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PILOT PROGRAMS IN HIGH SCHOOLS TO PREPARE STUDENTS FOR A WIDE SPECTRUM OF COMPUTING, RECORDING, AND BOOKKEEPING OCCUPATIONS.

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THIS PROJECT WAS CONDUCTED TO STUDY, GATHER DATA FROM, AND REPORT ON THE SUCCESS OF THE OPERATIONS OF PILOT PROGRAMS IN RECORDKEEPING, BOOKKEEPING, AND ACCOUNTING WHICH HAD BEEN IN TRIAL OPERATION DURING THE PREVIOUS ACADEMIC YEAR IN THREE VIRGINIA HIGH SCHOOLS. ONE URBAN, ONE SUBURBAN, AND ONE RURAL SCHOOL TOOK PART IN THE PILOT STUDY. THE PURPOSE OF THESE PILOT PROGRAMS WAS TO PREPARE YOUNG PEOPLE FOR THE NEWLY EMERGING OCCUPATIONS IN COMPUTING, RECORDING, AND BOOKKEEPING. THIS PROJECT WAS CONCERNED PRIMARILY WITH THE EVALUATION OF PILOT PROGRAMS, ALREADY COMPLETED. THE GENERAL PROCEDURE FOR THE EVALUATION WAS TO PAIR EACH TYPE OF PILOT SCHOOL (URBAN, SUBURBAN, RURAL) WITH A CONTROL SCHOOL OF THE SAME TYPE AND TO COMPARE STUDENT ACHIEVEMENTS BETWEEN THE TWO SCHOOLS. COMPARISONS OF PILOT-RECORDKEEPING AND CONTROL-BOOKKEEPING WERE MADE ON RECORDKEEPING ACHIEVEMENT, WHEREAS COMPARISONS OF PILOT-BOOKKEEPING AND CONTROL-BOOKKEEPING WERE MADE ON BOOKKEEPING ACHIEVEMENT. NO CONTROL COMPARISONS WERE MADE FOR PILOT-ACCOUNTING STUDENTS. (TC)

PILOT PROGRAMS IN HIGH SCHOOLS TO PREPARE STUDENTS FOR A WIDE SPECTRUM OF COMPUTING, RECORDING, AND BOOKKEEPING OCCUPATIONS

Office of Education Grant Number OEG-2-6-068318-1927,
The Vocational Education Act of 1963, P. L. 88-210,
Section 4(c)

Pilot Programs in High Schools to Prepare Students for a Wide Spectrum of Computing, Recording, and Bookkeeping Occupations

Jeffrey R. Stewart, Jr.

Office of Education Grant Number OEG-2-6-068318-1927,
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Section 4(c)

Virginia Polytechnic Institute
Blacksburg, Virginia 24061
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Summary of Project

(a) Grant number, OEG-2-6-068318-1927.

(b) Title, Pilot Programs in High Schools to Prepare Students for a Wide Spectrum of Computing, Recording, and Bookkeeping Occupations.

(c) Investigator, Jeffrey R. Stewart, Jr.

(d) Institution, Virginia Polytechnic Institute, Blacksburg, Virginia, 24060 (Phone, Area 703 552-6819).

(e) Duration, June 18, 1966 - March 31, 1967.

(f) Purpose

The specific purpose of this project was to study, gather data from, and report on the success of the operation of trial programs in record-keeping, bookkeeping, and accounting (emphasis on account recording), which had been in operation during the previous academic year in three Virginia high schools. One urban, one suburban, and one rural school took part in the pilot study. The purpose of these pilot programs was to prepare young people for the newly emerging occupations in computing, recording, and bookkeeping.

(g) Procedure

This project was concerned primarily with the evaluation of pilot programs already completed. The general procedure for the evaluation was to pair each type of pilot school (urban, suburban, rural) with a control school of the same type and to compare student achievement between the two schools. The chart below describes the pairings and comparisons that were made. The arrows designate the final achievement comparisons that were made. Pilot recordkeeping--control bookkeeping comparisons were made on recordkeeping achievement whereas pilot bookkeeping--control bookkeeping comparisons were made on bookkeeping achievement. No control comparisons were made for pilot accounting students.

Pilot Schools	Pilot Courses	Achievement Comparisons	Control Courses	Control Schools
#1 Urban	Recordkeeping Bookkeeping I Accounting (no control comparison)	(no control comparison) ← →	Bookkeeping I	#1 Urban
#2 Suburban	Recordkeeping Bookkeeping I Accounting (no control comparison)	← →	Bookkeeping I	#2 Suburban
#3 Rural	Recordkeeping Bookkeeping I Accounting (no control comparison)	← →	Bookkeeping I	#3 Rural

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The Problem

During the 1965-66 academic year, three Virginia secondary schools (one urban, one suburban, and one rural) offered pilot three-course programs in recordkeeping, bookkeeping, and accounting. Three other secondary schools (one urban, one suburban, and one rural) which offered the traditional one-course program in bookkeeping served as control schools. Records of aptitude and achievement were kept for both pilot and control school students. The pilot programs were financed and supported by funds provided by the Virginia State Department of Education and the participating local school districts.

Purposes

The purpose of this project was to study, gather data from, and report on the success of the pilot programs which had terminated before this project was funded in June, 1966. The specific problems of this study were as follows:

1. To compare end-of-year achievement of recordkeeping students in two pilot schools vs. bookkeeping students in two control schools.

2. To compare end-of-year achievement of bookkeeping students in three pilot schools vs. bookkeeping students in three control schools.

3. To report on the success of the accounting courses offered in three pilot schools.

4. To compare drop-out rate, absence rate, and student opinion toward the course between pilot and control students.

5. To report the opinions of teachers and principals in the pilot schools toward the pilot programs.

Related Literature

Several citations and studies provided the rationale for this study. Tonne[1] briefly summarized employment changes in the occupations of computing, recording

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[1] Tonne, Herbert A. "Training for Bookkeeping Occupations," Principles of Business Education, New York: Gregg Division, McGraw-Hill Book Co., Inc., 1961, p. 283.

and accounting by saying that the "general bookkeeper has disappeared in most offices." He continues by stating that "his place is taken by the auditor and accountant--numerous ledger clerks--and bookkeeping-machine operators." An early study by Benjamin Strumpf[2] at New York University concerning the duties of bookkeepers actually began the chronicle of the changes that were taking place at that time and have been taking place at an increasing rate since the 1920's.

The new occupations, in which large numbers have found employment, are the result of increased complexity and specialization in business and industrial operation. In 1960 the U. S. Census revealed that there were at that time 130,000 bank tellers, 470,000 cashiers, 310,000 office machine operators, and 107,000 payroll and timekeeping clerks--a total of 1,017,000 carrying out a variety of recordkeeping functions. Also, in 1960, there were 470,000 accountants and auditors on the professional level interpreting and reviewing the results of recordkeeping and bookkeeping operations. It is very likely that the reported 910,000 bookkeepers also perform recordkeeping functions, as reported by John R. Young.[3] He lists the ten most important functions as follows (1) customer's statements, (2) accounts receivable analysis, (3) entry work in journals, (4) credit investigations and collections, (5) accounts receivable posting, (6) making sales analyses, (7) work with installment sales records, (8) collecting data for property taxes, (9) general ledger posting, and (10) working with insurance records.

Huffman and Shaffer[4] provide an extensive discussion of the fallacies of enrolling all students in the traditional bookkeeping class and briefly describe current informal experimentation taking place in the California public schools in which recordkeeping is used as a prerequisite to bookkeeping.

Accordingly, a great deal of pressure is being exerted to change the traditional bookkeeping instructional program to fit both the changing ocupational requirements of business and the varied abilities of students. This pilot study demonstrated in selected high schools the introduction of a program of three courses as a replacement for traditional bookkeeping. These courses are recordkeeping, bookkeeping, and accounting.

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[2] Strumpf, Benjamin. "An Analysis of the Duties of Bookkeepers," Ph. D. thesis, New York University, c1927.

[3] Young, John R. "A Study of Accounting Duties with Special Attention to Those Duties Which Emphasize Bookkeeping or Accounting Functions," Ph. D. thesis, State University of Iowa (Iowa City), 1954, p. 316.

[4] Huffman, Harry and Shaffer, Richard G. New Perspectives in Education for Business, Washington, D.C.: National Business Education Association, 1963, pp. 312-316.

The results obtained from this pilot study, therefore, will provide valuable information to other high schools throughout the nation who are contemplating curriculum changes to prepare youth for newly emerging occupations in computing, recordkeeping, and bookkeeping, which in 1960 provided jobs for 2.4 million people in the U. S. labor force.

Description of Pilot Courses

Business and office education courses for entry and advancement in the Dictionary of Occupational Titles (DOT) computing, recording and bookkeeping occupations need to be structured to meet the training requirements of youth who will enter jobs utilizing a wide range of ability, knowledge and skills. Such occupations would include employment as

Bookkeepers
Cashiers
Tellers
Billing-machine operators
Bookkeeping-machine operators
Computing-machine operators
Computing and account-recording operators

The traditional one-year high school bookkeeping course does not seem to provide a suitable training vehicle for the diverse occupations in computing, recording, and bookkeeping open to youth of a wide range of reading, arithmetic, and learning abilities.

Occupationally oriented and restructured courses in recordkeeping, bookkeeping, and accounting (record entry) seem to be more suitable vehicles. The basic innovation in the proposal is the replacement of the traditional bookkeeping course by a sequence of three courses, recordkeeping, bookkeeping, and accounting. Students are to enter the sequence at the point most suitable for them and to progress as far as possible. The completion of any part of the sequence, however, will be acceptable preparation for specific DOT jobs.

A description of the objectives of the three courses in pilot schools follows:

Recordkeeping, for example, offered primarily to tenth grade students, will afford the following advantages in training: (1) opens opportunity for background in selling occupations, (2) prepares for entry into the bookkeeping course, and (3) prepares for cashier, teller, billing-machine and computing-machine occupations.

Bookkeeping, for example, offered primarily at the eleventh grade and composed of highly successful recordkeeping students and other students with suitable aptitude will afford the following advantages in training: (1) provides

related job skills for stenographic occupations, (2) prepares for entry into the accounting course, and (3) prepares for data-processing operation, and elementary administrative-specialization occupations.

Accounting, for example, offered primarily at the twelfth grade and composed of highly successful bookkeeping students and other students of suitable aptitude, will afford the following advantages in training: (1) provides related job skills for secretarial and managerial occupations, (2) prepares for entry into advanced accounting courses, and (3) prepares for account-entry, unit-record data-processing operation, and administrative-specialization occupations.

Summary. Each occupationally-oriented course in the sequence can be a terminus to occupational training and, at the same time, can be a foundation for the next course. In addition, the sequence is flexible enough to permit the entry, with adequate counseling, of eleventh and twelfth grade students in recordkeeping and of twelfth grade students in bookkeeping.

Procedure

The Virginia State Supervisor of Business and Office Education, as a result of her close contact with both schools and business, recognized the need for new approaches to the teaching of bookkeeping. The State Supervisor, with advice from the Research Division of the State Department of Education and the Business Education Department at Virginia Polytechnic Institute, formulated the original plans for setting up the three pilot programs.

Selection of Schools

Three pilot schools were selected on the basis that they (1) had the administrative flexibility and capacity to introduce the innovative courses in recordkeeping and accounting and to revise and upgrade their existing bookkeeping courses; (2) were representative of medium to large comprehensive high schools (500 to 1,500 students); (3) were representative of rural, suburban, and urban high schools.

Each control school was selected on the basis of its similarity in size, location, and administration to one of the pilot schools.

Selection of Teachers and Students

Teachers in pilot schools were assigned to pilot classes by individual school divisions on the basis of their interest in participating in the pilot program. Students in the three types of pilot classes were selected as follows:

Recordkeeping: Recordkeeping students were selected from those who had asked to be placed in bookkeeping and from students who had asked for recordkeeping in schools that had offered recordkeeping previously. Factors considered in the selection of students for recordkeeping were:

(1) STEP and SCAT Math Scores. Students who had scored below the thirtieth percentile on math were placed in recordkeeping.

(2) Past Performance. All schools used the students' past history of achievement as a factor in selection. Consistently low achievers were placed in recordkeeping.

(3) Intelligence Quotient (I.Q.) was not considered in the selection of students for recordkeeping.

Bookkeeping. Bookkeeping students (juniors and seniors) were selected from highly successful recordkeeping students and other students that asked to be placed in bookkeeping. Factors considered in the selection of students for bookkeeping were:

(1) Recordkeeping Grades (if applicable). Students who had taken recordkeeping must have made at least an "A" or "B" in order to take bookkeeping.

(2) Past Performance. Students taking bookkeeping without recordkeeping had to have at least an overall average of "C" (two of the three schools used this as a factor).

(3) STEP and SCAT scores. These scores were considered in relation to the overall record of the student.

(4) Grades on Math Courses Taken. Students taking bookkeeping were required to have at least a "C" average on all math taken, usually general math and Algebra I.

(5) I.Q. was not considered in the selection of students for bookkeeping.

Accounting. Students selected for accounting were chosen from highly successful Bookkeeping I students who asked to take Bookkeeping II and other high ability students. Factors considered in the selection of students for accounting were:

(1) Bookkeeping Grades (if applicable). Students with previous bookkeeping were required to have an "A" or "B" in the course.

(2) Academic Average. Students selected for accounting had an overall academic average of "B" or better.

(3) Previous Math Courses. Students who had completed successfully three courses in mathematics but had not taken Bookkeeping I were allowed to take accounting.

(4) I.Q. With a few exceptions, a minimum I.Q. of 110 was required for enrollment in accounting.

Course Content

The content of the three pilot courses was as follows:

Recordkeeping - Recordkeeping emphasized training for particular office jobs but was also taught as a course preparatory to bookkeeping.

The course dealt entirely with "single-entry" recordkeeping--double-entry bookkeeping theory was not introduced at all during the course. Topics covered included: (1) accuracy in numbers (auditing and verifying); (2) recording on inventory records; (3) payroll recording; (4) recording of purchases - including replenishing merchandise and purchasing equipment; and (5) recording in various specialized journals, cash payments, cash receipts, purchases, sales, etc.; (6) other topics such as taxes, social security, and elementary data-processing. A recordkeeping textbook was used in this course.

Bookkeeping - This course dealt largely with double-entry bookkeeping theory. Students studied the complete bookkeeping cycle of a sole proprietorship including preparation of the worksheet and statements. The course also provided an introduction to bookkeeping for partnerships and corporations. A bookkeeping textbook and two practice sets were used in this course.

Accounting - This course dealt with double-entry accounting theory. Students were taught the preparation of worksheets and statements of sole proprietorships, partnerships, and corporations. Analysis of statements was emphasized in the course. A college accounting textbook and associated practice sets were used.

Special Activities of Pilot Teachers

A one-week planning session for the teachers from the pilot schools was conducted to develop training objectives; to develop procedures for reporting; and to plan the use of local advisory panels for each school to adjust the program to the abilities of the students in compliance with definite DOT occupations. A two-day evaluation and planning session was held February 10-11, 1966. Dr. Jeffrey R. Stewart and two graduate students from Virginia Polytechnic Institute, and special consultants Dr. Harry Huffman and Miss Marguerite Crumley participated in these sessions.

The principal investigator and the special consultants formulated the plans, methods of gathering data, and conduct of the pilot programs with the teachers in cooperation with and approval of the local business departments and high school principals. School divisions were reimbursed by the State Department of Education for release of one-third of each participating teacher's time for pilot-study development, planning, course preparation, special testing and evaluation, and reporting.

Teachers in the pilot schools organized informal advisory councils composed of local accountants and administrative managers for the purpose of adjusting the courses to occupational needs and trends and setting course standards.

Teachers in the pilot schools made a minimum of five office visits to study computing, recording, and bookkeeping occupations with the purpose of adjusting the courses occupationally and to establish standards of achievement.

The Student Population

Pilot Schools. Complete data were obtained for the following student populations in the three pilot schools:

(1) Recordkeeping pilot students
   a. Suburban pilot school -- 23 students
   b. Rural pilot school -- 27 students

(2) Bookkeeping pilot students
   a. Urban pilot school -- 64 students
   b. Suburban pilot school -- 21 students
   c. Rural pilot school -- 14 students

(3) Accounting students
   a. Urban pilot school -- 16 students
   b. Suburban pilot school -- 14 students
   c. Rural pilot school -- 11 students

Control Schools. Complete data were obtained for the following student populations in the three control schools, all of which offered only the traditional bookkeeping course.

(1) Recordkeeping control students (bookkeeping students in control schools who took the final recordkeeping test)
   a. Suburban control school -- 30 students
   b. Rural control school -- 40 students

(2) Bookkeeping control students (bookkeeping students in control schools who took the final bookkeeping test)
   a. Urban control school -- 22 students
   b. Suburban control school -- 39 students
   c. Rural control school -- 42 students

(3) There were no accounting control students.

Achievement Testing

At the end of the 1965-66 academic year, all students in the pilot and control populations were tested as follows:

Recordkeeping students in two pilot and two control schools took a specially-constructed recordkeeping achievement examination which consisted of five parts (See Appendix).

Bookkeeping students in the three pilot and three control schools took the six-part Bookkeeping Test of the National Business Entrance Test series, published by the National Business Education Association. (This test is confidential, and is therefore not reproduced in the Appendix)

Accounting students in the three pilot schools took a specially-constructed accounting achievement examination which consisted of three parts (See Appendix).

Equating Groups for Comparison

Before comparisons in achievement could be made between pilot and control recordkeeping and bookkeeping groups, it was necessary to determine the degree to which groups were equated in aptitude and other factors.

Recordkeeping Students. Complete data for recordkeeping students were obtained at the beginning of the 1965-1966 academic year by the recordkeeping teachers for the following factors:

Age
Grade level
Intelligence Quotient
Differential Aptitude Test (DAT) clerical speed and accuracy scores

A statistical analysis of variance, run on the IBM 7040 computer at Virginia Polytechnic Institute and using the computer program for Analysis of Variance for One-Way Design, version of January 8, 1964, the Health Sciences Computing Facility, U.C.L.A., revealed statistically significant differences between pilot and control recordkeeping groups for the factors of age (statistically significant at the 1% level), grade level (at the 1% level), and I.Q. (at the 5% level). Pilot and control recordkeeping groups were not statistically different in DAT scores.

Bookkeeping Students. Complete data for bookkeeping students were obtained at the beginning of the 1965-1966 academic year by the bookkeeping teachers for the following factors:

Age
Grade level
Intelligence Quotient

The same analysis of variance procedure, mentioned above for recordkeeping groups, revealed statistically significant differences between pilot and control bookkeeping groups for the factors of age (at the 1% level) and grade level (at the 5% level). Pilot and control bookkeeping groups were not statistically different in I.Q. scores.

Adjusting Final Achievement Scores

Final recordkeeping and bookkeeping achievement scores were adjusted for those factors found to be statistically different (at the 1% or 5% level) between pilot and control groups. The recordkeeping achievement scores reported in this study were therefore adjusted to a common level for the factors of age, grade level, and I.Q. The bookkeeping achievement scores reported in this study were adjusted to a common level for the factors of age and grade level. The adjustments were made by means of the General Least Squares Analysis program, written at Virginia Polytechnic Institute, on an I.B.M. 7040 computer.

Determining Absence Rates, Drop-Out Rates, and Student Opinion

Records were kept for each pilot and control class on the number of absences and the number of students who dropped out of the class before the final achievement test was given.

At the end of the academic year, a questionnaire was mailed to each pilot and control student to determine his opinion of the course in which he was enrolled (See Appendix).

Determining Teacher and Principal Opinion

At the end of the academic year, a questionnaire was mailed to each pilot teacher and principal to determine his opinion of the pilot programs (See Appendix).

Analysis of Data

Recordkeeping Achievement

The first specific problem of this study was to compare end-of-year achievement of recordkeeping students in two pilot schools vs. bookkeeping students in two control schools.

A general description of the students who participated in the recordkeeping part of the study is given in Table I.

Table I

Recordkeeping Pilot and Control Students

	Pilot Students					Control Students				
Type of School	No.	Mean Age	Mean Grade Level	Mean I.Q.	Mean D.A.T. Score	No.	Mean Age	Mean Grade Level	Mean I.Q.	Mean D.A.T. Score
Suburban	23	18.3	11.5	95.1	67.1	30	17.1	11.1	104.5	75.8
Rural	27	16.8	10.8	97.7	87.4	40	17.4	11.3	99.3	75.3

The adjusted total scores for the recordkeeping achievement test are shown in Table II.

Table II

Adjusted Total Scores, Recordkeeping Achievement Test
(Maximum Unadjusted Score--100)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Suburban	82.4	64.0	1%
Rural	83.9	67.0	1%

On adjusted total recordkeeping achievement test score, pilot recordkeeping students scored significantly higher than control bookkeeping students, at the 1% confidence level, in both suburban and rural schools.

In part I of the recordkeeping achievement test, students were required to list numbers, amounts, and dates in sequence; and to determine differences in pairs of numbers and names. The adjusted scores for the recordkeeping achievement test, part I, are shown in Table III.

Table III

Adjusted Part I Scores, Recordkeeping Achievement Test
(Maximum Unadjusted Score--15)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Suburban	13.8	13.4	Difference not significant
Rural	14.4	13.0	1%

In the rural schools, pilot recordkeeping students scored significantly higher than control bookkeeping students on part I. In the suburban schools, there was no significant difference between pilot and control scores on part I.

In part II of the recordkeeping achievement test, students were required to solve five business mathematics problems. The adjusted scores for part II are shown in Table IV.

Table IV

Adjusted Part II Scores, Recordkeeping Achievement Test
(Maximum Unadjusted Score--24)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Suburban	21.8	22.5	Difference not significant
Rural	23.1	22.3	Difference not significant

In neither suburban nor rural schools was there a significant difference between pilot and control scores on part II.

In part III of the recordkeeping achievement test, students were required to determine, from an item count of bills and change, the total amount of money in a cash drawer. The adjusted scores for part III are shown in Table V.

Table V

Adjusted Part III Scores, Recordkeeping Achievement Test
(Maximum Unadjusted Score--16)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Suburban	11.8	11.5	Difference not significant
Rural	14.3	13.3	Difference not significant

In neither suburban nor rural schools was there a significant difference between pilot and control scores on part III.

In part IV of the recordkeeping achievement test, students were required to record five transactions in a customer's account and to figure the account balance after each entry. The adjusted scores for part IV are shown in Table VI.

Table VI

Adjusted Part IV Scores, Recordkeeping Achievement Test
(Maximum Unadjusted Score--20)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Suburban	17.0	8.3	1%
Rural	17.3	12.7	1%

In both suburban and rural schools, pilot recordkeeping students scored significantly higher than control bookkeeping students on part IV.

In part V of the recordkeeping achievement test, students were required to enter six petty cash transactions in a petty cash book. The adjusted scores for part V are shown in Table VII.

Table VII

Adjusted Part V Scores, Recordkeeping Achievement Test
(Maximum Unadjusted Score--25)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Suburban	17.5	7.9	1%
Rural	14.8	5.6	1%

In both suburban and rural schools, pilot recordkeeping students scored significantly higher than control bookkeeping students on part V.

Bookkeeping Achievement

The second specific problem of this study was to compare end-of-year achievement of bookkeeping students in three pilot schools vs. bookkeeping students in three control schools.

A general description of the students who participated in the bookkeeping part of the study is given in Table VIII.

Table VIII

Bookkeeping Pilot and Control Students

	Pilot Students				Control Students			
Type of School	No.	Mean Age	Mean Grade Level	Mean I.Q.	No.	Mean Age	Mean Grade Level	Mean I.Q.
Urban	64	17.0	11.5	105.1	22	17.8	11.5	104.5
Suburban	21	17.6	11.3	105.2	39	17.2	11.2	103.1
Rural	14	16.8	11.2	103.2	42	17.4	11.2	101.7

The National Business Entrance Test, Bookkeeping Test, was used in both pilot and control schools for measuring final bookkeeping achievement. The adjusted total scores for the National Business Entrance Test are shown in Table IX.

Table IX

Adjusted Total Scores, National Business Entrance Test (N.B.E.T.)
(Maximum Unadjusted Score--240)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Urban	58.7	84.4	5%
Suburban	62.5	25.4	1%
Rural	81.4	40.7	1%

In the urban schools, control bookkeeping students scored significantly higher than pilot bookkeeping students on total N.B.E.T. score at the 5% confidence level. In both the suburban and rural schools, pilot bookkeeping students scored significantly higher than control bookkeeping students at the 1% confidence level.

In part I of the N.B.E.T., students were required to audit an invoice, subtract the amount of a credit memorandum from that invoice, and prepare a check for signature. The adjusted scores for part I are shown in Table X.

Table X

Adjusted Part I Scores, National Business Entrance Test
(Maximum Unadjusted Score--14)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Urban	4.7	5.8	Difference not significant
Suburban	6.0	4.3	5%
Rural	6.3	3.6	1%

In urban schools there was no significant difference between pilot and control scores on part I. In both suburban and rural schools, pilot students scored significantly higher than control students on part I.

Part II of the N.B.E.T. was divided into two exercises. In the first, students were required to classify trial balance amounts as either debit or credit and to obtain total debits and credits. In the second, students were required to show the effect of certain unrecorded transactions on the fundamental bookkeeping equation. The adjusted scores for part II are shown in Table XI.

Table XI

Adjusted Part II Scores, National Business Entrance Test
(Maximum Unadjusted Score--40)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Urban	17.5	21.0	Difference not significant
Suburban	17.4	9.3	1%
Rural	22.4	14.8	1%

In urban schools there was no significant difference between pilot and control scores on part II. In both suburban and rural schools, pilot students scored significantly higher than control students on part II.

Part III of the N.B.E.T. was an exercise in preparing a bank reconciliation statement. Students were given the necessary information and asked to prepare a bank reconciliation statement and to find the amount of money available in the checking account on a specific date. The adjusted scores for part III are shown in Table XII.

Table XII

Adjusted Part III Scores, National Business Entrance Test
(Maximum Unadjusted Score--40)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Urban	7.3	17.0	5%
Suburban	13.3	1.8	1%
Rural	17.8	6.2	1%

In the urban schools, control students scored significantly higher than pilot students on part III. In both the suburban and rural schools, pilot students scored significantly higher than control students on part III.

In part IV, students were required to journalize eleven transactions in columnar cash receipts and cash payments journals. The adjusted scores for part IV are shown in Table XIII.

Table XIII

Adjusted Part IV Scores, National Business Entrance Test
(Maximum Unadjusted Score--40)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Urban	10.4	15.4	5%
Suburban	10.8	5.4	1%
Rural	15.4	8.4	1%

In the urban schools, control students scored significantly higher than pilot students on part IV. In both the suburban and rural schools, pilot students scored significantly higher than control students on part IV.

In part V, students were required to journalize seven adjusting entries and to balance and rule four ledger accounts. The adjusted scores for part V are shown in Table XIV.

Table XIV

Adjusted Part V Scores, National Business Entrance Test
(Maximum Unadjusted Score--40)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Urban	13.7	15.3	Difference not significant
Suburban	12.0	4.3	1%
Rural	8.2	6.8	Difference not significant

In neither urban nor rural schools was there a significant difference between pilot and control scores on part V. In suburban schools, pilot students scored significantly higher than control students on part V.

In part VI of the N.B.E.T., students were required to prepare an income statement and a balance sheet from a list of twenty-two account balances and ending inventory data. The adjusted scores for part VI are shown in Table XV.

Table XV

Adjusted Part VI Scores, National Business Entrance Test
(Maximum Unadjusted Score--66)

Type of School	Adjusted Mean Score Pilot Schools	Adjusted Mean Score Control Schools	Confidence Level
Urban	5.2	10.0	Difference not significant
Suburban	3.1	.3	Difference not significant
Rural	10.6	.8	1%

In neither urban nor suburban schools was there a significant difference between pilot and control scores on part VI. In rural schools, pilot students scored significantly higher than control students on part VI.

Pilot Accounting Classes

The third specific problem of this study was to report on the success of the accounting courses in three pilot schools. A general description of accounting pilot students is shown in Table XVI.

Table XVI

Accounting Pilot Students

Type of School	Number	Mean Age	Mean Grade Level	Mean I.Q.
Urban	16	17.2	11.7	106.1
Suburban	14	17.4	11.9	107.7
Rural	11	17.8	12.0	107.0

Final scores on the accounting achievement examination are shown in Table XVII. Scores for the rural school accounting class were not reported.

Table XVII

Accounting Achievement Examination Scores, Pilot Schools

Type of School	Mean Score	Range	Number of Students
Urban	56.6	50 - 66	16
Suburban	59.7	44 - 76	14
Rural	no report	no report	11

Drop-Out, Absence, and Student Opinion Data

The fourth specific problem of this study was to compare drop-out rate, absence rate, and student opinion toward the course between pilot and control students.

Recordkeeping. A comparison of drop-out rates, absence rates, and student opinion of the course is given in Table XVIII for pilot recordkeeping students and control bookkeeping students who took the recordkeeping achievement examination.

Table XVIII

Drop-Out Rates, Absence Rates, and Student Opinion
Pilot Recordkeeping vs. Control Bookkeeping Students

	Pilot Recordkeeping Students	Control Bookkeeping Students
Drop-Out Rate	5.1%	12.0%
Absence Rate	10.5%	5.9%
Student Opinion		
Liked Course Very Much	79%	48%
Liked Course Average	21%	52%
Did Not Like Course	0%	0%

The drop-out rate, or percentage of students who were transferred to another class because they were failing the course, was lower for pilot recordkeeping students than for control bookkeeping students. The absence rate, or mean percent of 180 days missed, was higher for pilot recordkeeping students than for control bookkeeping students. A larger percentage of pilot recordkeeping students reported that they liked the course very much than did control bookkeeping students. No student reported that he did not like the course.

Bookkeeping. A comparison of drop-out rates, absence rates, and student opinion of the course is given in Table XIX for pilot bookkeeping students and control bookkeeping students who took the bookkeeping achievement examination (N.B.E.T.).

Table XIX

Drop-Out Rates, Absence Rates, and Student Opinion
Pilot Bookkeeping vs. Control Bookkeeping Students

	Pilot Bookkeeping Students	Control Bookkeeping Students
Drop-Out Rate	13.3%	11.5%
Absence Rate	4.3%	6.2%
Student Opinion		
Liked Course Very Much	37.5%	52.1%
Liked Course Average	56.9%	46.6%
Did Not Like Course	5.6%	1.4%

The drop-out rate was slightly lower for control bookkeeping students than for pilot bookkeeping students. The absence rate was slightly lower for pilot bookkeeping students than for control bookkeeping students. A larger percentage of control bookkeeping students reported that they liked the course very much than did pilot bookkeeping students. A slightly larger percentage of pilot bookkeeping students reported that they did not like the course than did control bookkeeping students.

Accounting. The drop-out rate in the three pilot accounting classes was 16.3%. The absence rate in two accounting classes reporting was 6.9%. Returns from a small number of students giving their opinion of the course indicated that these students liked the course to an average degree. A few favorable and unfavorable student responses are quoted below:

Favorable Student Responses, Accounting

1. It was interesting.
2. Was forced to stay up with rest of class. Gave me an insight of the business world. A lot of knowledge was contained in every unit--not spread out forever. Kept a steady use of all terms and information learned in earlier chapters.
3. Learned more than in bookkeeping. Teacher explained carefully all we did not understand.

Unfavorable Student Responses, Accounting

1. It was rushed. Didn't spend enough time on it.
2. Toward the end of the year we went fast and it got hard to understand.
3. The first part was a review of what had been learned previously in bookkeeping class. The hard sections seemed to come at the end of the year when there was a big rush to consume more.

Teacher and Principal Opinion Data

The fifth specific problem of this study was to report the opinions of teachers and principals in the pilot schools toward the pilot programs.

Opinions of Pilot Teachers. Pilot teachers expressed their opinions of the three-course program in recordkeeping, bookkeeping, and accounting by answering four questions on a questionnaire. The questions and summaries of responses are listed below.

Question 1. Do you consider the three-track program of recordkeeping, bookkeeping, and accounting to be superior to the traditional one or two year bookkeeping course? State the reasons for your answer.

Pilot teachers agreed unanimously that the three-track program was superior to the traditional one or two year bookkeeping course. Major reasons named were:

a. Every student has the opportunity to work on his own level of ability.
b. The student has the opportunity to make progress and succeed.
c. The student has the opportunity for more specialized training in a class with other students of similar abilities.

Other reasons named included:

d. The three-track program makes available a course for each student that leads to employment on a level commensurate with his abilities.

e. Accounting offers more challenge to superior students than does second-year bookkeeping.
f. The placing of lower ability students in recordkeeping allows the bookkeeping class to progress faster.

Question 2. List what you consider to be some advantages of the three-track program of recordkeeping, bookkeeping, and accounting.

All responses to this question were repeats of the reasons listed in question 1; points a, b, c, and d were mentioned most frequently.

Question 3. List what you consider to be some disadvantages of the three-track program of recordkeeping, bookkeeping, and accounting.

a. Poor screening of students for various classes for the three-track program. This response was unanimous.
b. Students taking recordkeeping as tenth graders may not retain their knowledge of recordkeeping until graduation.
c. Accounting is regarded as a "status symbol" among students.

Question 4. List any specific problems encountered while teaching any of the classes of recordkeeping, bookkeeping, and accounting. Specify class.

a. Students with low I. Q. (and low producers) hindered progress in accounting.
b. Tried to cover too much material in accounting.
c. Students were incorrectly placed in recordkeeping or bookkeeping at the beginning of the school year.

Opinions of Principals of Pilot Schools. Principals of the three pilot schools expressed their opinions of the three-course program in recordkeeping, bookkeeping, and accounting by answering four questions on a questionnaire. The questions and summaries of responses are listed below.

Question 1. Do you consider the three-track program of recordkeeping, bookkeeping, and accounting to be superior to the traditional one or two year bookkeeping course? State the major reasons for your answer.

All three principals stated that they considered the three-track program of recordkeeping, bookkeeping, and accounting to be superior to the traditional one or two year bookkeeping courses.

Reasons given were:

a. The three-track program allows students to gain workable skills at their learning levels.

b. The three-track program allows for differences in individual ability.
c. The three-track program increased student interest.
d. The three-track program provides an opportunity for all students (general, college preparatory, and vocational) to take business courses.
e. The three-track program allows for the grouping of students.

Question 2. List what you consider to be some advantages of the three-track program of recordkeeping, bookkeeping, and accounting.

a. The program provides more of a challenge to each student.
b. Superior students are challenged by accounting theory.
c. All classes are able to cover more material.
d. Good foundation is provided in recordkeeping class.

Question 3. List what you consider to be some disadvantages of the three-track program of recordkeeping, bookkeeping, and accounting.

a. Scheduling difficulties.
b. Difficulties in selecting students for each course.
c. Too much repetition in recordkeeping.

Question 4. List any problems encountered while administering the three-track program of recordkeeping, bookkeeping, and accounting.

a. Scheduling difficulties.
b. Guidance counselors should be better informed about each course in the three-track program.

Summary of Findings and Recommendations

The purpose of this project was to study, gather data from, and report on the success of pilot three-course programs in recordkeeping, bookkeeping, and accounting which were offered in three Virginia high schools during the 1965-66 academic year.

Summary of Findings

Recordkeeping Achievement. Pilot recordkeeping students made significantly higher scores on the recordkeeping achievement test than did control bookkeeping students. Of particular interest is the finding that pilot recordkeeping students scored significantly higher than control bookkeeping students on part IV of the recordkeeping achievement test. In part IV of the test, students were required to record five transactions in a customer's account and to figure the account balance after each entry. This is an activity that is taught in both recordkeeping and bookkeeping.

No significant differences in scores between pilot and control students was found for part I (suburban school), part II, and part III of the recordkeeping achievement test.

Bookkeeping Achievement. Neither pilot nor control bookkeeping students did well on the National Business Entrance Test, Bookkeeping Test. Only two schools (urban control and rural pilot) had an adjusted mean score above 80. A score of 80 is in the tenth percentile according to data compiled by the National Business Education Association, publisher of the test. The remaining mean scores, therefore, were below the tenth percentile.

Nevertheless, control students scored significantly higher than pilot students in urban schools. Pilot students scored significantly higher than control students in suburban and rural schools.

All schools, pilot and control, had very low mean scores on part VI, preparation of financial statements.

Accounting Achievement. The accounting achievement test was written by an experienced college accounting instructor. His interpretation of the scores in Table XVII was that even though they appear to be quite low, they are about what were to be expected for a newly-introduced accounting course in high school. He believes that the scores reveal moderate success, or better, on the part of the pilot accounting teachers and students. The fact that the pilot teachers had not taught college accounting prior to the project should be considered in the interpretation of achievement test scores.

Drop-Out, Absence, and Student Opinion. In the pilot schools, drop-out rates were highest in accounting classes (16.3%), next lowest in bookkeeping classes (13.3%), and lowest in recordkeeping classes (5.1%). The drop-out rates in control bookkeeping classes (12% and 11.5%) were slightly lower than in pilot bookkeeping classes.

In the pilot schools, absence rates were highest in recordkeeping classes (10.5%), next lowest in accounting classes (6.9%), and lowest in bookkeeping classes (4.3%). The absence rates in control bookkeeping classes (5.9% and 6.2%) were slightly higher than in pilot bookkeeping classes.

In the pilot schools, student opinion was considerably more favorable toward the course in recordkeeping classes (79% reported they liked the course very much) than in bookkeeping classes (37.5% reported they liked the course very much).

Student opinion toward the bookkeeping course in control schools was slightly more favorable than in pilot schools (52.1% reported they liked the course very much in control vs. 37.5% in pilot schools).

Several accounting students reported that too much material was covered in the time that was available, especially near the end of the year.

Teacher and Principal Opinion. The opinions of both teachers and principals toward the three-course program in recordkeeping, bookkeeping, and accounting were generally favorable.

Proper student placement in one of the three courses and scheduling of classes were listed as difficulties in operating the programs.

Recommendations

It is recommended that additional three-course pilot programs in recordkeeping, bookkeeping, and accounting be instituted in Virginia and in other states. Careful attention should be given to the screening of students for the three courses and to advance planning and development on the part of principals, teachers, and guidance counselors.

It is recommended that schools offering the traditional one- or two-year bookkeeping program study student achievement, drop-out rates, and student opinion in the bookkeeping classes. In schools that have problems of low bookkeeping achievement and interest and high drop-out rates, it is recommended that recordkeeping be offered and evaluated for its influence on these and other factors.

It is recommended that subsequent programs in recordkeeping, bookkeeping, and accounting be carefully evaluated for their contribution to vocational preparation in existing and newly-emerging computing, recording, and bookkeeping office occupations.

It is recommended that where accounting is offered in the high school, particular attention be given to student aptitude and motivation for the course and to the rate at which instructional units are taught. Adequate provision for continual review and class discussion should be provided.

Appendix

Recordkeeping Achievement Examination

Part I

You are applying for a job with the People's National Bank. As part of your employment test, you are asked to perform the following tasks:

1. Arrange the following groups of numbers so that the smallest is first and the largest last.

a.	6,232	6,435	6,323	6,435	6,821
	_____	_____	_____	_____	_____
b.	10,039	10,009	10,309	9,662	11,209
	_____	_____	_____	_____	_____
c.	$3.25	$4.25	$3.25	$.35	$5.77
	_____	_____	_____	_____	_____

2. Arrange the following so that the earliest date is first and most recent date is last.

a.	July 22	January 12	April 15	November 22	March 4
	_____	_____	_____	_____	_____
b.	December 10	December 1	January 2	February 1	January 22
	_____	_____	_____	_____	_____

3. Place a check beside each pair of numbers that are alike.

a.	12,252	12,252	_____
b.	967,2760	967,2670	_____
c.	479,296	479.296	_____
d.	334' 6"	434' 6"	_____
e.	772-4672	772-4672	_____
f.	8724965	8742965	_____

4. Place a check beside each pair of names that are alike:

a.	Alfred Gray	Alfred Graye	_____
b.	Frank L. Moore	Frank L. Moore	_____
c.	E. E. Tyson	E. E. Tyson	_____
d.	Vernner Davidson	Verner Davidson	_____

Part II - Circle either Yes or No to answer the first three questions.

1. If a sales clerk charges you 82¢ as the 3% sales tax on an item costing $24, is this correct? YES NO

2. If you charged a customer $7.24 for 2-1/2 dozen pens costing $2.88 a dozen, would this be correct? YES NO

3. Does 22 + 5 + 1 + 6 - 12 - 7 = 16? YES NO

4. What is the cost of 7 dozen Superballs @ $1.29 a dozen? _____

5. You are the sales clerk in the Harvard Men's Shop. On June 1, you sold the following merchandise to James Parrish, who paid you $40.

3 pairs of socks @ $1.25 per pair	_____
1 jacket costing $8.68	_____
1-1/3 dozen handkerchiefs @ $3.24 per dozen	_____
4 shirts @ $3.95 each	_____

How much change will James Parrish receive? _____

Part III

You are the cashier at the Gemmell Supermarket. The register reading at the start of the day is $418.25. You counted the money in your cash drawer at the end of the day and found you had:

25	$20 bills	_____
32	$10 bills	_____
11	$ 5 bills	_____
61	$ 1 bills	_____
54	Half dollars	_____
149	Quarters	_____
172	Dimes	_____
91	Nickels	_____
13	Pennies	_____

What are the total sales for the day? _____

Part IV

As a recordkeeper for the Moran Department Store, you have the following transactions to record for Mrs. Joyce Wallace in the Accounts Receivable Ledger below. Mrs. Wallace lives at 323 Ackerman Drive, Blacksburg, Virginia. She has a balance of $10 in her account on May 1.

May	3	Purchased on account a hat costing $6.00
	4	Purchased on account a dress costing $12.98 and a pair of gloves costing $2.50
	9	Returned merchandise costing $2.50
	17	Purchased on account two blouses and a scarf costing $7.50
	23	Sent a check to the Moran Department Store for $36.

DATE			DEBIT	CREDIT	BALANCE

Part V

Prepare a Petty Cash Book (using the form on the next page) for the Miller Company.

a. Number the vouchers beginning with 1
b. Pencil foot all columns
c. Prove your addition by crossfooting
d. Ink in the correct totals and rule
e. Find the new balance and record it using the date of May 23

The following petty cash vouchers are to be entered in the Petty Cash Book. On May 1, a check was cashed for $25 to start the Petty Cash Fund.

			Amount
May	2	Stationery for Office	$4.00
	3	Stamps for office use	$5.00
	5	Wrapping paper (Shipping Expense)	$8.25
	6	Newspaper subscription	$1.60
	8	Taxi Fare	$2.00
	10	Box of carbon paper for office	$1.30

Petty Cash Book

Date	Explanation	Voucher No.	Re-ceipts	Pay-ment	Office Expense	General Expense	Other Items	
							Item	Amt.

Recordkeeping Achievement Examination

Scoring Plan

Part I	1 point for each answer	Total points	15
Part II	Questions 1 - 4 = 4 points each		16
	Question 5 — 1 point for each extension		4
	4 points for FINAL answer		4
		Total points	24
Part III	1 point for each extension		9
	7 points for FINAL answer		7
		Total points	16
Part IV	3 points for each completely correct entry (including date)		18
	2 points for complete heading		2
		Total points	20
	To get credit, both name and address must be included in heading		
Part V	2 points for each line entered correctly (this includes date)		16
	Only 1 point for pencil footing		1
	1 point for each column added correctly		5
	3 points for double lines		3
		Total points	25

Accounting Achievement Examination

INSTRUCTIONS: Journalize using two column paper, unless instructed otherwise. Skip one line between each transaction. Explanations are not required.

Problem I

1966

Jan. 1 The firm of H. I. Way, Inc. purchased a $20,000 piece of road equipment. A check and a note of equal amounts were given for the equipment. The note was for 90 days at 4%. The staff accountant indicated that the equipment will have a $2,000 salvage after its useful life of 10 years. The depreciation method is sum-of-the-years-digits. In figuring depreciation, carry decimals to three places and round off two decimal places for each figure used.

16 Received a $1,000, 30-day, 3% note from Hazy Daze, Inc. as an extension on an overdue account. The note was dated January 16.

19 Discounted the Hazy Daze note at First and Merchants National Bank at 6%. Received credit for the proceeds.

20 Paid $1,200 for a one year lease starting on February 1, 1966. Record so a reversing entry cannot be called for.

25 Paid $100 for 10 ads to be run each week starting with today. Record with no more than one debit and one credit. Record so a reversing entry cannot be called for.

25 Discounted our $10,000, 90-day, non-interest bearing note at First and Merchants National Bank. The bank used a 6% discount rate. Record so a reversing entry is appropriate at a later date.

31 Prepare any entries you feel are appropriate relating to the above. Make a separate entry for each original transaction. Do not combine adjusting entries.

Feb. 1 Prepare any entries you feel are appropriate relating to the above. Do not combine entries.

1 Traded the road equipment for a super deluxe model which lists at $30,000. A trade in allowance of $18,000 was permitted. The difference, if any, was to be paid in cash. The new equipment is to be recorded at list.

Problem II

The firm of W. E. Ties keeps books by the year.

1966
Jan. 1 Purchased ten (10), $1,000, 6% General Motors, Inc. bonds at 120 exclusive of a brokerage fee of $20 per bond. The bonds will mature on January 1, 1976. Interest payment dates are January 1 and July 1. Appropriate authorizations are made when interest is received as well as at the end of the fiscal period. Make amortizing entry separate from receipt of interest.

REQUIRED: prepare any entries "needed" through December 31, 1966.

Problem III

Mr. Aaron A. Aabe and Miss Barbara B. Bates have been partners for 10 years. Their present capital balances in their partnership, Frisky Dog Food, are respectively, $10,000 and $15,000. Miss Candy C. Cane is to be their new partner. Record each of the following separate cases.

a. Miss Cane invests $5,000 and is to receive 1/2 of the firm without reducing the old partners capital balances.

b. Miss Cane pays Aabe and Bates $10,000 apiece and receives 1/5 of the company.

c. Miss Cane invests $15,000 and receives 1/8 of the firm.

Key -- Accounting Achievement Examination

Problem I

1966				
Jan.	1	Equipment (or Road Equip.)	20,000	
		Cash		10,000
		Notes Payable		10,000
	16	Notes Receivable	1,000	
		Accounts Receivable/Hazy Daze		1,000
	19	Cash	997.99	
		Interest Expense	2.01	
		Notes Receivable (or N R Discounted)		1,000
	20	Prepaid Rent	1,200	
		Cash		1,200
	25	Prepaid Advertising	100	
		Cash		100
	25	Cash	9,850	
		Interest Expense	150	
		Notes Payable		10,000
	31	Interest Expense	33.33	
		Interest Payable		33.33
	31	Depreciation Expense	3,272.70	
		Accumulated Depreciation--Equip.		3,272.70
	31	Advertising Expense	10	
		Prepaid Advertising		10
	31	Prepaid Interest	100	
		Interest Expense		100
Feb.	1	Interest Payable	33.33	
		Interest Expense		33.33
	1	Interest Expense	100	
		Prepaid Interest		100
	15	Depreciation Expense on Equip.	122.73	
		Accumulated Depreciation--Equip.		122.73
	15	Accumulated Depreciation--Equip.	3,395.43	
		Equipment	30,000	
		Gain on Trade of Equipment		1,395.43
		Equipment		20,000
		Cash		12,000

Problem II

1966				
Jan.	1	General Motors 6% Bonds (or Investment)	12,200	
		Cash		12,200
July	1	Cash	300	
		Interest Income		300
	1	Interest Income	110	
		General Motors 6% Bonds (or Investment) (accept 109.98 due to rounding)		110
Dec.	31	Interest Receivable	300	
		Interest Income		300
	31	Interest Income	110	
		General Motors 6% Bonds (or Investment) (accept 109.98)		110

Problem III

A.	Cash	5,000	
	Goodwill	20,000	
	Candy C. Cane, Capital		25,000
B.	Aaron A. Aabe, Capital	2,500	
	Barbara B. Bates, Capital	2,500	
	Candy C. Cane, Capital		5,000
C.	Cash	15,000	
	Goodwill	80,000	
	Aabe, Capital		40,000
	Bates, Capital		40,000
	Cane, Capital		15,000

NOTE: Subtract 1 point from a perfect score of 100 for each line that contains an error. There are only 55 lines; therefore, the student has 45 points given to him as a bonus.

Name _____
School _____

Student Questionnaire

1. In which class were you enrolled? (Check one.)

   ____ recordkeeping
   ____ bookkeeping
   ____ accounting

2. Did you like the class? ____ very much ____ average ____ no

3. List some of the things you liked about the class.

   a. _____

   b. _____

   c. _____

   d. _____

4. List some of the things you did not like about the class.

   a. _____

   b. _____

   c. _____

   d. _____

5. What suggestions do you have for its improvement, if any?

   a. _____

   b. _____

   c. _____

   d. _____

Name _____
School _____
Position _____

Teacher, Principal Questionnaire

I. Do you consider the three-track program of recordkeeping, bookkeeping, and accounting superior to the traditional one or two year bookkeeping course? (To be answered by principals and teachers)

(____) yes (____) no

State major reasons for your answer.

a. _____

b. _____

c. _____

d. _____

II. List what you consider to be some advantages of the three-track program of recordkeeping, bookkeeping, and accounting.

a. _____

b. _____

c. _____

d. _____

III. List what you consider to be some disadvantages of the three-track program of recordkeeping, bookkeeping, and accounting.

a. _____

b. _____

c. _____

d. _____

Teacher-Principal Questionnaire

IV. List any specific problems encountered while teaching any of the classes of recordkeeping, bookkeeping, and accounting. Specify class.

(To be answered by teachers only.)

a. _____

b. _____

c. _____

d. _____

V. List any problems encountered while administering the three-track program of recordkeeping, bookkeeping, and accounting. (To be answered by principal only.)

a. _____

b. _____

c. _____

d. _____

VI. Did you find business advisory committees to be of value to you? (To be answered by teachers only.)

(____) yes (____) no

Give examples of information obtained that was of value to you in teaching your classes.

a. _____

b. _____

c. _____

d. _____