .8798 not exceeding the F ratio of 3.11 for the .05 level of confidence as shown in the table of F. However, the obtained F ratio of 7.1973 for Typewriting skill was significant beyond the .01 level of confidence since it exceeded the F ratio of 4.88 as given in the table of F. Duncan's Multiple Range Test further showed that the significant difference was between the Office Practice program and the Vocational programs with the ranked means ranging from 47.12 for the Office Practice program to a high of 54.76 for the Vocational Office program.

The analysis of variance applied to the related skill development scores from the job evaluation form revealed that the obtained F ratio of 75.97 was significant beyond the .01 level of confidence since it exceeded the F ratio of 4.88 as shown in the table of F. Related skill development was concerned with knowledge and understanding of the most commonly used related office machines; the 10-key adding machine; the printing calculator, the rotary calculator, key punch, transcribing equipment, and duplicating equipment.

A frequency count taken on employers' response to the question of the importance of teaching related machines at the high school level revealed that 80 percent of all employees felt that high school graduates should have at least a good basic knowledge of these machines.

The analysis of variance applied to the obtained Civil Service Test scores indicated there was no significant difference between the three programs in basic business understanding, business mathematics knowledge, and business vocabulary background. The obtained F ratio of 1.3127 was

not significant at the .05 level of confidence since it did not exceed the F ratio of 3.11 as shown in the table of F.

Finally, the analysis of variance was used to test the job success characteristics of the three groups. The analysis was applied to all seven key factors relating to success on the job: (1) quality of work, (2) quantity of work, (3) knowledge of work, (4) initiative, (5) job attitude, (6) personal characteristics, and (7) job progress. There was no significant difference evidenced between the groups for any of these factors. A summary analysis was run on combined scores of all factors. The obtained F ratio of 1.2916 was not significant since it did not exceed the F ratio of 3.11, at the .05 level of confidence, as shown in the table of F.

Conclusions

The area of research in this study involved the testing of the following null hypotheses:

There is no significant difference between the traditional Office Practice program, the Vocational Office Education program, or the Cooperative Office Education program, at the .05 level of confidence, in the following areas:

1. Basic skill development (typewriting and shorthand skill).
2. Related skill development (knowledge and understanding of related office machines).
3. General business background (basic business understanding; knowledge of business mathematics, business vocabulary background).

4. Job success (concluded as composed of quality of work, quantity of work, knowledge of work, initiative, job attitude, personal characteristics, and job progress).

Interpretation of the data gathered in this study does not provide proof that the mean gains of graduates of the Office Practice program, the Vocational Office program, or the Cooperative Office program are significantly different in basic skill development (shorthand skill); general business understanding; or job success. The null hypothesis can not be rejected at the .05 level of confidence.

However, the data does provide proof that there is a significant difference in mean gains between graduates of the Office Practice program and graduates of the Vocational programs in basic skill development (typewriting skill), and related skill development (related office machines). The null hypothesis can be rejected at above the .01 level of confidence based on the F ratios obtained in comparison with the table of F.

From the findings as presented above, it can be concluded:

1. That any difference in the mean gains of graduates of the Office Practice program, and the Vocational Office program in the area of shorthand skill development can be attributed solely to chance. The extra time allotment of the vocational students does not contribute towards a significant increase in the development of this skill.
2. That any difference in the mean increase of graduates of the Office Practice program, the Vocational Office program or the Cooperative Office program, in the area of general business understanding, can be attributed solely to chance.

The additional time spent by students in the Vocational Office program and the Cooperative Office program does not contribute toward significantly greater mean increases above the traditional Office Practice graduates in this area.

3. That any difference in the mean increases between graduates of the Office Practice program, the Vocational Office program, or the Cooperative Office Program in the area of job success can be attributed solely to chance. The additional time spent by the students in the vocational programs did not significantly contribute towards greater mean increases in the job success profile.
4. That there is a significant difference in the mean gains of graduates of the vocational programs in the basic skill development area of typewriting. Students in the Vocational Office program and the Cooperative Office program do significantly better than the Office Practice students, above the .01 level of confidence in this basic skill area. Additional time spent in the vocational programs is producing significantly better typists.
5. That there is a significant difference in the mean gains of graduates of the vocational programs in related skill development (related office machines). Students in the Vocational Office Education program and the Cooperative Office Education program achieve significantly higher scores, above the .01 level of confidence, in this area of instruction. The additional time spent by students in

the vocational programs has produced graduates who are significantly more knowledgeable and skilled in using the related office machines.

6. That employers in general, approximately 80 percent, believe that the related machines should be taught at the high school level, and that at least a good basic knowledge of these related machines should be acquired.

Recommendations

Based upon the findings and conclusions as presented above, the investigator makes the following recommendations:

1. That the Vocational Office Education (3-hour block) be strengthened by requiring additional instruction in areas of weakness. This program, as presently structured, has demonstrated weakness relative to the other programs in providing a job entry capability in shorthand skill, a basic weakness in providing graduates with a sound background in basic business understanding, knowledge of business mathematics, and a minimal business vocabulary. And finally, the program has not demonstrated that it provides a significantly better job success background which is the primary reason for its existence in the curriculum.
2. That the traditional Office Practice program be restructured to offset weaknesses as noted below. This program has demonstrated a weakness in providing students with a viable skill level achievement in the basic skill area of

typewriting, which is foundational to all other office skills. The program also demonstrates weakness in providing general business understanding of sufficient quality for continued job progress. And in addition, the program demonstrates a decided weakness in providing students with a minimum level of related office machine skills.

3. That the Cooperative Office Education program be maintained in the curriculum and that it be extended to all high schools with the provision that additional shorthand practice be made available to these students.
4. That a one-hour, one-unit course be structured for the eleventh grade titled, "Advanced Typing and Office Machines." This course should be offered in all high schools, and should be prerequisite to the senior level business courses. This course would emphasize advanced production typewriting during the first semester, and related office machines skills the second semester. Students who desired a business major but were not career business oriented could take this course in the eleventh grade and acquire a business major without continuing the twelfth grade business curriculum. This course would provide the extra time needed by Office Practice students to develop competent typing and related office machine skills.
5. That a twelfth grade course entitled, "Office Production Laboratory," be initiated for career business students

who are not particularly interested in the Cooperative Office Education course, or students who may not have attained sufficient skills for job entry through the work experience program. This program would be a two-hour block in which the student would earn one or two credits toward graduation dependent upon State Department of Education regulations governing laboratory courses. The two-hour block would provide sufficient time for development of basic skills as well as related skills. Additional remedial units in Business English and Business Mathematics could also be incorporated into the two-hour block of time. Institution of this course would also enable schools to reduce the three-hour block for vocational office education to a two-hour block. This would greatly strengthen the enrollment in vocational office programs since the scheduling of a three-hour block of time in the senior year is a major deterrent for a large number of students.

6. That all career oriented business students be given additional shorthand practice, and that multi-media centers with cassette tapes and eight-millimeter continuous loop films with view screens be provided for each laboratory to facilitate student learning in this important area. A complete multi-media center can be provided for the rather modest cost of approximately \$250.00 each.

Further Recommendations for Research

It is also recommended that further research be completed as follows:

1. That this study be replicated using students who have been in full-time employment for at least a year. An additional questionnaire should be added to determine which units of instruction contributed the most toward the graduates' job success, and which had contributed the least.
2. That more reliable and valid instrumentation be developed to test the skills and knowledges required for successful performance in office occupations.
3. That better methods of gauging and testing the quality and effectiveness of instructional methodology be devised.
4. That periodic studies be made to continuously evaluate and upgrade existing programs for teaching office occupation skills at the high school level.

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APPENDIX A

CORRESPONDENCE RELATING TO STUDY



BOARD OF EDUCATION
Memphis City Schools
 2597 Avery Avenue, Memphis, Tennessee 38112

December 7, 1971

Please reply to office of:
 E. M. French,
 Supervisor, Vocational Office Education

FROM: Ed French, Consultant, Vocational Office Education

TO: Mr. John Freeman, Superintendent

SUBJECT: Completion Of Doctoral Dissertation

As you know, I am due to complete the requirements for the doctoral degree in Vocational Administration in May, 1972, and for my dissertation I have chosen to compare three methods of teaching business subjects in the twelfth grade; office practice, simulated office (three hour block), and the cooperative office education program. The students will be compared as to skill, achievement in the basic skill areas and the relationship of this training to job success. I believe the study will be of significance to the Memphis City System in enabling us to plan more meaningful programs in business education and to translate the educational dollar into programs more directly related to the needs of students and the business community.

To complete this study will require access to various student and school records, and the cooperation of selected teachers in helping with follow-up information on selected students. Time involved for each teacher will not be excessive since the primary information needed should be readily available from class records. Letters of notification will be sent to principals and teachers of those schools selected requesting permission to conduct the research concerning those students graduating from their particular schools.

If the above meets with your approval, I would like to continue the study as planned. Or if you have further suggestions, please contact me.

APPROVAL: _____

ah

cc Dr. O. Z. Stephens, Director of Research and Planning
 Mr. William D. Callian, Assistant Superintendent of Instruction
 Mr. W. A. McGinnis, Director of Vocational Education



BOARD OF EDUCATION
Memphis City Schools
2597 Avery Avenue, Memphis, Tennessee 38112

Please reply to office of:

E. M. French,
Supervisor, Vocational Office Education

January 15, 1972

Out
From: Ed French
To: Mr. Edgar Jacobs, Director Attendance Division
Subject: Review of Student Records

I am presently conducting a research study involving the 1971-72 business education graduates. Some of the information relative to the study may require review of certain student records on file with the Attendance Division.

I would appreciate your permission to review these records and will contact you in the near future regarding dates.

Thank you for your consideration in this matter.



BOARD OF EDUCATION
Memphis City Schools
2597 Avery Avenue, Memphis, Tennessee 38112

Please reply to office of:
E. M. French,
Supervisor, Vocational Office Education

January 1, 1972

Dear Sir:

I am in the process of completing a research study relating to business education graduates from your school. Completion of the study may require review of certain student records on file in the school office. I would appreciate very much your approval for this review, and you may rest assured all information relating to graduates will be held in strictest confidence.

Sincerely yours;

E. M. French
E. M. French



BOARD OF EDUCATION
Memphis City Schools
2597 Avery Avenue, Memphis, Tennessee 38112

Please reply to office of:
E. M. French,
Supervisor, Vocational Office Education

January 1, 1972

Dear _____ :

I am presently engaged in a research study which involves some of your former business education students. This study I believe will be valuable in enabling us to determine the effectiveness of some of our business curriculum relative to preparation for job entry. I will contact you in the near future relative to information needed for your particular students.

Thank you for your help in this matter.

Sincerely yours;

E. M. French
E. M. French



BOARD OF EDUCATION
Memphis City Schools
2597 Avery Avenue, Memphis, Tennessee 38112

Please reply to office of:
E. M. French,
Supervisor, Vocational Office Education

January 1, 1972

Dear Parent:

Recently your child was selected as one of the participants in a research study to be conducted using some of our business education graduates. You will be contacted at a later date for information relating to the employment experience of your child after graduation.

This information will be held in strictest confidence and utilized only for the purposes of completing this study. The study will enable us to plan more effective programs in business education, and your help and cooperation will be greatly appreciated.

Sincerely yours;

E. M. French



BOARD OF EDUCATION
Memphis City Schools
2597 Avery Avenue, Memphis, Tennessee 38112

Please reply to office of:
E. M. French,
Supervisor, Vocational Office Education

January 1, 1972

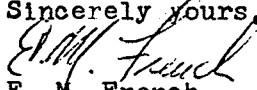
Dear Sir:

One of our business education graduates was hired by your company after graduation in June of 1971. We are presently conducting a follow-up study relative to the skill preparation and job success attributes of these students.

We would appreciate your cooperation in completing a job evaluation form which will take no more than ten minutes of your time. This information will enable us to more effectively plan business education programs which, in turn, will help us to utilize your education tax dollar in a more efficient fashion.

You will be contacted in the near future by a business education teacher who will have the names of the employees involved. These teachers will leave the forms with instructions for completion, and will also collect the completed forms.

Thank you for your cooperation and help in this matter.

Sincerely yours,

E. M. French



BOARD OF EDUCATION
Memphis City Schools
2597 Avery Avenue, Memphis, Tennessee 38112

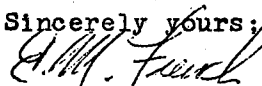
Please reply to office of:
E. M. French,
Supervisor, Vocational Office Education

March 15, 1972

Dear _____;

Thank you very much for your assistance in helping to complete the research study involving business education graduates. The results of the study will enable us to structure a more realistic business education curriculum for the Memphis City School System.

If you would like a summary of the research results please contact me.

Sincerely yours;

E. M. French

APPENDIX B

INSTRUMENTS FOR DATA COLLECTION

CIVIL SERVICE TEST PARTS A AND B - GS2-3

The standard Civil Service Test for clerical employees GS-2 and GS-3 rating was used as the instrument to determine general business understanding. This test is restricted to federal examiners only; consequently, a sample could not be obtained.

A sample copy of the results cover sheet sent to each participating school is shown on the following page, along with a copy of the proficiency certificates. The proficiency certificates certified by the business teachers and the composite Civil Service Test score made up the student Civil Service profile.



**INTERAGENCY BOARD OF U.S. CIVIL SERVICE EXAMINERS
FOR TENNESSEE**

FEDERAL BUILDING, 107 NORTH MAIN STREET
MEMPHIS, TENN. 38103

IN REPLY PLEASE REFER TO

BHAM:WEH

YOUR RESPONSE

VOE Instructor
Treadwell High School
920 N. Highland
Memphis, TN. 38122

We are providing the following information as a feedback from the recent Office Assistant examination given at your high school on 3-1-77. The number of competitors include only the complete processed applications. Applicants who failed to include all items on applications or applicants failing to complete the entire test are not included.

Number of competitors 37
Number of Eligibles 33
No. failing written test 4

Grade Structure: 91-100 1
81- 90 13
70- 80 18

Your assistance in our recruiting program is appreciated.

Sincerely,

John W. Clark
JOHN W. CLARK
Executive Officer

CERTIFICATE OF PROFICIENCY
In Typing and/or Shorthand

Form Approved
Bureau of Budget No. 50-R324 1

NAME OF STUDENT _____ DATE OF BIRTH _____
(First Name) (Initial) (Last Name)

STREET ADDRESS _____ CITY AND STATE _____

NAME OF SCHOOL _____ ADDRESS OF SCHOOL _____

This certifies that the above named person is taking or has satisfactorily completed a specialized course in typing and/or shorthand and has demonstrated proficiency in typing and/or shorthand as checked below on unfamiliar and continuous material, with errors determined by the scoring method used in the assignment of class grades.

SIGNATURE OF CERTIFYING OFFICIAL _____ TITLE _____

TYPING ONLY _____

SHORTHAND ONLY _____

TYPING AND SHORTHAND _____

	DATE OF TEST	LENGTH OF TEST	GROSS WORDS TYPED/MIN.*	RATE OF DICTATION	TOTAL NUMBER OF ERRORS	PERCENT OF ERROR **
TYPING		MIN	WPM			
SHORTHAND		MIN		WPM		

*The total number of words typed, divided by the number of minutes, with no deduction for errors.
 **The total number of errors divided by the total number of words dictated. (The total number of words is the length of test in minutes times number of words dictated per minute.) The percent of error need not be computed when the dictation was given at 80 wpm for 3 minutes.

NOTE

This certificate, when filed, becomes a part of the student's application.

UNITED STATES CIVIL SERVICE COMMISSION

BE SURE TO READ THE INFORMATION ON BACK OF THIS FORM

CSC FORM 680
OCTOBER 1963

**Board of Education
Memphis City Schools
JOB EVALUATION FORM
Business Education Graduates**

Employed By _____ Job Title _____

Employee Name _____ Employment Date _____

**Business Course Taken
in Twelfth Grade:**
(Check Appropriate Box)

Office Practice

Cooperative Office Education

Vocational Office Educ.

Other (Identify Below) _____

INSTRUCTIONS

Evaluate the employee on jobs performed. Circle the dot in the space above the horizontal line which most nearly expresses your overall judgment of each quality. The care and accuracy with which the appraisal is made will enable us to more effectively gauge the quality of our educational programming.

Attribute Scale	5	4	3	2	1
1. QUALITY OF WORK: Consider neatness, accuracy and dependability of results regardless of volume.	● Exceptionally accurate, practically no mistakes.	● Acceptable, usually neat, occasional errors or rejections.	● Seldom necessary to check work.	● Often unacceptable, frequent errors or rejections.	● Too many errors or rejections.
2. QUANTITY OF WORK: Consider the volume of work produced under normal conditions. Disregard errors.	● Rapid worker. Usually big producer.	● Turns out good volume.	● Average	● Volume below average.	● Very slow worker.
3. KNOWLEDGE OF WORK: Consider knowledge of his job gained through experience; general education; specialized training.	● Well informed on all phases of work.	● Knowledge thorough enough to perform in without assistance.	● Adequate grasp of essentials. Some assistance.	● Requires considerable assistance.	● Inadequate knowledge.
4. INITIATIVE: Consider the tendency to contribute, develop and/or carry out new ideas or methods.	● Initiative resulting in frequent saving in time and money.	● Very resourceful.	● Shows initiative occasionally.	● Rarely shows any initiative.	● Needs constant prodding.
5. JOB ATTITUDE: Consider general attitudes toward job leading to job progress.	● Increasing knowledge and skill.	● Applies self at work.	● Cooperates with fellow workers.	● Accepts suggestions.	● Little job interest.
6. PERSONAL: Consider personal traits, orderliness, resentment to criticism, tendency to complain, general job dissatisfaction.	● Promotional material.	● Expects to advance on merit.	● Good steady worker.	● Inclined to stir up trouble.	● Little regard for rules.
7. JOB PROGRESS: Consider promotions and salary increases.	● Has received more than one promotion or salary increase.	● Has received both a promotion and salary increase.	● Has received salary increase or promotion.	● No promotion or salary increases; but being considered.	● Has received no salary increases or promotions; not being considered.

Skill Development:

Related Office Machines

INSTRUCTIONS

Please circle skill level which employee has demonstrated on the job. If employee does not use the machines listed, determine from the employee the level of skill attained on machines while in school. If employee can not use any of the machines listed, please check the box on the left.

Types of Machines

1. 10 Key Adding Machine

	5	4	3	2	1
<input type="checkbox"/>	●	●	●	●	●
	Complete knowledge all machine operations.	Thorough knowledge can execute most operations.	Good basic knowledge.	A little knowledge.	No knowledge.

2. Printing Calculator

<input type="checkbox"/>	●	●	●	●	●
--------------------------	---	---	---	---	---

3. Rotary Calculator

<input type="checkbox"/>	●	●	●	●	●
--------------------------	---	---	---	---	---

4. Transcribing Machine

<input type="checkbox"/>	●	●	●	●	●
--------------------------	---	---	---	---	---

5. Key Punch Machine

<input type="checkbox"/>	●	●	●	●	●
--------------------------	---	---	---	---	---

6. Duplicating Machines:

a. Photo, Copier

<input type="checkbox"/>	●	●	●	●	●
--------------------------	---	---	---	---	---

b. Mimeograph

<input type="checkbox"/>	●	●	●	●	●
--------------------------	---	---	---	---	---

c. Spirit Duplicator

<input type="checkbox"/>	●	●	●	●	●
--------------------------	---	---	---	---	---

7. Other (Please List)

8. How important do you consider skill training on the above machines to be. (Circle the appropriate response)

●	●	●	●	●
Must be completely instructed in all machine operations.	Should have a thorough understanding most machines.	Good basic knowledge required.	Should have some knowledge.	Not necessary.

Comments:

Please comment if there are other related machines or skills which you consider necessary for job success.

Basic Skill Development:

INSTRUCTIONS

Please circle estimate of employee's basic skill level in the following areas. If not applicable, check the block on the left.

Typewriting:

	5 •	4 •	3 •	2 •	1 •
	Excellent	Good	Average	Fair	Poor
<input type="checkbox"/>					

Shorthand:

<input type="checkbox"/>	•	•	•	•	•
--------------------------	---	---	---	---	---

Filing:

<input type="checkbox"/>	•	•	•	•	•
--------------------------	---	---	---	---	---

Remarks:

Please make any additional remarks concerning this employee's training and job preparation which may be applicable but was not covered in the above evaluation.

Date Evaluated: _____ Signature of Evaluator: _____

Title: _____

APPENDIX C

RAW SCORES RELATING TO STUDY

TABLE XXXII
 CIVIL SERVICE TEST SCORES FOR OFFICE PRACTICE STUDENTS

Subject No.	Civil Service Score	Typing			Shorthand		
		GWAM	- Error	= CWAM	GWAM	- Error	= CWAM
1	77.1	47	- 1	= 46	82	- 12	= 70
2	77.9	40	- 0	= 40	60	- 2	= 58
3	79.8	52	- 3	= 49	80	- 7	= 73
4	96.1	51	- 3	= 48	120	- 12	= 108
5	86.1	55	- 3	= 52	80	- 8	= 72
6	82.4	43	- 9	= 44	80	- 7	= 73
7	80.1	54	- 5	= 49	80	- 3	= 77
8	89.9	56	- 9	= 47	80	- 8	= 72
9	88.8	60	- 6	= 54	80	- 3	= 77
10	84.6	50	- 3	= 47	80	- 2	= 78
11	84.3	61	- 7	= 54	80	- 8	= 72
12	87.3	44	- 1	= 43	80	- 1	= 79
13	95.6	61	- 4	= 47	80	- 8	= 72
14	78.3	56	- 7	= 49	80	- 0	= 80
15	87.6	50	- 3	= 47	110	- 16	= 94
16	76.8	49	- 3	= 46	80	- 0	= 80
17	77.1	46	- 2	= 44	80	- 4	= 76
18	84.6	60	- 8	= 52	80	- 0	= 80
19	89.9	44	- 3	= 41	80	- 0	= 80
20	96.7	58	- 7	= 51	80	- 2	= 78
21	80.1	50	- 3	= 47	80	- 0	= 80
22	83.1	45	- 3	= 42	80	- 1	= 79
23	82.0	43	- 5	= 38	80	- 0	= 80
24	84.3	56	- 3	= 53	80	- 10	= 70
25	85.4	55	- 7	= 48	80	- 17	= 63

TABLE XXXIII
 CIVIL SERVICE TEST SCORES - RAW DATA FOR
 VOCATIONAL OFFICE STUDENTS

Subject No.	Civil Service Score	Typing			Shorthand		
		GWAM	- Error	= CWAM	GWAM	- Error	= CWAM
1	77.5	56	- 6	= 50	80	- 3	= 77
2	75.3	44	- 5	= 39	80	- 7	= 73
3	75.8	68	- 1	= 67	80	- 13	= 67
4	79.4	61	- 3	= 58	80	- 13	= 67
5	87.6	71	- 9	= 62	80	- 3	= 77
6	86.5	65	- 3	= 62	80	- 0	= 80
7	84.3	65	- 8	= 57	80	- 5	= 75
8	93.3	62	- 1	= 61	90	- 0	= 90
9	75.6	60	- 2	= 58	80	- 13	= 67
10	79.4	60	- 2	= 58	100	- 3	= 97
11	83.5	60	- 2	= 58	80	- 4	= 76
12	76.0	54	- 4	= 50	80	- 4	= 76
13	92.9	64	- 5	= 59	80	- 11	= 69
14	80.5	50	- 4	= 46	80	- 3	= 77
15	93.6	63	- 3	= 60	80	- 0	= 80
16	78.6	64	- 3	= 61	100	- 6	= 94
17	81.6	50	- 4	= 46	100	- 6	= 94
18	77.9	50	- 2	= 48	80	- 5	= 75
19	79.4	58	- 5	= 53	80	- 3	= 77
20	89.5	86	- 15	= 71	80	- 2	= 78
21	82.8	56	- 4	= 52	80	- 0	= 80
22	96.9	65	- 8	= 57	65	- 8	= 57
23	75.5	44	- 1	= 43	80	- 8	= 72
24	82.0	55	- 2	= 53	80	- 4	= 76
25	75.8	41	- 1	= 40	80	- 3	= 77

TABLE XXXIV
 CIVIL SERVICE TEST SCORES - RAW DATA FOR
 COOPERATIVE OFFICE STUDENTS

Student No.	Civil Service Score	Typing		
		GWAM	Error	= CWAM
1	78.6	61	- 5	= 56
2	83.9	50	- 5	= 45
3	77.1	47	- 2	= 45
4	77.1	51	- 4	= 47
5	94.0	66	- 4	= 62
6	77.9	55	- 5	= 50
7	78.6	54	- 5	= 49
8	76.8	59	- 3	= 56
9	75.9	48	- 5	= 43
10	80.9	63	- 7	= 56
11	87.3	65	- 3	= 62
12	94.0	83	- 7	= 76
13	80.5	55	- 5	= 50
14	77.5	50	- 3	= 47
15	75.0	45	- 4	= 41
16	79.8	44	- 3	= 41
17	75.4	58	- 5	= 53
18	82.4	50	- 4	= 46
19	88.0	68	- 1	= 67
20	77.5	52	- 3	= 49
21	86.9	55	- 5	= 50
22	84.3	61	- 3	= 58
23	95.5	64	- 5	= 59
24	80.9	50	- 5	= 45
25	84.3	50	- 3	= 47

APPENDIX D

LIST OF PARTICIPATING SCHOOLS

PARTICIPATING SCHOOLS

<u>High Schools</u>	<u>Total Students Participating</u>
1. Carver	51
2. Douglass	40
3. East	26
4. Fairly Road	113
5. Frayser	46
6. Geeter	46
7. Hamilton	85
8. Hillcrest	63
9. Kingsbury	115
10. Lester	29
11. Manassas	34
12. Memphis Technical	54
13. Messick	85
14. Melrose	54
15. Mitchell	70
16. Northside	80
17. Oakhaven	17
18. Overton	82
19. Sheffield	22
20. Southside	31
21. Treadwell	66
22. Trezevant	48
23. Washington, Booker T	98
24. Westside	36
25. Westwood	50
26. White Station	12
27. Whitehaven	49
28. Wooddale	42
	<u>1544</u>
	<u> </u>

APPENDIX E

LIST OF EMPLOYERS

LIST OF EMPLOYERS SURVEYED

Name	Type Business
1. Dover Elevator	Equipment Manufacturer
2. Seaford, Faulk & Hardware	Law Firm
3. Burk-Hall Paint Co.	Paint Mfgr. & Distributor
4. Consumer Credit	Retail Credit
5. Job Information Office	Federal Government
6. U. S. Corps Engineers	Federal Government
7. Pride Car Wash	Auto Wash
8. Treasury	Retail Department Store
9. Surplus City	Merchandising
10. Juvenile Court	Memphis City Government
11. Veteran's Hospital	Federal Government
12. Plough, Inc.	Drug Manufacturer
13. Sears Roebuck	Merchandising
14. J. B. Hunter	Merchandising
15. U. S. Defense Depot	Federal Government
16. Internal Revenue Service	Federal Government
17. Commercial Industrial Bank	Banking
18. Ohio Casualty	Insurance
19. Union Planters Bank	Banking
20. Dixie Motor Club	Auto Club
21. Perel & Lowenstein	Merchandising
22. MBI Key punch Service	Service Bureau
23. Holiday Painting	Construction
24. Department of Agriculture	Federal Government
25. National Bank of Commerce	Banking
26. Memphis Light Gas & Water	Memphis City Utility
27. Holiday Inns	Motor Hotels
28. Joe Schaeffer Motor	Auto Dealer
29. Delta Chemical	Chemical Mfgr.
30. Buckeye Cellulose	Manufacturer
31. Krystal	Restaurant Service
32. Advertising Service	Display Service
33. U. S. Industries	General Manufacturer
34. Accts. Mngmt. of South	Investment Service
35. Industrial Sales	Wholesale Dist.
36. Tranquilaire	Health Service
37. Dept. Public Welfare	State Government
38. Mutual of Omaha	Insurance
39. Mempro	Merchandising
40. Consolidated Packaging	Merchandising
41. Dr. Goe Woodbury	Health Service
42. Dobbs House Inc.	Food Processing
43. Methodist Hospital	Health Service
44. Checks Inc.	Banking
45. Ely & Walker	Manufacturer
46. Metro Sales & Service	Specialty Retailing

VITA

Ed. Mack French

Candidate for the Degree of
Doctor of Education

Thesis: A COMPARISON OF THREE METHODS OF TEACHING BUSINESS SUBJECTS FOR
JOB ENTRY IN MEMPHIS HIGH SCHOOLS

Major Field: Vocational-Technical and Career Education

Biographical:

Personal Data: Born in Stephensport, Kentucky, July 1, 1921, the
son of Emery E. and Annabelle R. French.

Education: Graduated from George Washington High School in 1939;
received the Bachelor of Science from Memphis State University
with a major in Accounting in June, 1956; received the Master
of Education degree from Memphis State University in 1967;
completed the requirements for Doctor of Education degree in
July, 1972.

Professional Experience: Employed by Board of Education, Memphis
City Schools as Data Processing Supervisor 1958-1962; as
Accounting Supervisor 1962-64; as Business Education teacher
from 1962-1967; Instructor Data Processing Memphis State
University Extension 1968; Instructor Data Processing Univer-
sity of Tennessee Extension 1969; Supervisor of Office Educa-
tion Memphis City Schools 1967-present.

Professional Organizations: Tennessee Education Association,
Memphis Educational Association, American Vocational Associa-
tion, Tennessee Vocational Association, National Council of
Local Administrators, National Association Supervisors Business
Education, Phi Delta Kappa, Delta Pi Epsilon.