

A STUDY OF ACCOUNTING AND BUSINESS MATHEMATICS

AT

SELECTED COLLEGES IN THE UNITED STATES

A Sabbatical Leave Report

Submitted to

Mt. San Antonio College

By

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Introduction

The purposes of this study were to determine what selected schools and colleges in various areas of the United States are doing, if anything, to increase enrollments and to investigate their course offerings in accounting and in business mathematics. That such information should prove to be beneficial to Mt. San Antonio College is the reason for the study.

Method of Research

The data were obtained by means of a personal interview with a business teacher, department chairperson, and/or administrator at each educational institution for which data are available. In many instances, only one person on a campus was interviewed because of the constraints of time, specific people being in meetings or off campus, and the like. In other cases, two or three or more people were interviewed on a campus. The quality of the data probably, but not necessarily, improved as the number of people interviewed increased on a particular campus.

Having similar kinds of data from each campus is desirable. A questionnaire was devised in order to obtain comparable data from each campus. The questionnaire is shown in Appendix A.

Schools and Colleges Visited

A diverse sampling of schools and colleges in the United States was obtained. There is no claim, however, that the sample is scientific because it is too small to be representative. To say that the data presented herein are representative of all colleges in the United States would be rather hazardous. All that should be said is that the data represent the colleges visited and perhaps other colleges in this country.

A list of the schools and colleges that were visited is shown in Appendix B. A glance at the list reveals that their locations are scattered widely through the country--from California to Maine and from Wisconsin to Florida. In size of enrollments, they range from 300 students at New Hampshire Vocational Technical College to 37,400 at Milwaukee Area Technical College. Incidentally, there was no attempt made to verify the enrollment figures given to the writer by those being interviewed. The figures, nevertheless, are sufficiently accurate for comparative purposes.

Suggestions from high school teachers and administrators regarding business mathematics and accounting offerings by community colleges sometimes prove to be helpful. Only two high schools were visited, however, because such visits were not as fruitful as had been hoped.

Presentation of Data

The data obtained with the questionnaires are presented in tabular form with comments by this writer on the following pages.

Stability of Enrollment

Surprisingly, not one respondent said that enrollment at his or her school was decreasing; nor did anyone say that enrollment in business

education is decreasing. Nevertheless, at some of the schools where respondents said enrollment is level, it could actually be decreasing.

As Table I reveals, enrollment at a majority of the schools visited appears to be increasing. Business education seems to be increasing at a more rapid rate than that of total enrollment. Even at some of those schools where the respondents said enrollment is remaining level, there was an increase in business education enrollment.

A few respondents mentioned that the average age of their students is increasing. Apparently, the return of older people to the college classroom as students is compensating for the smaller total number of younger, "college age" people.

TABLE I
STABILITY OF ENROLLMENT

Enrollment	College	Business Education
Increasing	18	22
Decreasing	0	0
Remaining Level	16	12

Attempts to Increase Business Education Enrollment

Table II shows that twelve of the respondents believed that something special was being done at their institutions to increase business enrollment. An examination of their comments (shown on page 4), however, reveals that "special" is relative. At Mt. San Antonio College, most of

TABLE II
 ATTEMPTING TO INCREASE BUSINESS EDUCATION ENROLLMENT?

Response	Number
Yes*	12
No	22

*Following are more explicit replies of those who said, "Yes."

Advertise on radio and in newspapers to increase public acceptance of new programs and the community college. (Two respondents)

Publicizing through news releases a new curriculum in computer science.

Restructured accounting program to attract more majors.

Publicize new seminars for women who desire to reenter the work force.

Conduct "College Bowl" activities for high school students to attract them to campus.

Initiating new programs for and with local businesses.

Advertise, visit high schools, admit high school students into accelerated programs.

Supply public speakers; sponsor career nights at high schools; conduct business seminars; encourage faculty to participate in community activities.

The faculty are active in Chamber of Commerce; Chamber co-sponsors business scholarships; Tri-county Bankers Association sponsors and publicizes AIB courses. Active speakers bureau; conduct business seminars; mail schedule to each resident in college district. College has weekly fifteen-minute radio show on local station to publicize college program and activities.

Starting four-day week in summer and possibly in the fall to attract students as well as to conserve energy.

Publicize fact that tuition is lower at community college than at other public and private institutions of higher learning.

the activities mentioned are taken for granted as "ordinary." None of these schools have had the services of a director of recruitment and retention as has Mt. San Antonio College.

Although the responses given to this question are disappointing, on reflection, they are not surprising. The responses include activities that have been used successfully in California and, thus, are evidence that California has been and continues to be a leader in higher education, especially in community college education.

Length of Principles of Accounting Course

That Principles of Accounting should be a one-year course is almost unanimously accepted by the respondents (Table III). In only one of the schools visited, is the course covered in less than two semesters or three quarters. Even at that school, though, the course is taught for thirty weeks consisting of two trimesters of fifteen weeks each. None of the respondents suggested that the course could be covered adequately in only one semester or two quarters of instruction.

TABLE III

LENGTH OF PRINCIPLES OF ACCOUNTING COURSE

Length of Course	Number Responding
One Semester	0
Two Semesters	24
Two Trimesters	1
Two Quarters	0
Three Quarters	9

Times per Week Principles of Accounting Classes Meets

At the great majority of the schools visited, the principles of accounting classes meet three times per week. These classes usually meet for one hour (50 minutes) each session. Furthermore, at the college where the principles of accounting classes meet only once a week, each session is three hours. In addition to the required three meetings per week, one college offers two voluntary lab sessions per week.

As a generalization, in colleges east of the Mississippi River, principles of accounting classes normally meet three times a week; whereas, in colleges to the west, the principles of accounting classes usually meet five times a week. Of course, there are exceptions. For example, at Austin Community College the classes meet three times a week and at Calhoun State Community College in Alabama the classes meet five times a week on the quarter plan. The data, shown in Table IV, seem to reflect this generalization. About two thirds of the colleges visited are east of the Mississippi.

TABLE IV
TIMES PER WEEK PRINCIPLES OF ACCOUNTING MEETS

Meetings per Week	Number of Colleges	
	Semester Plan	Quarter Plan
One	1	0
Two	1	2
Three	16	4
Four	0	0
Five	4	2

Hours per Session of Principles of Accounting

The predominant length of a session for principles of accounting classes is one hour--usually consisting of 50 minutes of instruction. (See Table V-A, this page.) This is true for colleges operating on the quarter plan as well as for those on the semester plan. As one would expect, when the classes meet less frequently than three times a week, the session lasts for two or three hours.

TABLE V-A
HOURS PER SESSION OF PRINCIPLES OF ACCOUNTING

Hours per Session	Number of Colleges	
	Semester Plan	Quarter Plan
One	18	6
Two	1	2
Three	3	0

Units of Credit for Principles of Accounting

Most of the schools visited give three units of credit for each semester of principles of accounting. Most of the schools on the quarter plan also give three units of credit. (See Table V-B.)

The number of units granted seems to rest on geographic custom. In California four units of credit are usually given; in the East, only three. The additional unit of credit is allowed in California for the extra attendance in lab and/or lecture.

At one technical community college no conventional units of credit are given for courses. Instead, students are given credit for hours of

attendance in a course. They must attend a specific number of hours.

TABLE V-3
UNITS OF CREDIT FOR PRINCIPLES OF ACCOUNTING

Semester or Quarter Units of Credit	Number of Colleges	
	Semester Hours	Quarter Hours
Three	19	5
Four	4	2
Five	0	1

Practice Set Requirements in Principles of Accounting

As is shown in Table VI, requiring students in principles of accounting classes to complete one or two practice sets is prevalent, but not universal. Almost one third of the respondents stated that a practice set is not required in the principles of accounting course. From a positive viewpoint, however, the complement of this is that almost two thirds of them indicated that one or more practice sets is required.

Whether or not a practice set is required is not contingent on the educational level of the institution. The "No" responses came from both community colleges and four-year colleges.

Ink Requirements in Principles of Accounting

Ink is not as important as it once was in the introductory accounting class. Table VII reveals that approximately one teacher in six requires beginning accounting students to use ink on the practice set and homework problems. Only one teacher in sixteen requires ink on tests

and the final examination. Not one of the respondents stated that ink is required on quizzes, but there may an accounting teacher somewhere who requires ink on quizzes.

TABLE VI
REQUIREMENT OF PRACTICE SET IN PRINCIPLES OF ACCOUNTING

Practice Set(s) Required	Number of Colleges
None	9
One	13
Two	10
Three (One each quarter)	1

TABLE VII
REQUIREMENT OF INK IN PRINCIPLES OF ACCOUNTING

Activity Requiring Ink	Number Responding	
	Yes	No
Homework	5	28
Quizzes	0	33
Tests	2	31
Final Examination	2	31
Practice Set	6	27

Textbook Required for Principles of Accounting

The textbook shown in Table VIII as being the most popular is really not so popular as the table would lead one to believe. The text by Niswonger and Fess is the most popular introductory accounting book in the United States, but the book by Pyle and White runs a closer second than this limited data indicate. One can safely state, however, that the three textbooks most widely used in the United States for principles of accounting classes are represented in the data.

Workbook Requirement for Principles of Accounting

The data of Table IX, on the next page, reveal that in five out of six principles of accounting classes the students use workbooks to help solve the problems. On a ratio of five to one, teachers of beginning accounting believe that using a workbook designed for the problems in the textbook is beneficial to the students.

TABLE VIII

AUTHOR OF REQUIRED TEXTBOOK FOR PRINCIPLES OF ACCOUNTING

Name of Author(s)	Number of Colleges
Hermanson and Edwards	1
Meigs, Johnson, Mosich, Keller	4
Niswonger and Fess	18
Pyle, White, Larson	4
Thacker	2

TABLE IX
 REQUIREMENT OF WORKBOOK FOR PRINCIPLES OF ACCOUNTING

Workbook Required	Number Responding
Yes	26
No	5

Why Respondents Like Principles of Accounting Textbook

When one is considering adopting or readopting a textbook, knowing what teachers think of the book can be helpful. Questions 10, 11, and 12 on the questionnaire were designed to obtain teachers' opinions about the textbooks being used at their colleges for principles of accounting. These questions were asked only of those respondents who had taught from the textbook under consideration. In other words, administrators and department heads were not asked these questions unless they had taught from the textbook.

Table X gives condensed, rather than verbatim, versions of the responses given by those who were asked what they like best about the text being used for principles of accounting. The writer got the impression that a textbook is usually chosen because the presentation of the subject matter seems logical and appropriate to the teacher. There should also be a sufficient number of problems that are challenging to the beginning student of accounting.

TABLE X
WHY RESPONDENTS LIKE PRINCIPLES OF ACCOUNTING TEXTBOOK

Author of Textbook	Respondents' Comments
Meigs, Johnson, Mosich, Keller	<p>Problems don't deviate from textbook explanation.</p> <p>Has variety of problems and good explanations.</p> <p>Well written with good explanations.</p>
Niswonger, Fess	<p>Good sequence of lessons; clarity in presentation.</p> <p>Good textbook, and publisher provides excellent teaching aids.</p> <p>Teacher studied from earlier edition in college.</p> <p>Teacher is familiar with content.</p>
Pyle, White, Larson	<p>Teacher adopted book to get out of rut.</p> <p>Clear explanations and good chapter review.</p> <p>Has wealth of good problems.</p>
Thacker	<p>Contains short units and does not elaborate needlessly.</p> <p>Appropriate reading level.</p>

Complaints About Textbooks in Principles of Accounting

What one teacher praises in a book, another will complain about! For example, as Table X reveals, one teacher praised the Meigs, et. al., textbook because the problems don't deviate from the text explanations; yet, another teacher complained (Table XI) that that textbook's problems have too many "twists" for beginning students.

TABLE XI

RESPONDENTS' COMPLAINTS ABOUT PRINCIPLES OF ACCOUNTING TEXTBOOK

Author of Textbook	Respondents' Comments
Meigs, Johnson, Mosich, Keller	Problems have too many "twists" for beginning students.
Niswonger, Fess	Textbook is too wordy and out of date; low emphasis on important topics. Not enough management accounting in content. Reading level is too high.
Pyle, White, Larson	Early chapters have weak presentation. Reading level is too high.
Thacker	Inadequately covers some topics but goes into too much detail for others. Too many errors.

The most serious complaints were that the most popular textbook was becoming dated and that another book has too many printing and computational errors. A new edition of the former has just been issued. Whether or not a new printing has corrected the errors of the latter is unknown.

Suggestions for Improvement of Textbooks in Principles of Accounting

A complaint about a textbook may be considered to be a suggestion to improve it. For this reason, the comments in both Table XI and Table XII may be interpreted as suggestions to improve the textbooks that were used by the respondents. The major complaint about the leading book was that it needed to be updated. Unsurprisingly, the

suggestions to improve this book include the advice to revise it more frequently.

TABLE XII
SUGGESTIONS TO IMPROVE PRINCIPLES OF ACCOUNTING TEXTBOOKS

Author of Textbook	Respondents' Comments
Meigs, Johnson, Mosich, Keller	Simplify the problems.
Niswonger, Fess	Revise more frequently to remain current. Update problems so they will agree with text presentation. Emphasize managerial accounting to a greater extent. Decrease reading level. Shorten chapters on inventories and long-term liabilities. Provide more visual aids in textbook--diagrams of accounting procedures and of manufacturing plant layout.
Pyle, White, Larson	Decrease reading level.

New Accounting Courses or Programs

Approximately two fifths of the respondents stated that they had recently started a new course or program in accounting. (See Table XIII-A.) A 40 percent rate of change is not disgraceful. Most of the changes were being made in the larger and medium size colleges that have increasing enrollments. Most of the smaller institutions do not have enrollments that are expanding rapidly enough to warrant frequent changes in curriculum.

Table XIII-B offers further evidence that community colleges in California continue to exert leadership. The community college offering the new course integrating computer science and accounting, which is similar to a new course at Mt. San Antonio College, is located in California. Even though the "new" courses and programs mentioned are not extraordinary, the colleges making the changes are to be commended for striving to improve their curricula.

There are, however, a few surprises. For example, a small community college in a heavily populated area of the East is offering courses in Advanced Accounting and Auditing, and in a less populated area, another community college is offering Advanced Cost Accounting. Both seem to be succeeding because their tuition is lower than that at four-year colleges. Additionally, there are some other ideas that merit further study. For instance, greater emphasis on or use of computers in accounting deserves serious consideration.

TABLE XIII-A

NEW ACCOUNTING COURSES OR PROGRAMS

Any New Accounting Courses or Programs?	Number Responding
Yes	13
No	19

TABLE XIII-3
RECENTLY STARTED ACCOUNTING COURSES OR PROGRAMS

Number Responding	Respondents' Comments
2	New courses in Income Tax and Cost.
1	Have new course integrating computer science and accounting.
1	New courses in Advanced Accounting and Auditing. (A community college)
1	Have recently redesigned accounting program. Previous program designed for CPA training. Now have a second track emphasizing managerial accounting. (A four-year college)
1	Principles of Accounting expanded into a two-semester course.
1	Started a new introductory course in accounting for non-accounting majors.
1	New, condensed introductory accounting course in the evening; offered for three hours, three times a week for four weeks.
1	Have new course in Automated Accounting. (Four-year college)
1	Initiated new two-year accounting program that includes Cost Accounting and Intermediate Accounting.
1	New course in Advanced Cost Accounting. (Community college)
1	Recently revised the two-year accounting program and now offering new course in Income Tax Procedures.
1	Recently placed mini-computers in the accounting lab. Accounting students now use punch cards to solve most accounting problems. (Disadvantage: Card problems are based on terms used in the textbook; they will have to be revised when a different textbook is adopted. Vocabulary used in punch-card problems should be such that any introductory text can be used.

Prerequisites for Principles of Accounting

At only about one institution in ten is there a prerequisite for principles of accounting. When there is a prerequisite, it is commonly business mathematics. Somewhat surprisingly, one four-year college has Principles of Economics as the prerequisite for principles of accounting. This is an uncommon practice. At many colleges where there is no prerequisite, business mathematics is highly recommended prior to principles of accounting.

The data in Table XIV and the accompanying comments by respondents would lead one to believe that a prerequisite is more likely on the community college level than on the four-year college level. This is probably so, but the assumption cannot be made with certainty.

Times per Week Business Mathematics Meets

Only two of the institutions for which data are available, a community college and a four-year college, do not offer a course in business mathematics. Where it is offered, business mathematics classes generally meet three times a week, regardless of whether the college operates under the semester plan or the quarter plan. (See Table XV, page 19.) In each of the three instances where business mathematics meets only once a week, the session is for three hours.

TABLE XIV
PREREQUISITES FOR PRINCIPLES OF ACCOUNTING

Any Prerequisite for Principles of Accounting?	Number Responding
Yes*	3
No**	29

*Business Mathematics at two community colleges and Principles of Economics at a four-year college.

**Following are some of the comments made by those who said, "No."

Business Mathematics is strongly recommended for students prior to Principles of Accounting--and for every business major.

Would like to see reading ability test and mathematics ability test administered before students are permitted to enroll in accounting.

Students are required to take two semesters of College Algebra concurrently with Principles of Accounting and a course in Business Statistics following. (Four-year college)

Hope the students will have had Business Mathematics before Principles of Accounting.

Accounting students are required to take Mathematical Foundations for Business and Statistical Applications for graduation. (Four-year college)

Most students take Business Mathematics as freshmen; Principles of Accounting is a sophomore course.

TABLE XV
TIMES PER WEEK BUSINESS MATHEMATICS MEETS

Meetings per Week	Number of Colleges	
	Semester Plan	Quarter Plan
One	1	2
Two	2	2
Three	18	2
Four	0	0
Five	1	2

Hours per Session of Business Mathematics

The most popular length of session for business mathematics classes is one hour; that is, a session of 50 minutes. About three fourths of the schools visited offer business mathematics in one hour sessions that usually meet three times a week.

TABLE XVI-A
HOURS PER SESSION OF BUSINESS MATHEMATICS

Hours per Session	Number of Colleges	
	Semester Plan	Quarter Plan
One	19	3
Two	2	3
Three	1	2

Units of Credit for Business Mathematics

Whether offered by a college operating under the semester plan or the quarter plan, business mathematics is most frequently considered to be a three-unit course. As Table XVI-B shows, this true at three fourths of the institutions for which data are available. The next most popular number of units given is two at semester-plan schools; five, at quarter-plan schools.

TABLE XVI-B

UNITS OF CREDIT FOR BUSINESS MATHEMATICS

Units of Credit per Semester or Quarter	Number of Colleges	
	Semester Hours	Quarter Hours
Two	2	0
Three	18	5
Four	1	1
Five	1	2

Textbook Required for Business Mathematics

Although it is one of the most popular business mathematics textbooks, the predominant book in Table XVII is not the most popular one in the United States. The data in this regard are biased because the writer, naturally, gave preference in many instances to those colleges where his business mathematics textbook is used. Question 17 was asked not to determine the popularity of a book, but rather to be able to associate the responses to questions 19, 20, and 21 to the appropriate book.

TABLE XVII
AUTHOR OF REQUIRED TEXTBOOK FOR BUSINESS MATHEMATICS

Name of Author(s)	Number of Colleges
Curtis	2
Gossage	21
Miller, Salzman	2
Mizahi, Sullivan	1
Rice, Mayne, Deitz	1
Rosenberg	1
Rouche	1
Swindel	1

Workbook Requirement for Business Mathematics

A cursory examination of Table XVII, page 22, indicates that only one of six business mathematics teachers prefers students to use a workbook. Closer scrutiny, however, reveals that thirteen of thirty (43 percent) of the respondents prefer use of the workbook. The latter conclusion is obtained by combining the text-workbook responses with the yes responses. Furthermore, of the twenty-two users of hard-cover textbooks, five (almost 23 percent) prefer using the workbook with the textbook. Of course, another way to view the data is that about 57 percent of the respondents prefer their students to use a textbook without a workbook.

TABLE XVIII
 REQUIREMENT OF WORKBOOK FOR BUSINESS MATHEMATICS

Workbook Required	Number Responding
Yes	5
No	17
Text-workbook	8

Why Respondents Like Business Mathematics Textbooks

As was the case with the accounting textbooks, only those respondents who had actually used the business mathematics textbooks were asked questions 19, 20, and 21.

The respondents' comments pertaining to what they liked best about the business mathematics textbooks are shown in Table XIX, page 23. Quite frequently, the accounting teachers also teach business mathematics. Therefore, the textbooks in the two subjects are examined for possible adoption in much the same way; that is, with similar criteria for selection. These criteria usually include logical presentation, good reading level, and appropriate level and quantity of problems.

TABLE XIX
WHY RESPONDENTS LIKE BUSINESS MATHEMATICS TEXTBOOK

Author of Textbook	Respondents' Comments
Miller, Salzman	Local authors.
Gossage	<p>Good presentation, examples, and problems. (5 Respondents)</p> <p>Easy to read. (2 Respondents)</p> <p>Right level of problems for community college students.</p> <p>Many different kinds of problems.</p> <p>Error free examples and answers.</p> <p>Like the aliquot parts of unit 5.</p> <p>Refer to the appendices quite frequently.</p> <p>Answers to the odd-numbered problems are great help to students.</p>
Rice, Mayne, Deitz	Prefer text-workbook format.
Swindel	Short explanations with few illustrative problems. Answers to exercises in back.

Respondents' Complaints About Business Mathematics Textbooks

A comparison of the comments in Table XIX with those in Table XX substantiates the old saw that one man's meat is another man's poison. One respondent likes aliquot parts; another dislikes aliquot parts. One says, "Easy to read;" another says, "Reading level too high." Nevertheless, when similar complaints are made by a number of respondents, the author should consider their advice.

Some of the respondents seemed hesitant to complain to the author-- possibly through courtesy or the fear of damaging the author's ego. With the assurance that the author was looking for constructive criticism, they usually opened up. Others seemed genuinely unable to think of a criticism at the time. On the other hand, one or two seemed delighted to have the opportunity to complain about one thing or another.

Suggestions for Improvement of Textbooks in Business Mathematics

There were no specific recommendations for improvement of the Swindel book or of the Rice, Mayne, Deitz book. However, the complaints in Table XX against these two books could be interpreted as suggestions for improvement.

Most of the suggestions shown in Table XXI, pages 26 and 27, are directed toward the Gossage book because this book is used at most of the colleges visited. The suggestions range from the obvious, such as updating because of inflation, to the significant; for example, transferring the review to the back of the book from the front. Most of the suggestions merit serious consideration, and many of them will influence the third edition of the book. These suggestions will also help to improve the content of Accounting Mathematics 11 at Mt. San Antonio College.

TABLE XX

RESPONDENTS' COMPLAINTS ABOUT BUSINESS MATHEMATICS TEXTBOOK

Author of Textbook	Respondents' Comments
Gossage	<p>Should delete aliquot parts and number lines.</p> <p>Place more emphasis on Annual Percentage Rate; use tables to compute payment, principal, etc.</p> <p>Reading level too high.</p> <p>Problems too easy.</p> <p>The 6%, 60-day method of computing interest is presented too rapidly. Stretch it into more exercises.</p> <p>Never use Chapter 2, but it should be in the book--toward the end.</p>
Rice, Mayne, Deitz	<p>Must supplement too much in section on distribution of partnership earnings and losses.</p>
Rouche	<p>Too many errors.</p>
Swindel	<p>Confuses percent and percentage. Should have more simple interest problems to find time, rate, and principal. Has too many transportation and consumer problems. Introduces metrics too soon. Doesn't carry answers to four decimal places.</p>

TABLE XXI

SUGGESTIONS TO IMPROVE BUSINESS MATHEMATICS TEXTBOOK

Author of Textbook	Respondents' Suggestions
Gossage	<p>Change chapter sequence to correspond with sequence in Niswonger, Fess accounting text.</p> <p>Present cash and trade discounts in separate problems prior to partial payments.</p> <p>Move chapters 4 and 5 up to become chapters 2 and 3.</p> <p>Prepare more word problems in percentage and commission.</p> <p>Strengthen presentation on bonds.</p> <p>Expand percentage presentation.</p> <p>Use Z table for annual percentage rate. (2 Respondents)</p> <p>Present overhead later in text.</p> <p>In teacher's manual, show "knuckles" method of finding number of days in a month.</p> <p>Show greater detail on income statement.</p> <p>Present accounts receivable reconciliation near bank reconciliation.</p> <p>Instruct students to label steps in the solution to facilitate tracking down errors.</p> <p>Use four forms of interest formula.</p> <p>Insert some more difficult problems at the end of current word problems in most sections.</p> <p>Use time line to illustrate discount period and life of note; use percentage triangle and give more instruction and problems on use of calculator. Strengthen section on discounting notes.</p>

TABLE XXI (Continued)
 SUGGESTIONS TO IMPROVE BUSINESS MATHEMATICS TEXTBOOKS

Author of Textbook	Respondents' Suggestions
Gossage	<p>Use algebra in more problems.</p> <p>Increase interest rates to keep up with inflation; delete binaries and references to algebra, but use number sentences to solve word problems.</p> <p>Change order of chapters; have graphs after Chapter 1. Put more business problems in current Chapter 2. Include retail pricing.</p> <p>Have decimals in Chapter 1 and common fractions in Chapter 2.</p> <p>Use two or three exercises to present 6%, 60-day method of computing interest.</p> <p>Place the basic mathematics review in the back of the book for those students who need it.</p> <p>Leave chapters 6-14 as they are except for updating.</p>
Rouche	Clean up errors in examples and answers.

Students' Use of Calculators in Business Mathematics

With the prevalence of small, inexpensive calculators increasing, their use in the business mathematics classroom is becoming more and more popular. As the data in Table XXII reveal, approximately two of five teachers permit the use of calculators not only for homework assignments, but also for quizzes and tests. Just a few years ago such permissiveness was unthinkable. The trend upward is expected to continue.

At those colleges where calculators are permitted in business mathematics, their use is commonly delayed until after a review of decimals.

TABLE XXII
CALCULATORS IN BUSINESS MATHEMATICS CLASSES

Activity for which calculators are permitted:	Number Responding	
	Yes	No
Homework	13	17
Quizzes	12	18
Tests	12	18
Final Examination	12	18

Popularity of Course in Use of Personal Calculators

Tables XXIII and XXIV show that not one of the colleges offers a course instructing students in the use of personal calculators. Furthermore, only one respondent believed that such a course should be offered. Most of the respondents had not even considered offering such a course.

Nevertheless, one wonders if such a course might appeal to students, especially non-business students. For example, would they be interested in taking a short, six-weeks course for one unit of credit to learn how to use their personal pocket calculators to make more computations than they had imagined possible?

TABLE XXIII

PERSONAL CALCULATOR COURSE OFFERED?

Is personal calculator course offered?	Number Responding
Yes	0
No	32

TABLE XXIV

RECOMMEND OFFERING PERSONAL CALCULATOR COURSE?

Should personal calculator course be offered?	Number Responding
Yes	1
No	31

Conclusions

The data presented in the preceding section lead to the following specific conclusions:

1. Enrollment was increasing at slightly more than half of the schools in the survey. If enrollment was not increasing, it was apparently remaining stable.

2. Respondents at about one third of the schools were attempting to increase business enrollment through a variety of activities. Although most of the activities are not novel, they are of the type that get results.

3. The principles of accounting course is usually a two-semester course that meets three times a week in one-hour sessions for which the student earns three units of credit.

4. In about two thirds of principles of accounting classes, students are expected to complete one or two practice sets.

5. Few teachers of introductory accounting require that ink be used. When ink is required, it is used for homework and the practice set.

6. The textbook used for principles of accounting at Mt. San Antonio College is one of the most popular in the United States.

7. The overwhelming majority of introductory accounting teachers require students to use a workbook to solve the problems.

8. Teachers prefer logical presentation, clarity, and appropriate problems in their principles of accounting textbooks.

9. Teachers dislike accounting textbooks that are wordy, out of date, and contain problems that deviate from text content.

10. Accounting teachers believe that textbooks should be revised frequently to remain current.

11. Accounting departments strive to remain up to date by offering new courses and programs.

12. California continues to be a leader in community college education.

13. Generally, there is no prerequisite for the introductory course in accounting. The most popular prerequisite when there is one and the most frequently recommended course prior to principles of accounting is business mathematics.

14. Business mathematics classes usually meet three times a week in one-hour sessions, and the students earn three units of credit.

15. The textbook used for accounting mathematics at Mt. San Antonio College is one of the most popular business mathematics textbooks in the United States.

16. Two out of five of the respondents prefer their business mathematics students to use a workbook.

17. Teachers of business mathematics prefer a textbook that has a logical presentation, good examples, appropriate-level problems, and error-free answers to at least half of the exercise problems.

18. Teachers of business mathematics dislike textbooks that have a too-high reading level, inappropriate topics, and many errors.

19. Students are permitted to use calculators in two out of five business mathematics classes for homework, quizzes, tests, and the final examination.

20. None of the colleges in the survey offer a course in the use of personal calculators.

21. Only one respondent believed that his college should offer a course in the use of personal calculators.

Benefits of Study to Mt. San Antonio College

Mt. San Antonio College can benefit from this study in a number of ways. One generality is that business teachers here can derive psychic benefit from knowing that California and Mt. San Antonio College are still leaders in community college education. In a more concrete way, the College could benefit from the experience of one college's attempt to increase enrollment. That is, in addition to utilizing KSAC airtime,

perhaps the business division or the College could persuade local radio stations to donate fifteen- or thirty-minute blocks of air time that could be used weekly to publicize the educational opportunities available at the College.

Respondents' opinions about certain accounting and business mathematics textbooks will be valuable to teachers at Mt. San Antonio College. For example, knowing that other teachers have complained about the errors in a certain book will lead teachers here to examine that book more critically if it is considered for adoption. Presumably, if the errors have not been corrected, the book would not be adopted.

The respondents' practices pertaining to length and number of class sessions, use of ink and practice sets, and number of units granted offer many avenues of exploration. Such exploration could lead to changes in the curricula at Mt. San Antonio College or to the conclusion that perhaps the other institutions need to change. Even the latter would be reassuringly beneficial to the teachers here. The former is more likely. The data herein will contribute to one or two new courses and to the revision of a few existing courses.

APPENDIX A

THE QUESTIONNAIRE

Name of School _____

Address of School _____

Name of Interviewee _____

School Enrollment _____ Bus. Enrollment _____

1. Is School enrollment: going UP _____ Bus. enroll.: going UP _____
going DOWN _____ DOWN _____
LEVEL _____ LEVEL _____

2. Is anything special being done to increase Business enrollment? Yes ___ No ___
If yes, what? _____

3. In length, is Principles of Accounting taught for: One-semester _____
Two-semesters _____ One-quarter _____ Two-quarters _____ Three-quarters _____

4. How many times per week does the Principles of Accounting class meet? _____

5. How many hours are in each session of Principles of Accounting? _____ Units? _____

6. Is a practice set required for Principles of Accounting? Yes ___ No ___
If yes, how many? _____

7. Are students required to use ink in Principles of Accounting for:

- a. Homework? . . . Yes _____ No _____
- b. Quizzes? . . . Yes _____ No _____
- c. Tests? Yes _____ No _____
- d. Final Exam? . . Yes _____ No _____
- e. Practice Set? Yes _____ No _____

8. Which textbook is required for Principles of Accounting?

Title _____

Author(s) _____

Publisher _____

9. Is a Workbook required for Principles of Accounting? Yes ___ No ___

If Yes, which? _____

10. What do you like BEST about the text being used for Principles of Accounting?

11. What do you like LEAST about the text being used for Principles of Accounting?

12. What would you do to IMPROVE the text being used for Principles of Accounting?

13. Has the Business Department (Division) started any NEW accounting courses or programs recently? Yes ___ No ___

If yes, describe: _____

14. Are there PREREQUISITES for Principles of Accounting? Yes ___ No ___

If yes, describe: _____

15. How many times per week does the Business Mathematics class meet? _____

16. How many hours are in each session of Business Mathematics? ___ Units? ___

17. What is the required textbook for Business Mathematics?

Title _____

Author(s) _____

Publisher _____

18. Is a Workbook required for Business Mathematics? Yes ___ No ___

If yes, which? _____

19. What do you like BEST about the text being used for Business Mathematics?

20. What do you like LEAST about the text being used for Business Mathematics?

21. What would you do to IMPROVE the text being used for Business Mathematics?

22. Are students permitted to use calculators in Business Mathematics for:

a. Homework? Yes ___ No ___

b. Quizzes? Yes ___ No ___

c. Tests? Yes ___ No ___

d. Final Examination Yes ___ No ___

23. Does your school offer a course to teach students how to use personal calculators? Yes ___ No ___

24. Do you think such a course (question 23) should be offered using business mathematics problems for instruction? Yes ___ No ___

Remarks: _____

APPENDIX B

SCHOOLS AND COLLEGES VISITED

SCHOOLS AND COLLEGES VISITED

Name of School or College	Approximate Enrollment	Location
Albuquerque Technical and Vocational Institute	8,000	Albuquerque, N. M.
American River College	-	Sacramento, Calif.
Austin Community College	16,000	Austin, Texas
Broome Community College	8,000	Binghamton, New York
Cibola High School	1,500	Albuquerque, N. M.
Diablo Valley College	20,000	Pleasant Hill, Calif.
Fisher Junior College	-	Boston, Mass.
Fort Valley State College	1,900	Fort Valley, Georgia
Goldey Beacom College	1,500	Wilmington, Delaware
Gulf Coast Junior College	3,000	Biloxi, Mississippi
Husson College	800	Bangor, Maine
John A. Logan College	2,300	Carterville, Illinois
John C. Calhoun State Community College	4,500	Decatur, Alabama
Jones College	-	Orlando, Florida
Kankakee Community College	2,200	Kankakee, Illinois
Kent State University	-	North Canton, Ohio
Limestone College	1,300	Gaffney, S. Carolina
Mesa College	4,300	Grand Junction, Colorado
Milwaukee Area Technical College	37,400	Milwaukee, Wisconsin
Motlow State Community College	2,300	Tullahoma, Tennessee
Mountain Empire Community College	2,000	Big Stone Gap, Virginia
New Hampshire Vocational Technical College	300	Nashua, New Hampshire

Northern Virginia Community College	3,500	Woodbridge, Virginia
Parkland College	7,400	Champaign, Illinois
Phillips College	-	Columbus, Georgia
Phoenix College	16,500	Phoenix, Arizona
Quinsigamond Community College	5,000	Worcester, Mass.
Rent Lake College	4,000	Ina, Illinois
Seminole Community College	4,000	Sanford, Florida
Tampa College	-	Tampa, Florida
Temple High School	-	Temple, Texas
Temple Junior College	2,300	Temple, Texas
University of Illinois	34,500	Urbana, Illinois
University of Virginia	16,500	Charlottesville, VA
West Chester State College	8,000	West Chester, Penn.
Wilmington College	700	Wilmington, Ohio