INFORMATION TO USERS

This material was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.

2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in "sectioning" the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again — beginning below the first row and continuing on until complete.

4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from "photographs" if essential to the understanding of the dissertation. Silver prints of "photographs" may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.

5. PLEASE NOTE: Some pages may have indistinct print. Filmed as received.

Xerox University Microfilms
300 North Zeeb Road
Ann Arbor, Michigan 48106

Downloaded from SHAREOK. Persistent Handle URL: https://hdl.handle.net/11244/3947

75-21,204

WELLMAN, Ora Max, 1922-
A COMPARATIVE STUDY OF PERSONAL ECONOMIC UNDERSTANDINGS OF MANAGEMENT AND NONMANAGEMENT PERSONNEL IN BUSINESS AND INDUSTRIAL FIRMS.

The University of Oklahoma, Ph.D., 1975
Education, business

Xerox University Microfilms, Ann Arbor, Michigan 48106

THIS DISSERTATION HAS BEEN MICROFILMED EXACTLY AS RECEIVED.

THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

A COMPARATIVE STUDY OF PERSONAL ECONOMIC UNDERSTANDINGS OF MANAGEMENT AND NONMANAGEMENT PERSONNEL IN BUSINESS AND INDUSTRIAL FIRMS

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

BY

ORA MAX WELLMAN

Norman, Oklahoma

1975

A COMPARATIVE STUDY OF PERSONAL ECONOMIC UNDERSTANDINGS

OF MANAGEMENT AND NONMANAGEMENT PERSONNEL

IN BUSINESS AND INDUSTRIAL FIRMS

APPROVED BY

DISSERTATION COMMITTEE

ACKNOWLEDGEMENTS

Sincere appreciation is expressed to Dr. Raymond R. White, chairman of the doctoral committee and director of this study, for his support during the doctoral program and for his invaluable guidance in planning the study. Gratitude is expressed to the members of the doctoral committee, Dr. Billie D. Holcomb, Dr. Lloyd P. Williams, and Dr. Alexander J. Kondonassis, for their courtesies and encouragement in conducting the study.

Deepest gratitude is also expressed to Dr. Harry T. Hardwick, president of LeTourneau College, who gave every encouragement to the writer, and to Dr. Elton Archer, vice president for academic affairs of LeTourneau College.

The research writer also wishes to express thanks to the people of Longview for their interest in the study and for their generous donation of valuable time as participants in the research study.

Appreciation is also expressed to the writer's wife, Betty, and to his children, Amy, Myra, and Janine, for their patience, understanding, and support throughout this study.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	vi
Chapter	
I. THE PROBLEM	1
Introduction	1
Significance of Study	5
Statement of Purpose	10
Statement of Problem	10
Hypotheses Tested	11
Definition of Terms	13
Limitations	15
Nature and Sources of Data	15
Analysis of Data	16
Procedure	16
Assumptions	17
Organization of Study	18
II. REVIEW OF LITERATURE	19
A History and Rationale of Personal Economic Education	20
Literature Directly Related to the Design and Use of Test Instruments in Evaluation of Personal Economic Understandings	26
Literature Indirectly Related to the Study	34
Summary	40
III. METHODOLOGY AND PROCEDURES	43
Environment of Study	43
Test Instrument	44
Distribution Procedure for Examination	45
Sampling Categories	46
Matrix Methodology	52
Statistical Procedure	61

TABLE OF CONTENTS--Continued

Chapter		Page
IV.	RESULTS	64
	Results of Hypotheses Testing	64
	Summary	95
V.	SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	99
	Summary	99
	Conclusions	103
	Recommendations	106
BIBLIOGRAPHY		108
APPENDICES		114

LIST OF TABLES

Table		Page
1.	Number and Per Cent of Companies Returning Examination Packets	46
2.	Sample Categories and Sample Sizes Used in the Hypotheses	47
3.	Finance Companies by Type, Size, and Number of Participating Managers and Nonmanagers	48
4.	Finance Companies Under Ten Employees by Type, Size, and Number of Participating Managers and Nonmanagers	49
5.	Retail Companies by Type, Size, and Number of Participating Managers and Nonmanagers	50
6.	Manufacturing Companies by Type, Size, and Number of Participating Managers and Nonmanagers	51
7.	Matrix Items by Content and Objectives	52
8.	Blueprint for Test of Personal-Business Knowledges and Understandings Showing Major Content Areas, Objectives, and Specific Content Topics	53
9.	Per Cent of Fact Questions Missed by Content Areas--Managers	69
10.	Per Cent of Fact Questions Missed by Content Areas--Nonmanagers	70
11.	Per Cent of Generalization Questions Missed by Content Areas--Managers	71
12.	Per Cent of Generalization Questions Missed by Content Areas--Nonmanagers	72
13.	Per Cent of Interpretation Questions Missed by Content Areas--Managers	73

LIST OF TABLES--Continued

Table		Page
14.	Per Cent of Interpretation Questions Missed by Content Areas--Nonmanagers	74
15.	Per Cent of Application Questions Missed by Content Areas--Managers	75
16.	Per Cent of Application Questions Missed by Content Areas--Nonmanagers	76
17.	Number of Times a Content Area Appears Among the Four Highest Per Cent Missed Question Items by Managers in Fact, Generalization, Interpretation, and Application Categories	77
18.	Number of Times a Content Area Appears Among the Four Highest Per Cent Missed Question Items by Nonmanagers in Fact, Generalization, Interpretation, and Application Categories	78
19.	Detail of Statistical Data for Hypothesis 2, A Composite of All Managers and a Composite of All Nonmanagers	80
20.	Detail of Statistical Data for Hypothesis 3, All Finance Managers and All Finance Nonmanagers	81
21.	Detail of Statistical Data for Hypothesis 4, All Retail Managers and All Retail Nonmanagers	82
22.	Detail of Statistical Data for Hypothesis 5, All Manufacturing Managers and All Manufacturing Nonmanagers	82
23.	Detail of Statistical Data for Hypothesis 6, All Finance Managers and All Retail Managers	83
24.	Detail of Statistical Data for Hypothesis 7, All Finance Managers and All Manufacturing Managers	84
25.	Detail of Statistical Data for Hypothesis 8, All Retail Managers and All Manufacturing Managers	84
26.	Detail of Statistical Data for Hypothesis 9, All Finance Nonmanagers and All Retail Nonmanagers	85

LIST OF TABLES--Continued

Table		Page
27.	Detail of Statistical Data for Hypothesis 10, All Finance Nonmanagers and All Manufacturing Nonmanagers	86
28.	Detail of Statistical Data for Hypothesis 11, All Retail Nonmanagers and All Manufacturing Nonmanagers	86
29.	Detail of Statistical Data for Hypothesis 12, All Top Managers and All Middle Managers	87
30.	Detail of Statistical Data for Hypothesis 13, All Top Managers and All Supervisory Managers	88
31.	Detail of Statistical Data for Hypothesis 14, All Middle Managers and All Supervisory Managers	88
32.	Detail of Statistical Data for Hypothesis 15, All Managers Who Are College Graduates and All Managers With Some College Attendance	89
33.	Detail of Statistical Data for Hypothesis 16, All Managers Who Are College Graduates and All Managers Who Attended High School	90
34.	Detail of Statistical Data for Hypothesis 17, All Managers With Some College Attendance and All Managers Who Attended High School	90
35.	Detail of Statistical Data for Hypothesis 18, All Managers With Some College Attendance and All Nonmanagers With Some College Attendance	91
36.	Detail of Statistical Data for Hypothesis 19, All Managers Who Attended High School and All Nonmanagers Who Attended High School	92
37.	Detail of Statistical Data for Hypothesis 20, All Nonmanagers With Some College Attendance and All Nonmanagers Who Attended High School	92
38.	Detail of Statistical Data for Hypothesis 21, All Finance Managers of Companies With Less Than Ten Employees and All Finance Nonmanagers of Companies With Less Than Ten Employees	93

LIST OF TABLES--Continued

Table | Page

39. The Mean Scores by Descending Order From Highest to Lowest Performance for Manager and Nonmanager Groups and Subgroups 94

A COMPARATIVE STUDY OF PERSONAL ECONOMIC UNDERSTANDINGS OF MANAGEMENT AND NONMANAGEMENT PERSONNEL IN BUSINESS AND INDUSTRIAL FIRMS

CHAPTER I

THE PROBLEM

Introduction

Aristotle in his work, Politica, associated "wealth-getting" with household management and retail trade.[1] However, not until the latter part of the nineteenth century with the writings of the Austrians or marginal analysts did real consideration of the consumer get into economic theory.[2] The inception of personal economics also finds roots in the development of family life education.

In 1933, the need for consumer education was further emphasized by ZuTavern and Bullock who stated:

> Just over the horizon is a new field of learning which may be known as consumer education. Since every individual must be a producer, a consumer, a worker, an investor, or perhaps all

---

[1] Benjamin Jowett, "Politica," The Works of Aristotle Translated into English: Politica, Oeconomica, Atheniensium, Respublica, trans. by Benjamin Jowett, E. S. Forster, and Frederick G. Kenyon (London: Oxford University Press, 1952), X, p. 1258a.

[2] Robert Bartels, The Development of Marketing Thought (Homewood, Illinois: Richard D. Irwin, Inc., 1962). p. 19.

> of these, he is bound to affect, and be affected by, constant changes which are taking place in the economic conditions of our country. It is evident, then, that his education should help him in all four capacities.[1]

Knapp,[2] Jelley,[3] Forkner,[4] and Ogden[5] concentrated their efforts to develop instruments to identify students who have deficiencies in economic understandings. Knapp, in 1952, found that probably one-half of a group of 120 college students tested had a rather poor grasp of common consumer knowledges and concepts. Further, factors such as (1) the sex of the student, (2) the marital status of the student, (3) the grade year in college, (4) the student's major in economics or lack of it, or (5) the scholastic standing of the student did not relate to test result performances.[6] In 1958, Jelley determined money management understandings of second semester high school seniors and indicated how evidence gathered

---

[1] A. B. ZuTavern and A. E. Bullock, Business Principles Everyone Should Know (Chicago: H. M. Rowe Company, 1933), p. 5, cited by A. S. Daughtrey, Methods of Basic Business and Economic Education (Cincinnati: South-Western Publishing Company, 1965), p. 472.

[2] Charles W. Knapp, "A Test to Determine Certain Consumer Knowledges and Concepts Possessed by College Students at Macalester College," (unpublished Master's thesis, University of Minnesota, 1952).

[3] Herbert M. Jelley, "A Measurement and Interpretation of Money Management Understandings of Twelfth-Grade Students," (unpublished Ed.D. dissertation, University of Cincinnati Teachers College, 1958).

[4] Irvine H. Forkner, "An Achievement Test of Personal-Business Knowledges and Understandings," (unpublished Ph.D. dissertation, Teachers College, Columbia University, 1963).

[5] Russel Lee Ogden, "The Construction and Standardization of an Achievement Test Designed to Measure Personal Financial Knowledges, Understandings and Applications Possessed by Selected College Students," (unpublished Ed.D. dissertation, Colorado State College, 1964).

[6] Knapp, "A Test to Determine Certain Consumer Knowledges," pp. 29-32.

could be used in curriculum planning.[1] Forkner, in 1963, concluded (1) that achievement tests of personal-business knowledges and understandings could be constructed, and (2) that the test would aid in identifying pupils who lack adequate knowledges and understandings to cope successfully with their personal business problems.[2] In 1964, Ogden developed an achievement test in personal finance for college students.[3]

Peters, in 1965, found a significant difference in the mean scores of ninth-grade students on the Forkner test--adjusted for difference in scholastic ability--in favor of those who had been enrolled in a general business course when they were in the ninth-grade, as compared with those who had not been enrolled in a general business course when they were in the ninth-grade. Peters also found a significant difference in the mean scores of twelfth-grade students on the Forkner test--adjusted for difference in scholastic ability--in favor of those who had been enrolled in a general business course when they were in the ninth-grade, as compared with those who had not been enrolled in a general business course when they were in the ninth-grade.[4]

Consumer education received national attention in 1968 in an address delivered by Betty Furness, Special Assistant to the President

---

[1]Jelley, "A Measurement and Interpretation of Money Management," p. 1.

[2]Forkner, "An Achievement Test," p. 119.

[3]Ogden, "The Construction and Standardization of Achievement Test," p. vi.

[4]Robert M. Peters, "Some Factors Related to Achievement of Personal-Business Knowledges and Understandings of High School Students," (unpublished Ph.D. dissertation, University of Minnesota, 1965). pp. 78-83.

for Consumer Affairs.[1] Furness defined consumer education as preparation for the art of everyday living which enables an individual regardless of age or income to make intelligent choices based on knowledge and information.[2] The three phases of consumer education emphasized were: (1) graduate education for teachers, (2) adult basic and continuing education, and (3) consumer education for low income groups.[3]

Bloom, Hastings, and Madaus, in 1971, in their Handbook on Formative and Summative Evaluation of Student Learning, stated that evaluation is vital in providing teachers with information about individual learners or about the entire group with which the teacher will work.[4] Crews in an analysis of research needs, also pointed to the need for finding (1) where the student is, and (2) status studies for diagnostic planning.[5]

In 1973, the Policies Commission for Business and Economic Education made a statement that consumer education should help students to:

---

[1]Betty Furness, The New Approach to Consumer Education, Proceedings of the First Regional Conference on Consumer Education (Albany, New York: The University of the State of New York, State Education Department Curriculum Development Center, 1968), p. 23.

[2]Ibid.

[3]Ibid., pp. 27-28.

[4]Benjamin S. Bloom, J. Thomas Hastings, and George F. Madaus, Handbook on Formative and Summative Evaluation of Student Learning (New York: McGraw-Hill Book Company, 1971), p. 15.

[5]James W. Crews, "The Teaching of General Business and Economic Education," Contributions of Research to Business Education, Ninth Yearbook of the National Business Education Association (Washington, D.C.: National Business Education Association, 1971), pp. 94-95.

1. Understand the importance of their role in a private enterprise system.
2. Plan effectively for the spending of their resources--income, time, and energy.
3. Understand that skill in buying can increase their effective purchasing power and improve their quality of living.
4. Become aware of laws and agencies that protect them as consumers.
5. Use sources of consumer information.
6. Understand how to use credit effectively.
7. Evaluate the advantages and disadvantages of saving for the future as compared to spending today.
8. Evaluate different ways of investing.
9. Understand how to protect themselves against the risk of economic loss.[1]

In the previous discussion, it was seen that personal economics has become an important part of our culture and all citizens are involved in the economy as producers, consumers, workers, or investors. Educators are concerned that citizens achieve economic literacy, and the government of the United States has intensified its efforts to protect and educate consumers. Test instruments have been developed to measure personal economic understandings of students, including achievement tests which have been used as evaluation devices for identifying student deficiencies. The test instruments have also been used as a basis for diagnostic planning for curriculum content in personal economic education programs.

Significance of Study

Businessmen have been concerned with the problem of developing personal economic understandings of citizens who are consumers as well as business personnel. Corporate interest in education and its acknowledgement of responsibility to education has been one of the great movements

---

[1]Policies Commission for Business and Economic Education, This We Believe About the Role of Business Education in Consumer Education (Washington, D.C.: National Business Education Association, March, 1973).

in the American social structure during the past quarter century, and most industries expect the following three basic benefits from their support to higher education:

1. The production of manpower for industry's growing need for managerial and professional talent.
2. The development of new knowledge.
3. The maintenance of a . . . climate under which the American business system can survive. Educated people become better users of industrial products.[1]

During World War II, many manufacturing companies set up counseling services in their industrial relations departments. Counselors dealt with problems that related to housing, household finances, child care, vocational guidance, marital relations, and adjustment to factory conditions. Today there is a decided trend toward having counseling performed by supervisors and managers in the various operating departments rather than by specially trained staff specialists.[2] Managers and nonmanagers have an identity of interest in their concern with wise management of personal affairs to bring individual security, individual happiness, and wages and salaries that go further.

Business firms and trade associations have often assumed leadership in consumer education. MacDonald stated that:

> It is gratifying that our Money Management materials are used extensively by educators in high schools, colleges, and universities, and at the adult level . . . by radio and TV commentators . . . by clergymen of all denominations . . . in libraries . . . by social

---

[1]Whitney Bunting, "Social Responsibility of the Corporation," Management in Perspective, Selected Readings, ed. by William Schlender, William Scott, and Alan Filley (Boston: Houghton Mifflin Company, 1965), pp. 117-18.

[2]Dale S. Beach, Personnel, the Management of People at Work (New York: Macmillan Company, 1970), pp. 546-47.

> workers . . . by youth counselors . . . by leaders in business and industry . . . as well as by individuals and families.[1]

Analysis and research on the characteristics of executives contrasted with the general population reveal that on the average, executives are more intelligent, better educated, have strong drives and motivations in the direction of managerial activities, have stronger and broader interest in management and related fields, have histories of leadership activities, and have experience and knowledge relevant to the executive role.[2] A great part of the management process is seen inseparably entwined with personnel who are highly educated, self-disciplined, and intelligent. The Fortune study of 900 large companies found that 65 per cent of the executives in the high school and above group were college graduates.[3] Wald and Doty found that 67 per cent of their sample of executives had college degrees.[4]

The environment of business with specializations, management functions, and alternate decision choices calls for educated and mature personnel in order that managers may engage in and direct the management process. Personal finance is a matter of choice decisions.[5] Intelligent

---

[1]Money Management Institute, Your Guide for Teaching Money Management (Chicago: Household Finance Corporation, 1970), p. i.

[2]Wendell French, The Personnel Management Process, Human Resources Administration (Boston: Houghton Mifflin Company, 1964), pp. 513-14.

[3]Fortune, November, 1952, XLVI, No. 5, p. 135.

[4]Robert M. Wald and Roy A. Doty, "The Top Executive--A Firsthand Profile," Harvard Business Review, XXXII (July-August, 1954), 47.

[5]Arthur A. Natella, The New Approach to Consumer Education, Proceedings of the First Regional Conference on Consumer Education (Albany, New York: The University of the State of New York, State Education Department Curriculum Development Center, 1968), p. 2.

choice is the first step in wise consumption.[1] For business administrators, the one basic yardstick is alternate opportunity. The best choice for a manager is measured by the difference between the cost which would have been incurred or the profit received, and that which would have been there under an alternate course of action or inaction.[2]

Personal finance calls for the exercise of management functions in the household. A family, operating in the manner of a business enterprise, needs a skilled manager. Planning, organizing, motivating, and controlling (budgeting) are needed in family finance. Plans in most American families relate to food, clothes for the family, and household operations and equipment. Organizing is seen in the family's decisions as to how the income will be distributed and who will be responsible for it; also, some member of the family should take responsibility for financial records. Cooperation and motivation are needed in carrying out plans.[3]

The management process basically consists of four fundamental functions: planning, organizing, controlling, actuating (motivating).[4] Planning consists of selecting and developing the best course of action; organizing denotes the distribution of activities set forth in the plan; controlling represents the managerial effort to insure that the activities

---

[1]Arch W. Troelstrup, Consumer Problems and Personal Finance (New York: McGraw-Hill Book Company, 1965), p. 146.

[2]Charles R. Wasson, The Economics of Managerial Decision: Profit Opportunity Analysis (New York: Appleton-Century-Crofts, 1965), p. 8.

[3]Troelstrup, Consumer Problems, p. 43.

[4]George R. Terry, Principles of Management (Homewood, Illinois: Richard D. Irwin, Inc., 1956), p. 24.

by other people are in keeping with the prescribed plan; actuating or motivating is the instilling of a desire of a person or group to perform their work tasks. Thus, management in the business administration setting is analogous in many respects to the management process for personal financial problems in everyday affairs.

Similarities are also evident in household money management activities and business money management activities. For both the household and business, good management involves budgets, planning, and goals. Both are involved in buying, taking advantage of discounts, or special sales. Both are involved in credit and special or favorable payment terms and interest. Both institutions must control expenses, and households and business firms are similar in their necessity for preventative maintenance and repairing assets. The household unit and the business unit must strive to earn more or increase income or sales.

The management of business is similar to the management of personal economics in the environment of the household in (1) management decision making and consumer choice evaluating; (2) management functions and personal economic functions of planning, organizing, controlling, actuating; and (3) operation of specialized business activities and day-to-day personal economic activities.

Consumers and the business community as well as educators have a mutual interest in the achievement of competency in personal finance by all citizens. The development of competency in personal economic understandings is an approach to help overcome the problem of inflation in the American home. Managers have a self-interest in promoting personal economic understandings at all levels of education. Competence of

citizens in personal economics helps maintain a climate in which the American business system can survive. Managers are exemplars and counselors in household finance and vocational guidance for employees, and often operating managers and supervisors acting as advisors do the counseling rather than staff specialists. In view of the wide interest of business in consumer education, and in view of a trend of management counseling of employees in marital and household financial problems, the status of business managers and nonmanagers in their personal economic understandings is a relevant research area; however, no literature was found that compared personal economic understandings of managers and nonmanagers.

Statement of Purpose

The purpose of this study was to determine the extent of managers' and nonmanagers' understandings of personal economics, and to analyze and interpret knowledge differences in personal economic understandings evidenced by two occupational groups, managers and nonmanagers.

Statement of Problem

This study was an attempt (1) to identify deficiencies in personal economic understandings of managers and nonmanagers, (2) to evaluate the significance in the difference in the mean performance of managers and nonmanagers as measured by a personal economic understandings achievement test, and (3) to indicate how the evidence gathered could be used in educational programs sponsored by business and industry to improve competency in personal economics.

This study presented the following questions:

1. Do managers and nonmanagers both exhibit a range of deficiences in (a) budgeting, (b) wise buying, (c) wise use of goods and time, (d) using bank facilities, (e) consumer credit, (f) thrift, (g) insurance and pensions, (h) housing, (i) legal information, (j) understanding tax forms, and (k) vocational information?

2. Do managers as a composite group from finance, retail, and manufacturing companies exhibit a higher level of personal economic understandings than nonmanagers as a composite group from finance, retail, and manufacturing companies?

3. Do (a) finance managers exhibit a higher level of personal economic understandings than finance nonmanagers, (b) retail managers exhibit a higher level of personal economic understandings than retail nonmanagers, and (c) manufacturing managers exhibit a higher level of personal economic understandings than manufacturing nonmanagers?

4. Do finance, retail, and manufacturing managers exhibit differences in personal economic understandings?

5. Do finance, retail, and manufacturing nonmanagers exhibit differences in personal economic understandings?

6. Do (a) top managers exhibit a higher level of personal economic understandings than middle and supervisory managers, (b) middle managers exhibit a higher level of personal economic understandings than supervisory managers?

7. Do the educational level attainments of managers and nonmanagers relate to personal economic understandings?

8. Do managers in small finance companies employing less than ten employees exhibit a higher level of personal economic understandings than nonmanagers employed in those companies?

Hypotheses Tested

In this study, the following hypotheses were tested:

Hypothesis 1: A matrix constructed to indicate deficiencies of all personnel in economic understandings will reveal specific needs and a range of imperfections which call for improvement in understandings relevant to facts, generalizations, interpretations, and applications for the concept areas of personal economics.

Hypothesis 2: A composite mean score of finance, retail, and manufacturing managers will (at the .05 level) exceed with significance a composite mean score of finance, retail, and manufacturing nonmanagers.

Hypothesis 3: The mean score of all finance managers will (at the .05 level) exceed with significance the mean score of all finance nonmanagers.

Hypothesis 4: The mean score of all retail managers will (at the .05 level) exceed with significance the mean score of all retail nonmanagers.

Hypothesis 5: The mean score of all manufacturing managers will (at the .05 level) exceed with significance the mean score of all manufacturing nonmanagers.

Hypothesis 6: There is no significant difference (at the .05 level) between the mean score of all finance managers and the mean score of all retail managers.

Hypothesis 7: There is no significant difference (at the .05 level) between the mean score of all finance managers and the mean score of all manufacturing managers.

Hypothesis 8: There is no significant difference (at the .05 level) between the mean score of all retail managers and the mean score of all manufacturing managers.

Hypothesis 9: There is no significant difference (at the .05 level) between the mean score of all finance nonmanagers and the mean score of all retail nonmanagers.

Hypothesis 10: There is no significant difference (at the .05 level) between the mean score of all finance nonmanagers and the mean score of all manufacturing nonmanagers.

Hypothesis 11: There is no significant difference (at the .05 level) between the mean score of all retail nonmanagers and the mean score of all manufacturing nonmanagers.

Hypothesis 12: The mean score of all top managers will (at the .05 level) exceed with significance the mean score of all middle managers.

Hypothesis 13: The mean score of all top managers will (at the .05 level) exceed with significance the mean score of all supervisory managers.

Hypothesis 14: The mean score of all middle managers will (at the .05 level) exceed with significance the mean score of all supervisory managers.

Hypothesis 15: The mean score of all managers who are college graduates will (at the .05 level) exceed with significance the mean score of all managers with some college attendance.

Hypothesis 16: The mean score of all managers who are college graduates will (at the .05 level) exceed with significance the mean score of all managers who attended high school.

Hypothesis 17: The mean score of all managers with some college attendance will (at the .05 level) exceed with significance the mean score of all managers who attended high school.

Hypothesis 18: The mean score of all managers with some college attendance will (at the .05 level) exceed with significance the mean score of all nonmanagers with some college attendance.

Hypothesis 19: The mean score of all managers who attended high school will (at the .05 level) exceed with significance the mean score of all nonmanagers who attended high school.

Hypothesis 20: The mean score of all nonmanagers with some college attendance will (at the .05 level) exceed with significance the mean score of all nonmanagers who attended high school.

Hypothesis 21: The mean score of all finance managers of companies with less than ten employees will (at the .05 level) exceed with significance the mean score of all finance nonmanagers of companies with less than ten employees.

Definition of Terms

Terminology used in this study was defined as follows:

Personal Economic Understandings: Performance on an achievement test which has been structured to test understandings of the concepts of (1) budgeting, (2) wise buying, (3) wise use of goods and time, (4) using bank facilities, (5) consumer credit, (6) thrift, (7) insurance and pensions, (8) housing, (9) legal information, (10) understanding tax forms, and (11) vocational information, which were considered important by educators.

Manager: A person who by the authority of his position exercises one or more of the functions of planning, organizing, controlling, motivating, staffing, or directing (supervising). One who achieves predetermined objectives through the efforts of others.

Top Management: Personnel who hold one of the following titles: president, owner or partner, vice president of major activities, plant or store manager, chief or senior executive.

Middle Management: Personnel who are accountable to top management and who hold one of the following titles:

Assistant finance manager
Assistant plant manager

Assistant store manager
Department store buyer
Division head
General foremen who supervise other foremen
General supervisor in charge of other supervisors
Head of traffic
Junior executive
Major activity department head
Office manager
Production control superintendent
Purchasing agent
Senior executive who heads up major activities
Superintendent
Works manager

Supervisory Management: Personnel who represent the connecting link between employees and middle management and who hold one of the following titles:

Foremen
Retail department head
Supervisors accountable to middle management

Nonmanager: A person who does not have the authority or position to exercise any one of the managerial functions or combination of managerial functions of planning, organizing, controlling, motivating, staffing, and directing. The nonmanager does not hold any one of the titles or positions suggested in the definitions, top management, middle management, or supervisory management.

Finance Companies: Companies specializing in money management in such areas as checking services, investments, insurance, loans, real estate, and savings, for individuals and business firms.

Retail Companies: Companies designated, retail and/or wholesale, which are engaged in selling produce or products to consumers and business firms.

Manufacturing Companies: Companies assembling, fabricating, processing materials, or changing the form of raw materials.

Matrix: A chart of objectives for facts, generalizations, interpretations, and applications which locates under those headings, question items in the areas of budgeting, buying, use of goods, banking, credit, thrift, insurance, housing, legal information, tax forms, and vocational information.

Forkner Test: The Forkner-Business Achievement Test, Form A, an achievement test of personal-business knowledges and understandings, devised by Irvine H. Forkner in 1963.[1]

---

[1]Forkner, "An Achievement Test."

Limitations

To interpret the findings of this study correctly, the following limitations were considered:

First, this study of managers and nonmanagers included two samplings: (a) finance, retail, and manufacturing companies employing ten or more people in Longview, Texas; and (b) finance companies employing less than ten employees in Longview, Texas. The sampling of small finance companies was included because of the special interest in personal economics by American financial institutions.

Second, the test sampled personal economic understandings of business and industrial personnel through the use of test items. No attempt was made to measure actual practices in personal economics.

Third, test items in Forkner's test were those evaluated by a jury of prominent business educators who weighed each objective, each content area, and selected specific topics that were pertinent to each objective and to each major content area.[1]

Nature and Sources of Data

In developing an adequate background for the study, unpublished materials, professional journals, and selected books and publications were reviewed.

The instrument selected to measure personal economic understandings of managers and nonmanagers was the Forkner Test of Personal Business Knowledges and Understandings, Form A, devised by Irvine H. Forkner in 1963.[2] Permission to use the test and its matrix analysis was obtained from Forkner.

---

[1] Ibid.

[2] Ibid.

The population surveyed consisted of management and nonmanagement personnel employed in finance, retail, and manufacturing firms with ten or more employees in Longview, Texas. In addition, a group of small finance companies employing less than ten employees was sampled.

Analysis of Data

The examination data were scored and raw scores tabulated. Questions incorrectly answered were recorded in a matrix cell chart under the headings of facts, generalizations, applications, and interpretations for the areas of (1) budgeting, (2) wise buying, (3) wise use of goods and time, (4) using bank facilities, (5) consumer credit, (6) thrift, (7) insurance and pensions, (8) housing, (9) legal information, (10) understanding tax forms, and (11) vocational information.

The statistical procedure tested for the significance of the difference between means of management and nonmanagement groups and subgroups. The "t" test was used to evaluate the difference in two means. From the data and the matrix and statistical procedure, the information was collected and analyzed, and the study was written.

Procedure

The procedure followed in this study consisted of five steps: (1) a review of pertinent research and literature in the area of personal economic understandings, (2) the choice of an evaluation instrument which could be used to categorize and evaluate the data obtained for this investigation, (3) the sampling of the appropriate population and distribution of the examination, (4) the collection and analysis of the data for the research, and (5) the writing of the dissertation.

For use with the Forkner test, a personal data sheet was designed which asked for information in categories of age, sex, educational level, length of company service, size of company, type of company, and management or nonmanagement position.

The tests were distributed to top managers who were asked to administer the examinations; further, top managers were asked to obtain a sample of one top, one middle, one supervisory manager, and three nonmanagers holding varied job positions. An instruction sheet accompanied the test and explained its purpose and procedure.

In order to protect the identity of the examinees, tests with the personal data sheets were returned to the manager in sealed envelopes which were then mailed to the research investigator; also, all examinations were coded to protect the anonymity of the respondent examinees and companies.

Distribution was made to 29 finance companies, 23 retail companies, and 24 manufacturing companies. Tests were returned from 15 finance companies, 16 retail companies, 16 manufacturing companies that employed ten or more persons, and from 13 small finance companies that employed less than ten persons. Two hundred eighty-three business personnel, consisting of 146 managers and 137 nonmanagers, participated in the study.

Assumptions

The following assumptions were made during this investigation:

1. Managers and nonmanagers have a mutual interest in personal economic education.
2. The score data from the Forkner test will aid business managers, personnel counselors, and educators in the field of adult education to improve personal economic understandings of business and industry personnel.

3. The higher the performance scores by business personnel on an achievement test in personal economics, the more likely they will act intelligently in their personal economic practices.

Organization of Study

Chapter I includes introduction, significance of study, statement of purpose, statement of problem, hypotheses tested, definition of terms, limitations, nature and sources of data, analysis of data, procedure, assumptions, and organization of study. Chapter II provides a review of literature. Chapter III provides methodology and procedures. Chapter IV explains the results. Chapter V presents the summary, conclusions, and recommendations.

CHAPTER II

REVIEW OF LITERATURE

Numerous research studies, surveys, and articles show a major concern of educators to develop competency in personal economic understandings. The business community and business institutions have sponsored workshops to educate citizens for personal economics, and materials for this area of knowledge have been written and distributed by business institutions. In the search for materials pertinent to this study, the investigator reviewed unpublished materials and related studies, professional journals, business literature, and selected publications. While comparative research has been done in the classroom environment, no research was found that compared personal economic understandings of managers and nonmanagers in the business environment. Neither was material found that compared subgroups of managers and nonmanagers in finance, retail, and manufacturing companies.

Relevant literature for the study was reviewed under the following headings: (1) A History and Rationale of Personal Economic Education, (2) Literature Directly Related to the Design and Use of Test Instruments in Evaluation of Personal Economic Understandings, and (3) Literature Indirectly Related to the Study.

A History and Rationale of Personal Economic Education

Consumer economic education is as old as man himself and was based on experience, advice, and common sense, which became a necessary part of all living.[1] Survival for offspring required that man teach his sons and daughters the choices involved in fishing, hunting, gathering nature's fruits, planting crops, and cooking foods.

Economic theories proposed by the early writers emphasized consumption spending as an important component of income and employment problems. As early as 1692, recognition was given that (1) the satisfaction of wants was an incentive in the development of the spirit of enterprise; (2) emulation was a strong subjective determinant of consumption; (3) luxury consumption was a stimulant to the spirit of industry and a means of maintaining aggregate demand; and (4) because of the importance of consumption, an increase of wealth could not be maintained without foreign trade and home trade being connected together.[2]

In discussing the history of consumer education, Damon relates the following events:

1. In less than five years after the founding of the American Home Economics Association in 1908, some of its members began to challenge contemporary course content, and Home Economics changed from complete emphasis on cooking and serving education to buying responsibilities of the family.

---

[1]Edward Damon, "Consumer Education Rides Again," Clearinghouse, XL (March, 1966), 391.

[2]Joseph Aschheim and Ching-Yao Hsieh, Macroeconomics: Income and Monetary Theory (Columbus, Ohio: Charles E. Merrill Publishing Company, 1969), pp. 16-17.

2. The Great Depression of the 1930s, by dire necessity, brought recognition to consumer education in the world of "subject matter."

3. By 1933, there were still fewer than 50 established courses of study.

4. In the early 1940s, the public was friendly to any source that would show consumers and their children how to spend money.

5. After the gradual demise of consumer education groups, such as The Institute for Consumer Education and The Consumer Education Association, there was a void until 1953, when 22 educators from various fields established the Council on Consumer Information. The purpose of the new organization was effective fact finding and teaching of consumer information.

6. In 1953, the Food and Drug Administration established the Division of Consumer Education.

7. By 1964, state and local governments increased their attention to consumer problems and had a consumer department in their executive branch of government.[1]

In a consumer directed economy, the individual is treated as one where natural inclination is toward self-improvement and the improvement of his environment; therefore, if this is to happen, Americans need to emphasize and educate for the pursuit of high standards in goods and services and a better environment.[2] Many business institutions have come to realize their social responsibilities to consumers and society.

---

[1]Damon, "Consumer Education Rides Again," pp. 391-96.

[2]Arch W. Troelstrup, The Consumer in American Society: Personal and Family Finance (New York: McGraw-Hill Book Company, 1974), p. 20.

Watson stated:

> . . . If we businessmen insist that free enterprise permits us to be indifferent to those things on which people put high value, then the people will quite naturally assume that free enterprise has too much freedom.[1]

Neither consumers nor business institutions can be indifferent to the needs of each other. The components of the business activities of marketing, production, and finance are teeming with change brought about by new technology, new approaches to business, and new attitudes and conditions in the business environment; within this context, the consumers' choices and decisions are part of the intricate fabric of business.[2]

Consumers and business have a mutual interest in personal economic education. Wise management of personal economic affairs is a common interest of managers and nonmanagers. Profit cannot be the only goal of business, and although it is necessary for survival, profit is residual; it comes into existence as a result of other endeavors, such as the making and distribution of a product or service needed by the community.[3]

Blum and Balinsky reviewed industrial counseling needs and urged the formation of a program for industrial counseling. In the view of these two authors, the field does not intrinsically belong to clinical

---

[1]Thomas J. Watson, Jr., A Business and Its Beliefs (New York: McGraw-Hill Book Company, 1963), pp. 88-90, cited by Arch W. Troelstrup, The Consumer in American Society: Personal and Family Finance (New York: McGraw-Hill Book Company, 1974), p. 21.

[2]Joseph A. Kriz and Curtis J. Duggan, Your Dynamic World of Business (New York: McGraw-Hill Book Company, 1973), p. 278.

[3]Theo Haimann and William G. Scott, Management in the Modern Organization (Boston: Houghton Mifflin Company, 1970), p. 92.

psychology, psychiatry, or to people trained in interviewing techniques. Therefore, industrial counseling in its formative stages should draw people from many different professions.[1]

Garrett analyzed out-plant adjustment problems. In employee situations entirely outside the plant, for example, home conditions or personal problems may interfere with on-the-job adjustments. Out-of-plant, off-the-job problems may cause absenteeism, falling off of work, poor work attitudes, and requests for changes of shifts. Garrett further reported a typical case in which an employer-counselor's advice was sought by an employee concerning sickness, hospitalization, depletion of savings, and readiness to leave the job. This situation pictures a setting for educational programs that should meet needs for personal economic understandings by counselors and employees.[2]

One survey of personnel departments with 95 per cent of 166 companies responding, found companies providing some sort of counseling or advisory services for employees; employees were actively encouraged to avail themselves of such services in 83 per cent of the responding firms. Items noted as subjects for counseling and listed in a descending order of most frequently checked were: absenteeism--138 companies, grievances--137 companies, retirement--130 companies, health problems--127 companies, career development--127 companies, accidents--115 companies, finances--111 companies, family problems--105 companies, alcoholism--

---

[1]Milton L. Blum and Benjamin Balinsky, Counseling and Psychology, Vocational Psychology and Its Relation to Educational and Personal Counseling (New York: Prentice Hall, Inc., 1951), pp. 528-29.

[2]Annette Garrett, Counseling Methods for Personnel Workers (New York: Family Service Association of America, 1945), pp. 130-31.

83 companies, and other--15 companies.[1] Personal economic items of career development, finances, and retirement were frequently checked items in the survey.

Peterson reported that many personal tragedies, all the way from personal bankruptcy to marriage breakups, have come from credit troubles; and the Wall Street Journal, which formerly condemned indoctrinating the young in commercial conformity, called for "an extension of credit education through the nation's schools."[2]

Business interest in consumer education was shown by Sears, Roebuck and Company in a booklet entitled, Consumer Education in an Age of Adaptation, which sets forth educational objectives for content areas of (1) the consumer and the economy, (2) values and goals, (3) occupations and income, (4) management of resources, (5) economic choices, (6) consumer information, (7) advertising, selling aids and motivations, (8) buying goods and services, (9) housing, (10) consumer credit, (11) insurance protection, (12) savings and investments, (13) taxes, (14) consumer grievances, (15) consumer protection, (16) consumer rights and responsibilities, and (17) the consumer and the environment. An analysis for adapting age differences for students as consumers in junior high, senior high, and adults was also made. Further, mental characteristics of low and high ability learners were listed with suggestions of adapting materials for each of the several mental characteristics of the low and

---

[1]Wendell French, The Personnel Management Process: Human Resources Administration (Boston: Houghton Mifflin Company, 1964), p. 228, cited in "Practices in Employee Counseling," Industrial Relations News, Special Report, April, 1963, pp. 1-4.

[2]Esther Peterson, "Things Go Better with Consumer Education," The PTA Magazine, May, 1966, LX, p. 9.

high ability learners. Also included was a teacher questionnaire setting forth teacher attitudes toward students, a student survey technique example using the device of "my consumer profile," and a student opinionnaire asking for attitudes which were held in each of the 17 content areas listed above.[1]

The Institute of Life Insurance published a booklet entitled, Making the Most of Your Money: Lessons in Consumer Education for Adults. The following topics were included: (1) A Lesson in Buying Used Cars, (2) You Don't Have to Fight About Money, (3) Making Your Dollars Buy More in the Supermarket, (4) Juan Learns About "Easy Payment" Plans, and (5) Getting Married.[2]

In 1970, A Teacher's Guide to Banking was published by the Oklahoma Bankers Association. Topics included were as follows: (1) Partners in Economic Education, (2) The Banker as a Resource Person, (3) A Visit to a Bank, (4) What's a Bank? (5) Your Savings Account, (6) Your Checking Account, (7) How Banks Make Loans and Loans Make Deposits, (8) Government Regulation of Banks, and (9) Evaluation: How's Your Banking I.Q.?[3]

Jelley stated that the Better Business Bureau, trade associations, and many individual business firms publish materials that are valuable in educating consumers, and if students are encouraged to search for and

---

[1]Sally R. Campbell and Consumer Information Services of Sears, Roebuck and Company, Consumer Education in an Age of Adaptation (Chicago: Sears, Roebuck and Company, 1971), pp. 11-19, 30-39, 56-66, 67-73.

[2]Institute of Life Insurance, Making the Most of Your Money: Lessons in Consumer Education for Adults (New York: Educational Division, Institute of Life Insurance, 1971).

[3]Oklahoma Bankers Association, Teacher's Guide to Banking (Oklahoma City: Young Executives Committee of the Oklahoma Bankers Association, 1970).

bring to class pertinent books, pamphlets, magazine articles, and newspaper stories, "think how vital and exciting the class can be."[1]

Funston, former college president and President of the New York Stock Exchange, in an address to the convention of the National Association of Secondary School Principals, Portland, Oregon, in 1960, stated:

> . . . The number of students taking economics shows no discernable upward trend. The level of economic illiteracy among them remains virtually unchanged. . . . As you know, the Stock Exchange and its member firms have been engaged in a broad program of adult education ever since we first became aware of the public's lack of information.[2]

Literature Directly Related to the Design and Use of Test Instruments in Evaluation of Personal Economic Understandings

In 1952, Knapp found that probably one-half of a group of 120 Macalester College students were weak in their grasp of common consumer knowledges and concepts. Using a "t" test, Knapp concluded that differences in test scores were not due to single factors, such as (1) sex, (2) marital status, (3) grade or year in school, (4) major in economics or lack of it, or (5) scholastic standing.[3]

The test that Knapp administered to Macalester College students was structured with 33 questions concerning antiseptics, butter, cosmetics, clothing, milk, and vitamins; seven questions concerned consumer protections, consumer appeals, and cloth and fiber identifications. In addition to the above, 12 questions involved standards and grading.[4]

---

[1]Herbert M. Jelley, "New Developments in Teaching Consumer Education," Business Education Forum, XXII (March, 1968), 8.

[2]Keith Funston, "Economic Illiteracy, Unsolved Problem of American Education," The Balance Sheet, XIV (May, 1960), 389.

[3]Knapp, "A Test to Determine Certain Consumer Knowledges," pp. 28-36.

[4]Ibid., pp. 74-78.

Jelley's study, in 1958, determined money management understandings of second-semester high school seniors. The four major steps in his study were (1) to isolate the topics dealing with money management which were of greatest importance; (2) to determine the extent of twelfth-grade student understandings of these money management topics; (3) to analyze and to interpret the knowledge evidenced by students differing in socio-economic status, academic achievement, and sex; and (4) to indicate how evidence gathered could be used in curriculum planning.[1]

Jelley's findings showed that students from the lower socio-economic group understand less about money management than do students from the middle and upper groups. The significance of this study was that these lower income groups have least financial margin for error. In Jelley's study, there was not enough difference between the money management understandings of male and female students to warrant any special emphasis being placed on the instruction given to either group.[2]

Mason, in 1959, developed at University High School, Iowa City, Iowa, a sample of a general business examination which in content covered 50 items in personal economics and aggregate economics. The steps considered for building this test were (1) the determination, definition, and clarification of the major objectives; (2) the development of a measurement instrument; (3) the administration of the instrument; and (4) an appraisal of the instrument. The reliability coefficient of the

---

[1]Jelley, "A Measurement and Interpretation of Money Management," p. 1.

[2]Ibid., p. 212.

test was .85. Forty-six per cent of the test items had a high discrimination index, 30 per cent a moderate index, 20 per cent low, and four per cent negative.[1]

A University of Pennsylvania post-graduate seminar, 1959, prepared a 20-item unit test for credit. Part of the objectives for the test were incorporated in the following list of "understandings:"

1. Transition from independent to dependent consumers,
2. Respectability of credit,
3. Necessity for credit,
4. Different types of credit,
5. Advantages and disadvantages of credit,
6. Methods of computing costs on installment buying and mortgages,
7. How much credit,
8. Guides to aid consumer in seeking credit,
9. Rules of thumb controlling installment buying,
10. Regulation of consumer credit agencies,
11. How students may use these understandings,
12. Mechanics of establishing credit,
13. Laws governing credit for the minor.[2]

In 1961, Kell designed a test instrument to measure the extent of family finance knowledges and understandings possessed by teachers who might include aspects of it in the instruction they offer. The study constituted an exploratory approach to measurement of understandings rather than measurement of factual information, and covered four major categories: basic principles of family finance, consumer buying, banking and credit, and financial security.[3]

---

[1]S. Joseph DeBrum and William John Mason, "Evaluation in General Business," Evaluation of Pupil Progress in Business Education, Seventeenth Yearbook of The Eastern Business Teachers Association and The National Business Teachers Association (Somerville, New Jersey: Somerset Press, 1960), pp. 285-93.

[2]A. S. Daughtrey, Methods of Basic Business and Economic Education (Cincinnati: South-Western Publishing Company, 1965), pp. 485-89.

[3]Vennetta Bynum Kell, "An Instrument for the Evaluation of Understandings in Family Finance," (unpublished Ed.D. dissertation, University of Oklahoma, 1961), pp. 100-3.

Forkner, in 1963, constructed an achievement test of personal-business knowledges and understandings that covered 11 major content areas: (1) budgeting, (2) wise buying, (3) wise use of goods and time, (4) using bank facilities, (5) consumer credit, (6) thrift, (7) insurance and pensions, (8) housing, (9) legal information, (10) understanding tax forms, and (11) vocational information.[1]

Forkner had a jury of 19 prominent business educators to weight each of the objectives and content areas to determine what proportion of the test should be devoted to each objective and to each area. Among the educators, 12 were members of the Educational Policies Commission for Business and Economic Education. Six participated in a conference which resulted in the report, Let's Educate Youth for Effective Business Life. One questionnaire was sent to the Director of the Council for Advancement of Secondary Education. The jury had representation from New York, California, Indiana, North Dakota, Tennessee, Oregon, Illinois, Mississippi, Pennsylvania, New Jersey, Minnesota, and Washington, D.C.[2] Percentile norms were given for the test scores for Form A and B, test forms which were homologous.[3]

The problem of Ogden's study was to construct and standardize a valid, reliable achievement test to measure personal financial knowledges, understandings, and applications possessed by college students. The test was administered to 833 students enrolled in personal finance courses in eight coeducational state colleges and universities located in eight different states in the Midwest and Rocky Mountain areas. Ogden concluded that in the subject area of personal finance his achievement test could

---

[1]Forkner, "An Achievement Test," pp. 36-37.

[2]Ibid., p. 28.

[3]Ibid., p. 112.

serve as (1) a means of permitting students to "test out;" (2) a basis for judging the effectiveness of a course; (3) a final evaluation of students enrolled; (4) a means of clarifying and reevaluating objectives; and (5) a means for teacher reevaluation of his methods, techniques, and materials taught in a personal finance course.[1]

Hall, in 1964, reviewed the fundamental areas of personal economics under the category headings of money, credit, insurance, savings, taxation, and investment. Hall stated that acquiring appropriate education for life is dependent upon articulation through five teaching-learning steps by (1) gathering facts, (2) sorting facts to gain knowledges, (3) assimilating knowledge relationships to develop understandings, (4) reflecting on understandings to form concepts, and (5) applying those concepts through actions that reflect an attitude.[2]

Using the concept approach for six areas of personal economics and for four areas of social aspects of economics, Hall developed the following outline:

I. Elements of Personal Economics
   - A. How the Individual Uses Money to Facilitate Financial Activities
   - B. Credit as a Tool of Personal Financial Management
   - C. How Insurance Provides Personal and Social Economic Stability
   - D. How Saving Facilitates the Acquisition of Goods
   - E. Taxation as It Affects the Individual
   - F. How Investments May Be Used to Gain Financial Independence

II. Elements of Social Economics
   - A. How the Economic System Uses Productive Resources in Satisfying Competing Wants
   - B. How the Economic System Obtains Reasonable Growth and Stability

---

[1] Ogden, "The Construction and Standardization of Achievement Test," pp. iv-vi.

[2] E. Carl Hall, "Selected Areas of Personal Economics Conceptually Defined," (unpublished Ed.D. dissertation, University of Oklahoma, 1964), pp. 41-42.

C. How the Economic System Distributes Income
D. Comparative Economic Systems: Communism, Socialism, and Capitalism.[1]

In 1964, Taylor determined understandings held, attitudes expressed, and spending patterns exhibited by married university students.[2] On the basis of the extensive evidence obtained from 40 married couples, the following conclusions were reached:

1. Those people who have early in life earned money and who have been responsible for spending it, evidence greater ability to manage well in the financial circumstances in marriage when education is their major goal, and income for achieving it is limited.

2. There is no definable relationship between the source or amount of family income and the way in which the income is managed.

3. Family financial management ordinarily involves the common activities of planning, buying, borrowing, protecting, savings, and sharing.

4. Married couples in a university live and function in controlled financial circumstances, wherein the discretionary income is limited.[3]

Peters, in 1965, administered Forkner's Test of Personal-Business Knowledges and Understandings to ninth and twelfth-grade students of the Mankato Minnesota school system. Peters' data included 364 ninth-grade

---

[1]Hall, "Personal Economics Conceptually Defined," pp. 107-9.

[2]Richard Blair Taylor, "Money Management Practices and Attitudes of Married University Students," (unpublished Ed.D. dissertation, University of Oklahoma, 1964), p. 4.

[3]Ibid., pp. 121-22.

and 348 twelfth-grade students.[1] Peters found a significant difference in the mean scores of ninth-grade students on the Forkner test--adjusted for difference in scholastic ability--in favor of those who had been enrolled in a general business course when they were in the ninth-grade, as compared with those who had not been enrolled in a general business course when they were in the ninth-grade. Peters also found a significant difference in the mean scores of twelfth-grade students on the Forkner test--adjusted for difference in scholastic ability--in favor of those who had been enrolled in a general business course when they were in the ninth-grade, as compared with those who had not been enrolled in a general business course when they were in the ninth-grade. There was no significant difference in the mean scores when student groups were stratified on the basis of sex and socio-economic background.[2]

In 1969, Bernardi administered Ogden's Achievement Test in Personal Finance for College Students to eight college classes at the University of Oklahoma.[3] Bernardi's study revealed that students who studied personal finance made statistically significant gains in their total test scores, from a pre-test to a post-test of personal finance as was indicated by the increases from 22.70 to 37.37 in the means of the two tests.[4]

---

[1]Peters, "Achievement of Personal-Business Knowledges," pp. 25-26.

[2]Ibid., pp. 78-83.

[3]Ray Dee Bernardi, "The Collegiate Course in Personal Finance: Measurement of Learning Accomplished by Selected College Students," (unpublished Ph.D. dissertation, University of Oklahoma, 1969), p. 50.

[4]Ibid., p. 78.

The Joint Council on Economic Education, in 1971, developed a Test of Understanding in Personal Economics for use with a series of Guides for teaching personal economics through the social studies, business, and home economics curricula. The approach was designed to teach applications of economic analysis for personal decisions; also emphasized was the interrelatedness of economic matters which were both personal and social.[1]

Means and standard deviation data for norm groups in home economics, business education, and social studies in the ninth-grade and twelfth-grade were set forth in an interpretive manual and discussion guide issued by the Joint Council on Economic Education.[2]

In 1971, Blair conducted a study at a middle-sized senior high school in Central Oklahoma, and used as subjects four groups of tenth-grade students: (1) vocational students who were enrolled in a general business course, (2) nonvocational students who were enrolled in a general business course, (3) vocational students who were not enrolled in a general business course, and (4) nonvocational students who were not enrolled in a general business course. Thirty students from each of the four groups were selected. The test instrument used was Forkner's Achievement Test of Personal-Business Knowledges and Understandings.[3]

---

[1]Joint Council on Economic Education, Test of Understandings in Personal Economics: Interpretive Manual and Discussion Guide (New York: Joint Council on Economic Education, 1971), p. 1.

[2]Ibid., p. 19.

[3]Laura Bryan Blair, "A Comparison of Personal-Business Knowledges and Understandings of Tenth-Grade Vocational and Non-Vocational Students," (unpublished Ed.D. dissertation, University of Oklahoma, 1971), p. 79.

Blair's major findings were: (1) when the Forkner mean of the non-vocational students was compared with the Forkner mean of the vocational group, the difference was statistically significant in favor of the non-vocational group; and (2) when the Forkner mean adjusted for scholastic ability of tenth-grade students who had the tenth-grade general business course was compared with the Forkner mean of tenth-grade students who had not had the tenth-grade general business course, there was no significant difference.[1]

Literature Indirectly Related to the Study

In 1953, Young found that significant differences in opinion about selected economic issues were related to several personal factors: age, education, income, occupation, and political preference. Occupation was the personal factor most commonly related to significant differences in opinion; the four occupational groups studied were business, farmers, labor, and professions.[2]

Cooke, in 1954, concluded that the ultimate goal of economic education in industry is to influence attitudes in directions favorable to free enterprise. Cooke set forth seven principles for the characteristics of an optimum economic education program:

Principle I: The program should be specialized to the company.

Principle II: The program should be projected as a continuing communication effort rather than as a "one-shot" indoctrination.

---

[1] Ibid., p. 80.

[2] Joseph Hooker Young "The Relationship Between Variation of Opinion on Selected Economic Issues and Certain Personal Factors Among Some of the Members of Four Occupational Groups in the State of Florida in 1949," (unpublished Ph.D. dissertation, Indiana University, 1953) cited in Dissertation Abstracts, p. 1021.

Principle III, The program should be designed with a sense of its continuity, not an ad hoc unit by unit basis.

Principle IV: All content should be company related.

Principle V: The program should be specialized to its several audiences.

Principle VI: The optimum program should be authoritative but not authoritarian.

Principle VII: The program should be supported by continuing research.[1]

Overman, in a monograph published in 1954, reported that many businessmen have concluded that economic education can no longer be left to schools and educators. Businessmen have embarked on a campaign to influence the economic views of their employees, of students in schools, and of citizens in general. Overman further reported that research should be done to decide what understandings of economics are needed in order to maintain and improve the business system of America.[2]

In a business organization structure, each successively higher level of management requires an increasing amount of leadership, planning, responsibility, and other managerial activity.[3] More education, discipline, and training for job competence is ideally needed by managers

---

[1]Blaine M. Cooke, "Economic Education in Industry." (unpublished Ph.D. dissertation, University of Minnesota, 1954), pp. 82-87.

[2]Glenn D. Overman, Economic Concepts Everyone Should Know, Monograph 95 (Cincinnati: South-Western Publishing Company, 1954), pp. 3-4.

[3]Dalton E. McFarland, Management Principles and Practices (2d ed.; New York: The Macmillan Company, 1964). pp. 238-39.

at each successively higher level of the organization structure. The requirement of a higher level of job competency by top managers, who engage in a broader scope of management activities, demands more education, experience and training than lower level managers; therefore, as a group, top managers have an educational and job background potential to score high on an achievement test for personal economic understandings.

Top managers are chief executives and vice presidents or others who head up major activity areas. Middle managers are intermediate or junior executives accountable to top management, and supervisory managers direct nonmanagers and are accountable to operating middle managers.[1]

Maynes, in an article explaining consumer decision-making, stated that most consumers fail to appreciate sufficiently both the number and size of the "payoffs," that is, gains which intelligent consumer-making can yield.[2] Maynes listed tentative operating rules for consumers under the following two headings:

I. Before Purchasing
   A. Seek objective information on the point of whether the product of interest is subject to substantial variations in price and quality. Consult Consumer Reports, Consumer Research Bulletin, or specialized publications.

   B. If objective information is not available, individuals should ask themselves:

      1. Whether the prices of the product or brand are fixed by law, manufacturer, or retailer. If prices are effectively fixed, buy immediately and waste no further effort.

---

[1] Ibid., pp. 239-41.

[2] E. Scott Maynes, "The Payoff for Intelligent Consumer Decision-Making." Journal of Home Economics, LXI, No. 2 (February, 1969), p. 97.

2. Whether the product is subject to product differentiation, that is, patronage, service, or location benefits. If the answer is yes, ask how much should be paid for the factors giving rise to higher prices through product differentiation.

3. Whether there is price discrimination. If the answer is yes, ask whether an individual can become a member of the favored group.

4. Whether there is great consumer ignorance regarding prices and quality. If the answer is yes, the individual should make valid comparisons of price and quality.

II. While Purchasing

A. The individual should deal in the market with the largest possible number of sellers.

B. When the individual can "trade-in," he should ask for a favorable price.

C. When the price of goods or services is $100.00 or more, always contact at least three sellers. Search more:

1. If one expects more than average price quality variation,
2. If the expected outlay is very high,
3. If the cost of the search is relatively low.[1]

Polishook divided social business education into two areas:

> . . . (1) practical economics and (2) applied economics. Practical economics includes personal finance; budgeting and spending; using various business services; learning about money and its uses, credit and its costs; sharing risks by means of insurance; and guides to buying. Applied economics deals with business law, selling and advertising techniques, and the study of economics itself.[2]

In the early beginnings of liberal education, civilization was different from our present civilization. Social circumstances and the economic climate were different. Liberal arts as originally conceived

---

[1] Ibid., p. 103.

[2] William M. Polishook, "Evaluation in the Social Business Subjects," Evaluation of Pupil Progress in Business Education, Seventeenth Yearbook of The Eastern Business Teachers Association and The National Business Teachers Association (Somerville, New Jersey: Somerset Press, 1960), p. 42.

pertained to grammar, logic, rhetoric, arithmetic, geometry, music, astronomy, and was for the clergy and gentlemen who did not have to worry about making a living. This traditional viewpoint of liberal arts has been carried over into the modern day view of liberal arts, a view which has generally excluded technical or professional education.[1]

Wilson has criticized educators who generally have not included a knowledge of business and its disciplines as a part of a liberal arts education, and since business and economics are part of our daily lives, those subject areas ought to be included in the liberal arts disciplines. Further, business and economic education should take on meaning in terms of vocational use as well as a liberal arts use.[2]

Ferencz and Moss, in 1968, noted a general agreement among educators that economic education is a must. They noted that it is still possible for an individual to graduate from high school with little, if any, economic education; therefore, the community and junior college have a responsibility to fill the void.[3] These authors view the consumer economics course as an opportunity for an environmental approach to the study of business enterprises and the internal and external forces as they affect production and distribution of goods and services. The approach would integrate both facts and principles to bring about understandings of economic concepts.[4]

---

[1]W. Harmon Wilson, "Outcomes of Socio-Business Economic Education," Socio-Business Economic Education, Forty-first Yearbook of The Eastern Business Teachers Association (Somerville, New Jersey: Somerset Press, 1968), p. 17.

[2]Ibid., p. 19.

[3]William R. Ferencz, Dorothy Ferencz, and Sharon Moss, "Socio-Business Economic Education in the Community and Junior Colleges," Socio-Business Economic Education, Forty-first Yearbook of The Eastern Business Teachers Association (Somerville, New Jersey: Somerset Press, 1968), p.57.

[4]Ibid., pp. 61-62.

Jelley considered consumer education a part of economic education and saw at least three points emerging as reasons for tying together consumer education and economic education:

1. Learning proceeds best when the student is familiar with the environment.
2. When possible the curriculum should be related to factual situations and experience.
3. Student interest is an important motivating factor of learning.[1]

Ayars sent a questionnaire to over 150 adult education leaders to get an overview of what is going on in economic education for adults. Ayars listed companies, governmental agencies, institutions, and organizations other than educational institutions as such, that sponsored representative programs for adults. Types of activities developed in the programs were (1) classes, (2) conferences, (3) counseling centers, (4) discussion groups, (5) employee meetings, (6) field trips, (7) institutes, (8) lectures, (9) panels, (10) speakers, (11) television and radio programs, and (12) workshops.[2]

Miller noted, in 1964, that historically the approach of adult education has been adoption without adaptation "to learner problems." The education of adults has tended to develop as a series of offshoots from institutions and organizations, whose major functions continue to be some other activity.[3]

---

[1]Jelley, "New Developments in Teaching Consumer Education," 8.

[2]Albert L. Ayars, "Economic Education for Adults," Handbook of Adult Education in the United States, ed. by Malcolm S. Knowles (Chicago: Adult Education Association of the U.S.A., 1960), pp. 442-52.

[3]Harry L. Miller, Teaching and Learning in Adult Education (New York: Macmillan Company, 1964), pp. 4-5.

Summary

Literature related to a history and rationale of personal economic education was reviewed first. Literature directly related to the design and use of test instruments in evaluation of personal economic understandings was reviewed secondly, and literature indirectly related to the study was reviewed thirdly.

In the review of literature related to a history and rationale of personal economic education, many factors were recorded which have contributed to our current interest in consumer problems. Among those developments which gave evidence of an increasing interest in personal economics, were the following: (1) the survival instincts of the "economic man," (2) the consumption theories of economists, (3) the home economics course content that emphasized personal finance responsibilities of the family, (4) the promotion of personal economic understandings by consumer education groups, (5) the protection of consumers by governmental agencies, (6) the trend toward personal finance counseling of employees by personnel departments, and (7) the sponsorship of personal finance literature by American business institutions.

In the review of literature directly related to the design and use of test instruments, it was seen that many test instruments were developed to measure personal economic understandings. Bernardi, Knapp, and Ogden developed or used test instruments which measured personal economic competency of college students. Knapp's test instrument considered consumer knowledges of products and consumer protections, rather than conceptual understanding of personal economics; however, the Bernardi and Ogden studies focused on conceptual understanding in money management.

Taylor studied the money management understandings and attitudes of married college students. Hall studied and defined teaching-learning concepts in the area of personal economics, and Kell's test instrument was designed to measure the family finance knowledges and understandings possessed by teachers who might include aspects of it in the instruction they offer.

Forkner developed a test to measure personal-business knowledges and understandings of high school students, and Jelley constructed a test to measure money management understandings of high school seniors and found that students from the lower socio-economic group understood less about money management than did students from the middle and the upper socio-economic groups. Both Blair and Peters administered the Forkner test to high school students. Blair failed to corroborate the conclusions of Peters and others who found a relationship between the development of personal-business competencies and enrollment in a general business course. Differences in the research of Peters and Blair were possibly attributable to differences in teaching methodology for the students composing each study.

The Joint Council on Economic Education in its Test of Understandings in Personal Economics emphasized the interrelatedness of economic matters which were both personal and social.

In the review of literature indirectly related to the study, researchers discussed new horizons and opportunities for citizens to achieve economic literacy and personal economics competency. Cooke stated that the optimum economic education programs in business should be specialized to each company; however, Overman reported that research

should be done to decide what understandings of economics are needed in order to maintain and improve the business system in America. Young found that occupation was the personal factor most commonly related to significant differences of opinion about selected economic issues; and McFarland noted that in a business organization structure, each successively higher level of management requires an increasing amount of leadership, planning, responsibility, and other managerial activity. Maynes examined consumer decision-making processes and stated that most consumers fail to appreciate "payoffs" or gains which intelligent consumer decision-making can yield. Jelley considered that consumer education was a part of economic education. While Ayars reported many approaches for adult education, Miller noted that historically the approach of adult education has been adoption without adaptation "to learner problems." While test instruments have been used to evaluate personal economic understandings of teachers, and high school and college students, no literature was found that compared personal economic understandings of managers and nonmanagers in business and industry.

CHAPTER III

METHODOLOGY AND PROCEDURES

Environment of Study

The city of Longview, Texas, was chosen as the setting for the sampling of finance, retail, and manufacturing management and non-management personnel. The community profile revealed the following:

Geographical Location: Longview is located in the Northeast Texas populous triangle of Shreveport, Dallas, and Houston.

Population: The population in 1950 was 24,445; in 1960, 40,050; in 1970, 46,744; and the estimate for 1973 was 55,344.

Employment: Longview industries and businesses offer employment to over 38,000 employees.

Number and Type of Firms: In 1973, there were approximately 240 finance firms, 620 retail firms, and 140 manufacturing firms.

Types of Products Manufactured: The products manufactured include the following: aircraft components, metal cans, castings, mobile homes oil well tools, load binders, industrial machinery, beer, truck seals, chemicals and plastics, food products, truck beds and trailers, and apparel.

Rate of Growth: The city ranks third in the state in industrial growth.

Transportation: Longview provides the following transportation: three major railroads, ten truck lines, one major airline, and one major interstate busline.

The above data concerning the environment of the study was taken from the 1973 Longview Chamber of Commerce Manufacturers Directory; 1974 Longview Chamber of Commerce Membership Roster; Longview Telephone Directory, Southwestern Bell, December, 1973; and Dun and Bradstreet Reference Book, Volume 503, May 1973.

Test Instrument

The test instrument selected to measure personal economic understandings was Forkner's Achievement Test of Personal-Business Knowledges and Understandings, Form A. (See Appendix A, Exhibit 5.) Forkner's test in its final form, which consisted of 50 questions with a 50-minute time limit, was administered to 276 eleventh-grade pupils in three public secondary schools in Metropolitan Los Angeles. The coefficient of reliability was .796 and was determined by correlating the scores each pupil achieved on the two forms of the test which were homologous. The standard error of measurement was found to be 2.22 for Form A and 2.24 for Form B. Form A scores of pupils ranged from ten items to 34 items correct. Form B scores ranged from eight to 34 items correct. The median for Form A was 22.92; the mean 23.01; the standard deviation 4.93; and the semi-quartile range 3.49. The median for Form B was 22.05; the mean 22.57; the standard deviation 4.97; semi-quartile range 3.96.[1]

---

[1]Forkner, "Personal-Business Knowledges and Understandings," pp. 113-18.

Distribution Procedure for Examination

The population surveyed consisted of management and nonmanagement groups. Personal economics examination packets, consisting of six examinations, were given to top managers in each company. These managers were asked to distribute the examinations to a top manager, a middle manager, and a supervisory manager. The nonmanagement distribution was given to persons of diversified job positions. In order to protect the anonymity of respondent examinees and companies, code numbers were assigned to each printed examination, which were returned to the research investigator in sealed envelopes.

Research contacts were initiated with companies in Longview, Texas, in the second week of March, 1974. Personal interviews were granted to the researcher by 76 companies. During the interview, the purpose and method for the research was explained to managers who would be involved in the administration of examination materials. Reminder post cards were mailed to participating finance companies near the end of the month of March. Reminder post cards were also mailed to participating retail companies in the early part of April. (See Appendix A, Exhibit 1.) A follow-up letter was sent to the retail companies in the third week of April, and also to the manufacturing companies at the close of the month of April. (See Appendix A, Exhibit 2.)

An introductory instruction statement and a data sheet were attached to the examinations. (See Appendix A, Exhibits 3 and 4.) The data sheets provided research information in categories of age, sex, educational level, length of company service, size of company, type of company, and type of management and nonmanagement position. The field

research examination distribution and the return of the examinations covered the period of March through the middle of June, 1974.

Sampling Categories

Table 1 presents the per cent of examination packets returned by companies with ten or more employees and small finance companies with less than ten employees. Three companies contacted did not take packets.

TABLE 1

NUMBER AND PER CENT OF COMPANIES RETURNING EXAMINATION PACKETS

Company Type	Employee No.	Contacted	Returned	Per Cent
Finance	10 or more	16	15	93.7
Retail	10 or more	23	16	69.5
Manufacturing	10 or more	24	16	66.6
All Companies	10 or more	63	47	74.6
Small Finance	Less than 10	13	13	100.0

The sampling of 283 business personnel consisted of 146 managers and 137 nonmanagers. This study sampled finance, retail, and manufacturing companies employing ten or more employees, and consisted of 129 managers and 122 nonmanagers. This study also sampled small finance companies employing less than ten employees, and consisted of 17 managers and 15 nonmanagers.

Table 2 presents the sample categories and sample sizes used in the hypotheses.

TABLE 2

SAMPLE CATEGORIES AND SAMPLE SIZES
USED IN THE HYPOTHESES

Category	Size (N)
Composite All Managers	129
Composite All Nonmanagers	122
All Finance Managers	41
All Finance Nonmanagers	40
All Retail Managers	41
All Retail Nonmanagers	40
All Manufacturing Managers	47
All Manufacturing Nonmanagers	42
All Top Managers	52
All Middle Managers	50
All Supervisory Managers	27
All Managers--College Graduates	40
All Managers--Some College	44
All Managers--High School	42
All Nonmanagers--Some College	53
All Nonmanagers--High School	53
Finance Managers--Small Companies	17
Finance Nonmanagers--Small Companies	15

Tables 3, 4, 5, and 6 present the participating companies by type, size, and the number of managers and nonmanagers participating in each company.

TABLE 3

FINANCE COMPANIES BY TYPE, SIZE, AND NUMBER OF PARTICIPATING MANAGERS AND NONMANAGERS

No. of Companies	Type	No. of Employees	No. of Managers Participating	No. of Nonmanagers Participating
1	Bank	90	2	4
1	Bank	70	4	2
1	Bank	55	2	4
1	Bank	35	3	3
1	Life Insurance	28	3	3
2	Savings and Loan	26	1, 3	0, 2
1	Real Estate	25	3	3
1	Bank	24	3	3
1	Credit Union	24	3	3
1	Savings and Loan	23	3	2
1	Life Insurance	14	3	3
1	Life and Casualty	13	3	3
1	Life and Casualty	11	3	3
1	Investment Broker	10	2	2

TABLE 4

FINANCE COMPANIES UNDER TEN EMPLOYEES BY TYPE, SIZE, AND NUMBER OF PARTICIPATING MANAGERS AND NONMANAGERS

No. of Companies	Type	No. of Employees	No. of Managers Participating	No. of Nonmanagers Participating
1	Consumer Loan	9	1	0
1	Savings and Loan	8	3	1
2	Life Insurance	7	1, 2	1, 2
1	Life and Casualty	6	2	2
1	Real Estate	6	0	3
1	Life and Casualty	6	2	1
1	Consumer Loan	5	1	2
1	Consumer Loan	4	2	2
1	Life Insurance	2	1	0
1	Real Estate	2	1	0
1	Real Estate	1	1	0
1	Hospitalization & Life	*	0	1

*Exact size not known

TABLE 5

RETAIL COMPANIES BY TYPE, SIZE, AND NUMBER OF PARTICIPATING MANAGERS AND NONMANAGERS

No. of Companies	Type	No. of Employees	No. of Managers Participating	No. of Nonmanagers Participating
1	Lumber	125	1	2
1	Discount	113	4	10
1	Utility & Retail Sales	100-250	1	5
1	Department Store Chain	70	3	1
1	Discount	68	3	1
2	Auto Sales	60	3, 2	3, 4
1	Grocery Supermarket	60	1	3
1	Furniture	53	4	1
1	Discount	50	3	1
1	Wholesaler	44	4	2
1	Grocery Supermarket	40	2	2
1	Grocery Supermarket	35	3	0
1	Department Store Chain (Men & Women's Clothing)	15	3	1
1	Variety	11	2	2
1	Department Store Chain	10	2	2

TYPE 6

MANUFACTURING COMPANIES BY TYPE, SIZE, AND NUMBER OF PARTICIPATING MANAGERS AND NONMANAGERS

No. of Companies	Type*	No. of Employees	No. of Managers Participating	No. of Nonmanagers Participating
2		500-2,000	3, 1	7, 4
1		400	2	3
1		250	3	3
1		215	3	2
1		183	3	3
1		125	5	0
1		85	2	4
1		75	4	2
2		70	2, 3	2, 3
2		60	2, 3	2, 1
1		50	2	3
1		45	5	1
1		30	4	2

*Manufacturing companies were of these broad types: chemicals, clothing, machinery, metal products, mobile homes, products for oil and gas industry, miscellaneous.

Matrix Methodology

The matrix methodology for test Form A was set forth in chart question items contained in each content area and arranged under column headings of objectives for facts, generalizations, interpretations, and applications.

TABLE 7

MATRIX ITEMS BY CONTENT AND OBJECTIVES

	Objectives			
Content	Facts Question No.	Generalizations Question No.	Interpretations Question No.	Applications Question No.
Budgeting	38A	19A	7A	8A
Buying	44A	1A, 45A	18A, 48A	11A, 31A
Use of Goods	28A			
Banking	24A	4A, 12A		34A, 41A
Credit	3A, 23A	37A	35A, 42A	25A
Thrift	16A, 40A	17A	27A, 43A	47A
Insurance	30A	15A, 49A	39A	46A
Housing	14A	9A		32A
Legal	36A	2A	6A	13A
Taxation	50A	20A	33A	26A
Vocations	29A	5A, 22A	10A	21A

Source: Irvine H. Forkner, "An Achievement Test of Personal-Business Knowledges and Understandings," p. 106.

Table 8 presents definitions for the Forkner matrix chart.

TABLE 8

BLUEPRINT FOR TEST OF PERSONAL-BUSINESS KNOWLEDGES AND UNDERSTANDINGS SHOWING MAJOR CONTENT AREAS, OBJECTIVES, AND SPECIFIC CONTENT TOPICS

Content	Objective--Knowledge of Terms and Facts
Budgeting	Income Net income Fixed expenses Cost of living
Wise Buying	Grade Needs Necessities Better Business Bureau
Wise Use of Goods and Time	Time budget
Using Banking Facilities	Savings account Checking account Check stub
Consumer Credit	Credit Installment account Conditional sales contract
Thrift	Inflation Savings Savings and loan associations
Insurance and Pensions	Bodily injury insurance Property damage insurance Term insurance Comprehensive insurance
Housing	Deed Title Assessed value

TABLE 8--Continued

Content	Objective--Knowledge of Terms and Facts
Legal Information	Contract Acceptance Consideration
Understanding Tax Forms and Calculations	Income tax Deductions Withholding tax
Vocational Information	Aptitude Personal data sheet Interest inventory
Content	**Objective--Knowledge of Generalizations, Concepts, and Principles**
Budgeting	The aspects of good money management The characteristics of a workable budget Why keep a budget
Wise Buying	How to get the most out of income What choices must be made when buying The relationships between price and quality of consumer goods What information labels should provide
Wise Use of Goods, Time	How to care for personal goods--clothings, tools, auto
Using Banking Facilities	Bank services available to the individual Types of interest charges
Consumer Credit	The cost of buying on credit Advantages and disadvantages of credit buying The alternatives to installment buying How to establish a credit rating

TABLE 8--Continued

Content	Objective--Knowledge of Generalizations, Concepts, and Principles
Thrift	What makes a good investment The importance of saving and investing to oneself and the economy The effect of changing economic conditions on investments
Insurance and Pensions	The cost of term insurance compared to permanent insurance How to select the proper amount and type of insurance The relationship between the survivors' benefits of social security and life insurance
Housing	When to buy a home When to rent a home Advantages of owning a home Risks in buying a home
Legal Information	The five elements of a contract How to protect oneself when signing a contract When to use legal advice The essentials of a written contract
Understanding Tax Forms and Calculations	Types of records to keep for tax purposes The sources of monies spent by government The nature of taxes
Vocational Information	How to conduct oneself during a job interview The importance of personal attitudes and habits to job success Advantages of educational training Sources of occupational information

TABLE 8--Continued

Content	Objective--Interpretation of Generalizations, Concepts, and Principles
Budgeting	The relationship of expenditures and income in a budget
Wise Buying	The difference between a legitimate and a deceptive or misleading advertisement Interpret the reports of private and government consumer agencies Interpret labels to assist in making intelligent consumer choices The difference between a legitimate and a deceptive or misleading sale
Wise Use of Goods, Time	The cost of carelessness in use of goods The effect of carelessness in use of goods on one's cost of living
Using Banking Facilities	Interpret a bank statement in relation to the check stub record
Consumer Credit	The cost of borrowing from different kinds of agencies The effect of credit on the economy The results of a default by a creditor The effect of a poor credit rating on the consumer
Thrift	The effect of inflation on savings and other kinds of investments Compare a good investment and a poor investment in a given situation

TABLE 8--Continued

Content	Objective--Interpretation of Generalizations, Concepts, and Principles
Insurance and Pensions	The income social security would provide to a widow and family The provisions of the various types of life insurance policies Retirement income provided by OASDI for different income groups
Housing	The cost of renting as opposed to buying The advisability of buying a given home with a given income
Legal Information	Determine whether to seek legal advice Determine the legality of a given contract Determine whether a given contract must be written
Understanding Tax Forms	The proper form to use when filing federal income tax returns
Vocational Information	Compare educational training with job requirements Occupational trends
Content	**Objective--Application of Generalizations, Concepts, and Principles**
Budgeting	Keep a record of income and expenses for budgeting purposes Revise a budget on the basis of sound principles

TABLE 8--Continued

Content	Objective--Application of Generalizations, Concepts, and Principles
Wise Buying	Analyze labels to determine best buy Analyze advertising to determine best buy Check proper sources of consumer information before making a purchase
Wise Use of Goods, Time	Devise a time budget
Using Banking Facilities	Write checks properly, including check stub record Endorse checks correctly for endorser's protection Reconcile a bank statement
Consumer Credit	Determine the least costly method of buying an appliance on credit Compute the interest charges commonly charged by banks, finance companies, small loan companies Determine the advisability of additional installment buying in a given situation
Thrift	Select an investment that is financially sound for one's own financial status Select the proper form of saving for one's financial status
Insurance and Pensions	Determine insurance needs in different situations: life, auto, home, retirement
Housing	Decide whether to buy or rent in a given situation Determine prices of house and lot able to afford with a given income

TABLE 8--Continued

Content	Objective--Application of Generalizations, Concepts, and Principles
Legal Information	Determine appropriate action when asked to sign a partially-filled contract Determine appropriate action as a consumer under breach of warranty
Understanding Tax Forms and Calculations	Compute federal income tax for a given year Determine total deductions allowable for federal income tax
Vocational Information	Which worker lost his job and why In a given situation, which applicant will get the job and why

Source: Irvine H. Forkner, "An Achievement Test of Personal-Business Knowledges and Understandings," pp. 31-36.

Matrix formulae are given under four headings: Per Cent of Fact Questions Answered Incorrectly, Per Cent of Generalization Questions Answered Incorrectly, Per Cent of Interpretation Questions Answered Incorrectly, and Per Cent of Application Questions Answered Incorrectly. Formulae developed by the researcher follow.

Per Cent of Fact Questions Answered Incorrectly (Misses)

Formula

$$\frac{\text{Misses, fact questions by class of managers}}{\text{Possible correct fact questions by class of managers}} =$$

$$\frac{\text{Misses, fact questions by class of managers}}{\text{No. of fact questions X No. of a class of managers}}$$

Formula

$$\frac{\text{Misses, fact questions by class of nonmanagers}}{\text{Possible correct fact questions by class of nonmanagers}} =$$

$$\frac{\text{Misses, fact questions by class of nonmanagers}}{\text{No. of fact questions X No. of a class of nonmanagers}}$$

Per Cent of Generalization Questions Answered Incorrectly (Misses)

Formula

$$\frac{\text{Misses, generalization questions by class of managers}}{\text{Possible correct generalization questions by class of managers}} =$$

$$\frac{\text{Misses, generalization questions by class of managers}}{\text{No. of generalization questions X No. of a class of managers}}$$

Formula

$$\frac{\text{Misses, generalization questions by class of nonmanagers}}{\text{Possible correct generalization questions by class of nonmanagers}} =$$

$$\frac{\text{Misses, generalization questions by class of nonmanagers}}{\text{No. of generalization questions X No. of a class of nonmanagers}}$$

Per Cent of Interpretation Questions Answered Incorrectly (Misses)

Formula

$$\frac{\text{Misses, interpretation questions by class of managers}}{\text{Possible correct interpretation questions by class of managers}} =$$

$$\frac{\text{Misses, interpretation questions by class of managers}}{\text{No. of interpretation questions X No. of a class of managers}}$$

Formula

$$\frac{\text{Misses, interpretation questions by class of nonmanagers}}{\text{Possible correct interpretation questions by class of nonmanagers}} =$$

$$\frac{\text{Misses, interpretation questions by class of nonmanagers}}{\text{No. of interpretation questions X No. of a class of nonmanagers}}$$

Per Cent of Application Questions Answered Incorrectly (Misses)

Formula

$$\frac{\text{Misses, application questions by class of managers}}{\text{Possible correct application questions by class of managers}} =$$

$$\frac{\text{Misses, application questions by class of managers}}{\text{No. of application questions X No. of a class of managers}}$$

Formula

$$\frac{\text{Misses, application questions by class of nonmanagers}}{\text{Possible correct application questions by class of nonmanagers}} =$$

$$\frac{\text{Misses, application questions by class of nonmanagers}}{\text{No. of application questions X No. of a class of nonmanagers}}$$

Statistical Procedure

The statistical expression for the "t" test was taken from a computer program which was structured to evaluate the statistical difference in two means, which in this study was applied to various comparisons of manager and nonmanager groups and subgroups.[1] Siegel's table for evaluation of the "t" test for actual and critical values was used in this study.[2]

---

[1]Fred C. Leone, Applied Statistics Through Programming (Orange, New Jersey: Monroe Calculator Company, 1971), p. 98.

[2]Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, 1956), p. 248.

Statistical Formula for the "t" Test

$$t = \frac{\bar{x}_1 - \bar{x}_2}{S_p \left(\frac{1}{n_1} + \frac{1}{n_2}\right)^{1/2}}$$

where $\bar{x}_1$, $\bar{x}_2$ are the sample means:

S_p = the standard deviation of the pooled estimate of the variance

S_p^2 = the pooled estimate of the variance

S_1^2 = the variance of population 1

S_2^2 = the variance of population 2

$$S_1^2 = \frac{\Sigma X_1^2 - [(\Sigma X_1)^2/n_1]}{n_1 - 1} \; ; \; S_2^2 = \frac{\Sigma X_2^2 - [(\Sigma X_2)^2/n_2]}{n_2 - 1}$$

$$S_p^2 = \frac{(n_1 - 1) S_1^2 + (n_2 - 1) S_2^2}{n_1 + n_2 - 2}$$

The degrees of freedom for the "t" test = $(N_1 + N_2) - 2$.

Matrix formulae were developed by the research writer to analyze deficiencies in personal economic understandings of finance, retailing, and manufacturing manager and nonmanager groups of the hypotheses categories. The "t" test evaluation also was applied to each manager and nonmanager group and subgroup of the hypotheses categories. Per cent composition analysis was used to give support to the hypotheses results or to explain exceptions to the hypotheses results.

The σ and population variance for manager and nonmanager groups and subgroups was not known and was estimated from the samples. Since each sample provided an estimate of the variance, the two estimates were

pooled, and the "t" test was used as a tool to determine the significance of the difference in two means of various comparisons of manager and non-manager groups and subgroups.

CHAPTER IV

RESULTS

Results of Hypotheses Testing

This chapter of the study contains the results and interpretation of testing the hypotheses stated in Chapter I.

Hypothesis 1: A matrix constructed to indicate deficiencies of all personnel in economic understandings will reveal specific needs and a range of imperfections which call for improvement in understandings relevant to facts, generalizations, interpretations, and applications for the concept areas of personal economics.

The hypothesis was supported by the evidence that follows and was tested by the matrix formulae by which the collected data variables were correlated and interpreted.

Per Cent of Fact Questions Answered Incorrectly (Misses)

Formula--Managers

$$\frac{\text{Misses, fact questions by class of managers}}{\text{No. of fact questions X No. of a class of managers}}$$

Results--Managers

Finance	$\frac{155}{533} = 29\%$
Retail	$\frac{247}{533} = 46\%$
Manufacturing	$\frac{232}{611} = 38\%$

Formula--Nonmanagers

$$\frac{\text{Misses, fact questions by class of nonmanagers}}{\text{No. of fact questions X No. of a class of nonmanagers}}$$

Results--Nonmanagers

Finance $\frac{209}{520} = 40\%$

Retail $\frac{259}{520} = 50\%$

Manufacturing $\frac{263}{546} = 48\%$

Per Cent of Generalization Questions Answered Incorrectly (Misses)

Formula--Managers

$$\frac{\text{Misses, generalization questions by class of managers}}{\text{No. of generalization questions X No. of a class of managers}}$$

Results--Managers

Finance $\frac{170}{574} = 30\%$

Retail $\frac{189}{574} = 33\%$

Manufacturing $\frac{229}{658} = 35\%$

Formula--Nonmanagers

$$\frac{\text{Misses, generalization questions by class of nonmanagers}}{\text{No. of generalization questions X No. of a class of nonmanagers}}$$

Results--Nonmanagers

Finance $\frac{189}{560} = 34\%$

Retail $\frac{207}{560} = 37\%$

Manufacturing $\frac{200}{588} = 34\%$

Per Cent of Interpretation Questions Answered Incorrectly (Misses)

Formula--Managers

$$\frac{\text{Misses, interpretation questions by class of managers}}{\text{No. of interpretation questions X No. of a class of managers}}$$

Results--Managers

Finance $\frac{165}{451} = 37\%$

Retail $\frac{209}{451} = 46\%$

Manufacturing $\frac{215}{517} = 42\%$

Formula--Nonmanagers

$$\frac{\text{Misses, interpretation questions by class of nonmanagers}}{\text{No. of interpretation questions X No. of a class of nonmanagers}}$$

Results--Nonmanagers

Finance $\frac{208}{440} = 47\%$

Retail $\frac{243}{440} = 55\%$

Manufacturing $\frac{218}{462} = 47\%$

Per Cent of Application Questions Answered Incorrectly (Misses)

Formula--Managers

$$\frac{\text{Misses, application questions by class of managers}}{\text{No. of application questions X No. of a class of managers}}$$

Results--Managers

Finance $\frac{135}{492} = 27\%$

Retail $\frac{183}{492} = 37\%$

Manufacturing $\frac{197}{564} = 35\%$

Formula--Nonmanagers

$$\frac{\text{Misses, application questions by class of nonmanagers}}{\text{No. of application questions X No. of a class of nonmanagers}}$$

Results--Nonmanagers

Finance $\frac{164}{480} = 34\%$

Retail $\frac{176}{480} = 37\%$

Manufacturing $\frac{212}{504} = 42\%$

Generally, in personal economic understandings in all content areas, managers showed a lower per cent deficiency of questions answered incorrectly than nonmanagers. An exception to the findings of higher performance by managers was found in the manufacturing group in the generalization results and in the retailing group in the application questions results. The analysis of deficiencies revealed that in generalization question areas, manufacturing managers had a higher deficiency, 35 per cent, than manufacturing nonmanagers, 34 per cent deficiency. The retail manager deficiency of 37 per cent in application question areas was equal to the retail nonmanager deficiency of 37 per cent.

Finance managers had the highest per cent of misses in the category of interpretations, next generalizations, followed by facts, and applications, and in that order by descending per cents of questions answered incorrectly. Retail managers had the highest per cent of misses in the categories of interpretations and facts equally, followed by applications, and generalizations, and in that order of descending per cents of questions answered incorrectly. Manufacturing managers had the highest per cent of misses in the category of interpretations, then

facts, followed by generalizations and applications equally, and in that order of descending per cents of questions answered incorrectly.

Finance nonmanagers had the highest per cent of misses in the category of interpretations, then facts, followed by generalizations and applications equally, and in that order of descending per cents of questions answered incorrectly. Retail nonmanagers had the highest per cent of misses in the category of interpretations, next facts, followed by generalizations and applications equally, and in that order of descending per cents of questions answered incorrectly. Manufacturing nonmanagers had the highest per cent of misses in the category of facts, then interpretations, followed by applications, and generalizations, and in that order of descending per cents of questions answered incorrectly.

Formulae interpret the per cent of fact questions answered incorrectly, the per cent of generalization questions answered incorrectly, the per cent of interpretation questions answered incorrectly, and the per cent of application questions answered incorrectly. The detail of management and nonmanagement deficiencies in content areas of (1) budgeting, (2) wise buying, (3) wise use of goods and time, (4) using bank facilities, (5) consumer credit, (6) thrift, (7) insurance and pensions, (8) housing, (9) legal information, (10) understanding tax forms, and (11) vocational information were analyzed by facts, generalizations, interpretations, and applications as set forth in Tables 9-16.

TABLE 9

PER CENT OF FACT QUESTIONS MISSED
BY CONTENT AREAS--MANAGERS

Finance		Retail		Manufacturing	
Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent
Credit 23	$\frac{28}{41} = 68$	Tax Forms 50	$\frac{28}{41} = 68$	Credit 23	$\frac{30}{47} = 64$
Tax Forms 50	$\frac{18}{41} = 44$	Insurance 30	$\frac{27}{41} = 66$	Vocations 29	$\frac{27}{47} = 57$
Budgeting 38	$\frac{17}{41} = 41$	Credit 23	$\frac{25}{41} = 61$	Tax Forms 50	$\frac{25}{47} = 53$
Banking 24	$\frac{16}{41} = 39$	Banking 24	$\frac{24}{41} = 58.5$	Budgeting 38	$\frac{22}{47} = 47$
Insurance 30	$\frac{16}{41} = 39$	Vocations 29	$\frac{23}{41} = 56$	Banking 24	$\frac{22}{47} = 47$
Vocations 29	$\frac{14}{41} = 34$	Legal 36	$\frac{21}{41} = 51$	Legal 36	$\frac{19}{47} = 40$
Buying 44	$\frac{11}{41} = 27$	Use of Goods 28	$\frac{20}{41} = 49$	Housing 14	$\frac{15}{47} = 32$
Use of Goods 28	$\frac{10}{41} = 24$	Budgeting 38	$\frac{19}{41} = 46$	Insurance 30	$\frac{15}{47} = 32$
Legal 36	$\frac{7}{41} = 17$	Buying 44	$\frac{17}{41} = 41$	Thrift 16	$\frac{14}{47} = 30$
Housing 14	$\frac{6}{41} = 15$	Housing 14	$\frac{16}{41} = 39$	Credit 3	$\frac{13}{47} = 28$
Credit 3	$\frac{6}{41} = 15$	Thrift 40	$\frac{14}{41} = 34$	Use of Goods 28	$\frac{13}{47} = 28$
Thrift 16	$\frac{3}{41} = 7$	Thrift 16	$\frac{7}{41} = 17$	Buying 44	$\frac{12}{47} = 25.5$
Thrift 40	$\frac{3}{41} = 7$	Credit 3	$\frac{6}{41} = 15$	Thrift 40	$\frac{5}{47} = 11$

TABLE 10

PER CENT OF FACT QUESTIONS MISSED
BY CONTENT AREAS--NONMANAGERS

Finance		Retail		Manufacturing	
Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent
Insurance 30	$\frac{28}{40} = 70$	Legal 36	$\frac{32}{40} = 80$	Tax Forms 50	$\frac{31}{42} = 74$
Tax Forms 50	$\frac{24}{40} = 60$	Insurance 30	$\frac{29}{40} = 72.5$	Vocations 29	$\frac{29}{42} = 69$
Credit 23	$\frac{21}{40} = 52.5$	Tax Forms 50	$\frac{25}{40} = 62.5$	Credit 23	$\frac{29}{42} = 69$
Budgeting 38	$\frac{20}{40} = 50$	Credit 23	$\frac{24}{40} = 60$	Insurance 30	$\frac{28}{42} = 67$
Vocations 29	$\frac{19}{40} = 47.5$	Banking 24	$\frac{22}{40} = 55$	Buying 44	$\frac{23}{42} = 55$
Banking 24	$\frac{17}{40} = 42.5$	Buying 44	$\frac{22}{40} = 55$	Banking 24	$\frac{21}{42} = 50$
Buying 44	$\frac{17}{40} = 42.5$	Housing 14	$\frac{19}{40} = 47.5$	Legal 36	$\frac{20}{42} = 48$
Legal 36	$\frac{15}{40} = 37.5$	Budgeting 38	$\frac{19}{40} = 47.5$	Use of Goods 28	$\frac{18}{42} = 43$
Housing 14	$\frac{14}{40} = 35$	Vocations 29	$\frac{18}{40} = 45$	Thrift 16	$\frac{17}{42} = 40$
Use of Goods 28	$\frac{11}{40} = 27.5$	Use of Goods 28	$\frac{17}{40} = 42.5$	Housing 14	$\frac{15}{42} = 36$
Thrift 40	$\frac{10}{40} = 25$	Thrift 40	$\frac{15}{40} = 37.5$	Budgeting 38	$\frac{15}{42} = 36$
Thrift 16	$\frac{8}{40} = 20$	Thrift 16	$\frac{12}{40} = 30$	Thrift 40	$\frac{11}{42} = 26$
Credit 3	$\frac{5}{40} = 12.5$	Credit 3	$\frac{5}{40} = 12.5$	Credit 3	$\frac{6}{42} = 14$

TABLE 11

PER CENT OF GENERALIZATION QUESTIONS MISSED
BY CONTENT AREAS--MANAGERS

Finance		Retail		Manufacturing	
Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent
Vocations 22	$\frac{31}{41} = 76$	Insurance 49	$\frac{31}{41} = 76$	Insurance 49	$\frac{41}{47} = 87$
Buying 45	$\frac{28}{41} = 68$	Vocations 22	$\frac{27}{41} = 66$	Vocations 22	$\frac{32}{47} = 68$
Budgeting 19	$\frac{22}{41} = 54$	Buying 45	$\frac{26}{41} = 63$	Budgeting 19	$\frac{30}{47} = 64$
Insurance 49	$\frac{18}{41} = 44$	Credit 37	$\frac{24}{41} = 58.5$	Buying 45	$\frac{30}{47} = 64$
Credit 37	$\frac{17}{41} = 41$	Budgeting 19	$\frac{22}{41} = 54$	Credit 37	$\frac{19}{47} = 40$
Insurance 15	$\frac{16}{41} = 39$	Insurance 15	$\frac{13}{41} = 32$	Buying 1	$\frac{18}{47} = 38$
Buying 1	$\frac{14}{41} = 34$	Thrift 17	$\frac{11}{41} = 27$	Insurance 15	$\frac{13}{47} = 28$
Housing 9	$\frac{9}{41} = 22$	Housing 9	$\frac{8}{41} = 19.5$	Housing 9	$\frac{13}{47} = 28$
Thrift 17	$\frac{5}{41} = 12$	Buying 1	$\frac{8}{41} = 19.5$	Thrift 17	$\frac{11}{47} = 23$
Banking 12	$\frac{3}{41} = 7$	Legal 2	$\frac{7}{41} = 17$	Legal 2	$\frac{7}{47} = 15$
Legal 2	$\frac{3}{41} = 7$	Banking 12	$\frac{6}{41} = 15$	Tax Forms 20	$\frac{5}{47} = 11$
Tax Forms 20	$\frac{2}{41} = 5$	Tax Forms 20	$\frac{3}{41} = 7$	Banking 12	$\frac{5}{47} = 11$
Vocations 5	$\frac{1}{41} = 2$	Vocations 5	$\frac{3}{41} = 7$	Banking 4	$\frac{4}{47} = 8.5$
Banking 4	$\frac{1}{41} = 2$	Banking 4	$\frac{0}{41} = 0$	Vocations 5	$\frac{1}{47} = 2$

TABLE 12

PER CENT OF GENERALIZATION QUESTIONS MISSED
BY CONTENT AREAS--NONMANAGERS

Finance		Retail		Manufacturing	
Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent
Buying 45	$\frac{32}{40} = 80$	Insurance 49	$\frac{33}{40} = 82.5$	Insurance 49	$\frac{35}{42} = 83$
Vocations 22	$\frac{28}{40} = 70$	Buying 45	$\frac{32}{40} = 80$	Buying 45	$\frac{30}{42} = 71$
Insurance 49	$\frac{27}{40} = 67.5$	Vocations 22	$\frac{30}{40} = 75$	Vocations 22	$\frac{25}{42} = 59.5$
Credit 37	$\frac{20}{40} = 50$	Credit 37	$\frac{21}{40} = 52.5$	Budgeting 19	$\frac{24}{42} = 57$
Budgeting 19	$\frac{19}{40} = 47.5$	Insurance 15	$\frac{17}{40} = 42.5$	Credit 37	$\frac{24}{42} = 57$
Insurance 15	$\frac{15}{40} = 37.5$	Budgeting 19	$\frac{17}{40} = 42.5$	Insurance 15	$\frac{17}{42} = 40$
Banking 12	$\frac{12}{40} = 30$	Housing 9	$\frac{14}{40} = 35$	Thrift 17	$\frac{11}{42} = 26$
Buying 1	$\frac{10}{40} = 25$	Buying 1	$\frac{13}{40} = 32.5$	Legal 2	$\frac{8}{42} = 19$
Housing 9	$\frac{8}{40} = 20$	Thrift 17	$\frac{11}{40} = 27.5$	Buying 1	$\frac{8}{42} = 19$
Tax Forms 20	$\frac{8}{40} = 20$	Legal 2	$\frac{10}{40} = 25$	Housing 9	$\frac{7}{42} = 17$
Legal 2	$\frac{6}{40} = 15$	Banking 12	$\frac{6}{40} = 15$	Banking 12	$\frac{5}{42} = 12$
Thrift 17	$\frac{4}{40} = 10$	Tax Forms 20	$\frac{2}{40} = 5$	Vocations 5	$\frac{3}{42} = 7$
Banking 4	$\frac{0}{40} = 0$	Vocations 5	$\frac{1}{40} = 2.5$	Tax Forms 20	$\frac{2}{42} = 5$
Vocations 5	$\frac{0}{40} = 0$	Banking 4	$\frac{0}{40} = 0$	Banking 4	$\frac{1}{42} = 2$

TABLE 13

PER CENT OF INTERPRETATION QUESTIONS MISSED
BY CONTENT AREAS--MANAGERS

Finance		Retail		Manufacturing	
Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent
Credit 35	$\frac{34}{41} = 83$	Credit 35	$\frac{36}{41} = 88$	Credit 35	$\frac{34}{47} = 72$
Vocations 10	$\frac{22}{41} = 54$	Vocations 10	$\frac{28}{41} = 68$	Vocations 10	$\frac{32}{47} = 68$
Buying 48	$\frac{19}{41} = 46$	Buying 48	$\frac{25}{41} = 61$	Buying 48	$\frac{27}{47} = 57$
Buying 18	$\frac{19}{41} = 46$	Budgeting 7	$\frac{23}{41} = 56$	Insurance 39	$\frac{26}{47} = 55$
Budgeting 7	$\frac{17}{41} = 41$	Insurance 39	$\frac{22}{41} = 54$	Budgeting 7	$\frac{21}{47} = 45$
Insurance 39	$\frac{16}{41} = 39$	Tax Forms 33	$\frac{20}{41} = 49$	Thrift 43	$\frac{20}{47} = 42.5$
Credit 42	$\frac{13}{41} = 32$	Credit 42	$\frac{17}{41} = 41$	Credit 42	$\frac{19}{47} = 40$
Thrift 43	$\frac{10}{41} = 24$	Buying 18	$\frac{15}{41} = 36.5$	Tax Forms 33	$\frac{13}{47} = 28$
Tax Forms 33	$\frac{8}{41} = 19.5$	Thrift 43	$\frac{13}{41} = 32$	Buying 18	$\frac{12}{47} = 25.5$
Thrift 27	$\frac{4}{41} = 10$	Thrift 27	$\frac{6}{41} = 15$	Thrift 27	$\frac{10}{47} = 21$
Legal 6	$\frac{3}{41} = 7$	Legal 6	$\frac{4}{41} = 10$	Legal 6	$\frac{1}{47} = 2$

TABLE 14

PER CENT OF INTERPRETATION QUESTIONS MISSED
BY CONTENT AREAS--NONMANAGERS

Finance		Retail		Manufacturing	
Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent
Credit 35	$\frac{32}{40} = 80$	Vocations 10	$\frac{34}{40} = 85$	Credit 35	$\frac{31}{42} = 74$
Buying 48	$\frac{25}{40} = 62.5$	Credit 35	$\frac{29}{40} = 72.5$	Vocations 10	$\frac{31}{42} = 74$
Vocations 10	$\frac{23}{40} = 57.5$	Buying 48	$\frac{25}{40} = 62.5$	Buying 48	$\frac{27}{42} = 64$
Credit 42	$\frac{22}{40} = 55$	Credit 42	$\frac{25}{40} = 62.5$	Tax Forms 33	$\frac{21}{42} = 50$
Insurance 39	$\frac{20}{40} = 50$	Tax Forms 33	$\frac{25}{40} = 62.5$	Credit 42	$\frac{20}{42} = 48$
Tax Forms 33	$\frac{20}{40} = 50$	Insurance 39	$\frac{21}{40} = 52.5$	Budgeting 7	$\frac{19}{42} = 45$
Buying 18	$\frac{17}{40} = 42.5$	Buying 18	$\frac{21}{40} = 52.5$	Thrift 43	$\frac{18}{42} = 43$
Budgeting 7	$\frac{16}{40} = 40$	Budgeting 7	$\frac{21}{40} = 52.5$	Insurance 39	$\frac{17}{42} = 40$
Thrift 43	$\frac{15}{40} = 37.5$	Thrift 43	$\frac{19}{40} = 47.5$	Buying 18	$\frac{15}{42} = 36$
Thrift 27	$\frac{11}{40} = 27.5$	Thrift 27	$\frac{12}{40} = 30$	Thrift 27	$\frac{14}{42} = 33$
Legal 6	$\frac{7}{40} = 17.5$	Legal 6	$\frac{11}{40} = 27.5$	Legal 6	$\frac{5}{42} = 12$

TABLE 15

PER CENT OF APPLICATION QUESTIONS MISSED
BY CONTENT AREAS--MANAGERS

Finance		Retail		Manufacturing	
Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent
Banking 41	$\frac{31}{41} = 76$	Banking 41	$\frac{34}{41} = 83$	Thrift 47	$\frac{34}{47} = 72$
Thrift 47	$\frac{25}{41} = 61$	Thrift 47	$\frac{30}{41} = 73$	Banking 41	$\frac{33}{47} = 70$
Legal 13	$\frac{18}{41} = 44$	Legal 13	$\frac{26}{41} = 63$	Insurance 46	$\frac{24}{47} = 51$
Insurance 46	$\frac{13}{41} = 32$	Insurance 46	$\frac{18}{41} = 44$	Legal 13	$\frac{24}{47} = 51$
Vocations 21	$\frac{13}{41} = 32$	Buying 31	$\frac{15}{41} = 36.5$	Housing 32	$\frac{17}{47} = 36$
Housing 32	$\frac{9}{41} = 22$	Tax Forms 26	$\frac{15}{41} = 36.5$	Vocations 21	$\frac{15}{47} = 32$
Credit 25	$\frac{7}{41} = 17$	Vocations 21	$\frac{13}{41} = 32$	Credit 25	$\frac{13}{47} = 28$
Budgeting 8	$\frac{6}{41} = 15$	Housing 32	$\frac{13}{41} = 32$	Banking 34	$\frac{9}{47} = 19$
Tax Forms 26	$\frac{5}{41} = 12$	Credit 25	$\frac{6}{41} = 15$	Buying 31	$\frac{9}{47} = 19$
Buying 11	$\frac{4}{41} = 10$	Banking 34	$\frac{6}{41} = 15$	Budgeting 8	$\frac{8}{47} = 17$
Buying 31	$\frac{2}{41} = 5$	Buying 11	$\frac{4}{41} = 10$	Tax Forms 26	$\frac{6}{47} = 13$
Banking 34	$\frac{2}{41} = 5$	Budgeting 8	$\frac{3}{41} = 7$	Buying 11	$\frac{5}{47} = 11$

TABLE 16

PER CENT OF APPLICATION QUESTIONS MISSED
BY CONTENT AREAS--NONMANAGERS

Finance		Retail		Manufacturing	
Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent	Content Area and Question No.	Per Cent
Banking 41	$\frac{30}{40} = 75$	Thrift 47	$\frac{36}{40} = 90$	Banking 41	$\frac{33}{42} = 78.5$
Thrift 47	$\frac{26}{40} = 65$	Banking 41	$\frac{29}{40} = 72.5$	Thrift 47	$\frac{31}{42} = 74$
Legal 13	$\frac{21}{40} = 52.5$	Insurance 46	$\frac{21}{40} = 52.5$	Insurance 46	$\frac{28}{42} = 67$
Insurance 46	$\frac{13}{40} = 32.5$	Legal 13	$\frac{20}{40} = 50$	Housing 32	$\frac{19}{42} = 45$
Credit 25	$\frac{12}{40} = 30$	Housing 32	$\frac{13}{40} = 32.5$	Legal 13	$\frac{19}{42} = 45$
Vocations 21	$\frac{12}{40} = 30$	Tax Forms 26	$\frac{12}{40} = 30$	Vocations 21	$\frac{19}{42} = 45$
Housing 32	$\frac{11}{40} = 27.5$	Credit 25	$\frac{9}{40} = 22.5$	Tax Forms 26	$\frac{14}{42} = 33$
Buying 31	$\frac{11}{40} = 27.5$	Buying 31	$\frac{9}{40} = 22.5$	Buying 31	$\frac{12}{42} = 28.5$
Tax Forms 26	$\frac{10}{40} = 25$	Buying 11	$\frac{7}{40} = 17.5$	Budgeting 8	$\frac{12}{42} = 28.5$
Banking 34	$\frac{7}{40} = 17.5$	Budgeting 8	$\frac{7}{40} = 17.5$	Credit 25	$\frac{11}{42} = 26$
Buying 11	$\frac{7}{40} = 17.5$	Vocations 21	$\frac{7}{40} = 17.5$	Banking 34	$\frac{9}{42} = 21$
Budgeting 8	$\frac{4}{40} = 10$	Banking 34	$\frac{6}{40} = 15$	Buying 11	$\frac{5}{42} = 12$

As seen in Tables 17 and 18, both managers and nonmanagers had greater deficiencies in the content areas of insurance, credit, buying, and vocational information. The information in Table 17 was taken from Tables 9, 11, 13, and 15.

TABLE 17

NUMBER OF TIMES A CONTENT AREA APPEARS AMONG THE FOUR HIGHEST PER CENT MISSED QUESTION ITEMS BY MANAGERS IN FACT, GENERALIZATION, INTERPRETATION, AND APPLICATION CATEGORIES

Content Area	Number of Times Content Area Appears*
Insurance	8
Credit	7
Buying	7
Vocations	7
Banking	5
Budgeting	5
Legal Information	3
Tax Forms	3
Thrift	3

*Per cents range from 32 to 88

The information in Table 18 was taken from Tables 10, 12, 14, and 16.

TABLE 18

NUMBER OF TIMES A CONTENT AREA APPEARS AMONG THE FOUR HIGHEST PER CENT MISSED QUESTION ITEMS BY NONMANAGERS IN FACT, GENERALIZATION, INTERPRETATION, AND APPLICATION CATEGORIES

Content Area	Number of Times Content Area Appears*
Credit	10
Insurance	9
Vocations	7
Buying	6
Tax Forms	4
Banking	3
Legal Information	3
Thrift	3
Budgeting	2
Housing	1

*Per cents range from 32.5 to 90

The per cent of fact questions answered incorrectly in 11 content areas by finance managers ranged from a high of 68 per cent to a low of seven per cent, and finance nonmanagers ranged from a high of 70 per cent to a low of 12.5 per cent; retail managers ranged from a high of 68 per cent to a low of 15 per cent, and retail nonmanagers ranged from a high of 80 per cent to a low of 12.5 per cent; manufacturing managers ranged from a high of 64 per cent to a low of 11 per cent, and manufacturing nonmanagers ranged from a high of 74 per cent to a low of 14 per cent.

The per cent of generalization questions answered incorrectly in 11 content areas by finance managers ranged from a high of 76 per cent to a low of two per cent, and finance nonmanagers ranged from a high of 80 per cent to a low of zero per cent; retail managers ranged from a high of 76 per cent to a low of zero per cent, and retail nonmanagers ranged from a high of 82.5 per cent to a low of zero per cent; manufacturing managers ranged from a high of 87 per cent to a low of two per cent, and manufacturing nonmanagers ranged from a high of 83 per cent to a low of two per cent.

The per cent of interpretation questions answered incorrectly in 11 content areas by finance managers ranged from a high of 83 per cent to a low of seven per cent, and finance nonmanagers ranged from a high of 80 per cent to a low of 17.5 per cent; retail managers ranged from a high of 88 per cent to a low of ten per cent, and retail nonmanagers ranged from a high of 85 per cent to a low of 27.5 per cent; manufacturing managers ranged from a high of 72 per cent to a low of two per cent, and manufacturing nonmanagers ranged from a high of 74 per cent to a low of 12 per cent.

The per cent of application questions answered incorrectly in 11 content areas by finance managers ranged from a high of 76 per cent to a low of five per cent, and finance nonmanagers ranged from a high of 75 per cent to a low of ten per cent; retail managers ranged from a high of 83 per cent to a low of seven per cent, and retail nonmanagers ranged from a high of 90 per cent to a low of 15 per cent; manufacturing managers ranged from a high of 72 per cent to a low of 11 per cent, and manufacturing nonmanagers ranged from a high of 78.5 per cent to a low of 12 per cent.

All data for Hypotheses 2 through 21 were subjected to the "t" test evaluation. For the purpose of verification of the "t" test evaluation, all hypotheses data were submitted to "z" score test analysis and evaluation. The statistical formula for the "z" test which was utilized to verify the "t" test results is found in Appendix B, Exhibit 1. The results of the "z" score test evaluations verified the "t" test evaluations in all hypotheses categories. (See Appendix B, Exhibit 2.) The standard deviations exhibited stability in size for all group samples in the hypotheses categories. (See Appendix B, Table B-1.) The range statistic used in Hypotheses 2 through 21 is defined as the high score minus the low score plus one. SD signified standard deviation.

Hypothesis 2: A composite mean score of finance, retail, and manufacturing managers will (at the .05 level) exceed with significance a composite mean score of finance, retail, and manufacturing nonmanagers.

The mean score of all managers as a composite group was significantly greater than the mean score of all nonmanagers as a composite group (t actual = 3.577 > t critical = 1.65); df = 249; thus the hypothesis was supported.

TABLE 19

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 2, A COMPOSITE OF ALL MANAGERS AND A COMPOSITE OF ALL NONMANAGERS

Category	N	Mean	Median	Mode	Range	SD
Composite All Managers	129	31.922	33	34	33	6.331
Composite All Nonmanagers	122	29.090	30	31	32	6.201

Source: Appendix B, Tables B-2 and B-3 for raw scores.

Hypothesis 3: The mean score of all finance managers will (at the .05 level) exceed with significance the mean score of all finance nonmanagers.

The mean score of all finance managers was significantly greater than the mean score of all finance nonmanagers (t actual = 2.756 > t critical = 1.66); df = 79; thus the hypothesis was supported.

TABLE 20

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 3, ALL FINANCE MANAGERS AND ALL FINANCE NONMANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Finance Managers	41	34.658	36.0	36	30	6.374
All Finance Nonmanagers	40	30.725	30.5	30	29	6.468

Source: Appendix B, Tables B-4 and B-5 for raw scores.

Hypothesis 4: The mean score of all retail managers will (at the .05 level) exceed with significance the mean score of all retail nonmanagers.

The mean score of all retail managers was not significantly greater than the mean score of all retail nonmanagers (t actual = 1.499 < t critical = 1.66; df = 79; thus the hypothesis was not supported.

TABLE 21

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 4, ALL RETAIL MANAGERS AND ALL RETAIL NONMANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Retail Managers	41	29.804	30	30	28	6.309
All Retail Nonmanagers	40	27.850	29	29	26	5.371

Source: Appendix B, Tables B-6 and B-7 for raw scores.

Hypothesis 5: The mean score of all manufacturing managers will (at the .05 level) exceed with significance the mean score of all manufacturing nonmanagers.

The mean score of all manufacturing managers was significantly greater than the mean score of all manufacturing nonmanagers (t actual = 2.094 > t critical = 1.66); df = 87; thus the hypothesis was supported.

TABLE 22

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 5, ALL MANUFACTURING MANAGERS AND ALL MANUFACTURING NONMANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Manufacturing Managers	47	31.382	32	32	28	5.534
All Manufacturing Nonmanagers	42	28.714	30	31	31	6.481

Source: Appendix B, Tables B-8 and B-9 for raw scores.

Hypothesis 6: There is no significant difference (at the .05 level) between the mean score of all finance managers and the mean score of all retail managers.

The mean score of all finance managers was significantly greater than the mean score of all retail managers (t actual = 3.466 > t critical = 1.99); df = 80; thus the null hypothesis was rejected.

TABLE 23

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 6, ALL FINANCE MANAGERS AND ALL RETAIL MANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Finance Managers	41	34.658	36	36	30	6.374
All Retail Managers	41	29.804	30	30	28	6.309

Source: Appendix B, Tables B-4 and B-6 for raw scores.

Hypothesis 7: There is no significant difference (at the .05 level) between the mean score of all finance managers and the mean score of all manufacturing managers.

The mean score of all finance managers was significantly greater than the mean score of all manufacturing managers (t actual = 2.581 > t critical = 1.99); df = 86; thus the null hypothesis was rejected.

TABLE 24

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 7, ALL FINANCE MANAGERS AND ALL MANUFACTURING MANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Finance Managers	41	34.658	36	36	30	6.374
All Manufacturing Managers	47	31.382	32	32	28	5.534

Source: Appendix B, Tables B-4 and B-8 for raw scores.

Hypothesis 8: There is no significant difference (at the .05 level) between the mean score of all retail managers and the mean score of all manufacturing managers.

There was no significant difference in the mean score of all retail managers and the mean score of all manufacturing managers (t actual = 1.25 < t critical = 1.99); df = 86; thus the null hypothesis was accepted.

TABLE 25

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 8, ALL RETAIL MANAGERS AND ALL MANUFACTURING MANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Retail Managers	41	29.804	30	30	28	6.309
All Manufacturing Managers	47	31.382	32	32	28	5.534

Source: Appendix B, Tables B-6 and B-8 for raw scores.

Hypothesis 9: There is no significant difference (at the .05 level) between the mean score of all finance nonmanagers and the mean score of all retail nonmanagers.

The mean score of all finance nonmanagers was significantly greater than the mean score of all retail nonmanagers (t actual = 2.163 > t critical = 1.99); df = 78; thus the null hypothesis was rejected.

TABLE 26

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 9, ALL FINANCE NONMANAGERS AND ALL RETAIL NONMANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Finance Nonmanagers	40	30.725	30.5	30	29	6.468
All Retail Nonmanagers	40	27.850	29.0	29	26	5.371

Source: Appendix B, Tables B-5 and B-7 for raw scores.

Hypothesis 10: There is no significant difference (at the .05 level) between the mean score of all finance nonmanagers and the mean score of all manufacturing nonmanagers.

There was no significant difference in the mean score of all finance nonmanagers and the mean score of all manufacturing nonmanagers (t actual = 1.406 < t critical = 1.99); df = 80; thus the null hypothesis was accepted.

TABLE 27

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 10, ALL FINANCE NONMANAGERS AND ALL MANUFACTURING NONMANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Finance Nonmanagers	40	30.725	30.5	30	29	6.468
All Manufacturing Nonmanagers	42	28.714	30.0	31	31	6.481

Source: Appendix B, Tables B-5 and B-9 for raw scores.

Hypothesis 11: There is no significant difference (at the .05 level) between the mean score of all retail nonmanagers and the mean score of all manufacturing nonmanagers.

There was no significant difference in the mean score of all retail nonmanagers and the mean score of all manufacturing nonmanagers (t actual = 0.656 < t critical = 1.99); df = 80; thus the null hypothesis was accepted.

TABLE 28

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 11, ALL RETAIL NONMANAGERS AND ALL MANUFACTURING NONMANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Retail Nonmanagers	40	27.850	29	29	26	5.371
All Manufacturing Nonmanagers	42	28.714	30	31	31	6.481

Source: Appendix B, Tables B-7 and B-9 for raw scores.

Hypothesis 12: The mean score of all top managers will (at the .05 level) exceed with significance the mean score of all middle managers.

The mean score of all top managers was significantly greater than the mean score of all middle managers (t actual = 3.637 > t critical = 1.66); df = 100; thus the hypothesis was supported.

TABLE 29

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 12, ALL TOP MANAGERS AND ALL MIDDLE MANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Top Managers	52	35.019	36.0	36	27	4.771
All Middle Managers	50	30.880	31.5	34	33	6.610

Source: Appendix B, Tables B-10 and B-11 for raw scores.

Hypothesis 13: The mean score of all top managers will (at the .05 level) exceed with significance the mean score of all supervisory managers.

The mean score of all top managers was significantly greater than the mean score of all supervisory managers (t actual = 5.903 > t critical = 1.66); df = 77; thus the hypothesis was supported.

TABLE 30

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 13, ALL TOP MANAGERS AND ALL SUPERVISORY MANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Top Managers	52	35.019	36	36	27	4.771
All Supervisory Managers	27	27.888	29	29	25	5.672

Source: Appendix B, Tables B-10 and B-12 for raw scores.

Hypothesis 14: The mean score of all middle managers will (at the .05 level) exceed with significance the mean score of all supervisory managers.

The mean score of all middle managers was significantly greater than the mean score of all supervisory managers (t actual = 1.988 > t critical = 1.67); df = 75; thus the hypothesis was supported.

TABLE 31

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 14, ALL MIDDLE MANAGERS AND ALL SUPERVISORY MANAGERS

Category	N	Mean	Median	Mode	Range	SD
All Middle Managers	50	30.880	31.5	34	33	6.610
All Supervisory Managers	27	27.888	29.0	29	25	5.672

Source: Appendix B, Tables B-11 and B-12 for raw scores.

Hypothesis 15: The mean score of all managers who are college graduates will (at the .05 level) exceed with significance the mean score of all managers with some college attendance.

The mean score of all managers who were college graduates was not significantly greater than the mean score of all managers with some college attendance (t actual = 1.283 < t critical = 1.66); df = 82; thus the hypothesis was not supported.

TABLE 32

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 15, ALL MANAGERS WHO ARE COLLEGE GRADUATES AND ALL MANAGERS WITH SOME COLLEGE ATTENDANCE

Category	N	Mean	Median	Mode	Range	SD
All Managers--College Graduates	40	34.725	35.5	34	30	5.551
All Managers--Some College	44	33.295	33.0	32	19	4.658

Source: Appendix B, Tables B-13 and B-14 for raw scores.

Hypothesis 16: The mean score of all managers who are college graduates will (at the .05 level) exceed with significance the mean score of all managers who attended high school.

The mean score of all managers who were college graduates was significantly greater than the mean score of all managers who attended high school (t actual = 4.578 > t critical = 1.66); df = 80; thus the hypothesis was supported.

TABLE 33

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 16, ALL MANAGERS WHO ARE COLLEGE GRADUATES AND ALL MANAGERS WHO ATTENDED HIGH SCHOOL

Category	N	Mean	Median	Mode	Range	SD
All Managers--College Graduates	40	34.725	35.5	34	30	5.551
All Managers--High School	42	28.714	29.0	24	28	6.294

Source: Appendix B, Tables B-13 and B-15 for raw scores.

Hypothesis 17: The mean score of all managers with some college attendance will (at the .05 level) exceed with significance the mean score of all managers who attended high school.

The mean score of all managers with some college attendance was significantly greater than the mean score of all managers who attended high school (t actual = 3.849 > t critical = 1.66); df = 84; thus the hypothesis was supported.

TABLE 34

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 17, ALL MANAGERS WITH SOME COLLEGE ATTENDANCE AND ALL MANAGERS WHO ATTENDED HIGH SCHOOL

Category	N	Mean	Median	Mode	Range	SD
All Managers--Some College	44	33.295	33	32	19	4.658
All Managers--High School	42	28.714	29	24	28	6.294

Source: Appendix B, Tables B-14 and B-15 for raw scores.

Hypothesis 18: The mean score of all managers with some college attendance will (at the .05 level) exceed with significance the mean score of all nonmanagers with some college attendance.

The mean score of all managers with some college attendance was significantly greater than the mean score of all nonmanagers with some college attendance (t actual = 3.839 > t critical = 1.66); df = 95; thus the hypothesis was supported.

TABLE 35

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 18, ALL MANAGERS WITH SOME COLLEGE ATTENDANCE AND ALL NONMANAGERS WITH SOME COLLEGE ATTENDANCE

Category	N	Mean	Median	Mode	Range	SD
All Managers--Some College	44	33.295	33	32	19	4.658
All Nonmanagers--Some College	53	29.169	30	29	32	5.726

Source: Appendix B, Tables B-14 and B-16 for raw scores.

Hypothesis 19: The mean score of all managers who attended high school will (at the .05 level) exceed with significance the mean score of all nonmanagers who attended high school.

The mean score of all managers who attended high school was not significantly greater than the mean score of all nonmanagers who attended high school (t actual = 0.354 < t critical = 1.66); df = 93; thus the hypothesis was not supported.

TABLE 36

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 19, ALL MANAGERS WHO ATTENDED HIGH SCHOOL AND ALL NONMANAGERS WHO ATTENDED HIGH SCHOOL

Category	N	Mean	Median	Mode	Range	SD
All Managers--High School	42	28.714	29	24	28	6.294
All Nonmanagers--High School	53	28.245	29	31	27	6.510

Source: Appendix B, Tables B-15 and B-17 for raw scores.

Hypothesis 20: The mean score of all nonmanagers with some college attendance will (at the .05 level) exceed with significance the mean score of all nonmanagers who attended high school.

The mean score of all nonmanagers with some college attendance was not significantly greater than the mean score of all nonmanagers who attended high school (t actual = 0.776 < t critical = 1.66); df = 104; thus the hypothesis was not supported.

TABLE 37

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 20, ALL NONMANAGERS WITH SOME COLLEGE ATTENDANCE AND ALL NONMANAGERS WHO ATTENDED HIGH SCHOOL

Category	N	Mean	Median	Mode	Range	SD
All Nonmanagers--Some College	53	29.169	30	29	32	5.726
All Nonmanagers--High School	53	28.245	29	31	27	6.510

Source: Appendix B, Tables B-16 and B-17 for raw scores.

Hypothesis 21: The mean score of all finance managers of companies with less than ten employees will (at the .05 level) exceed with significance the mean score of all finance nonmanagers of companies with less than ten employees.

The mean score of all finance managers of companies with less than ten employees was not significantly greater than the mean score of all finance nonmanagers of companies with less than ten employees (t actual = 0.381 < t critical = 1.70); df = 30; thus the hypothesis was not supported.

TABLE 38

DETAIL OF STATISTICAL DATA FOR HYPOTHESIS 21, ALL FINANCE MANAGERS OF COMPANIES WITH LESS THAN TEN EMPLOYEES AND ALL FINANCE NONMANAGERS OF COMPANIES WITH LESS THAN TEN EMPLOYEES

Category	N	Mean	Median	Mode	Range	SD
Finance Managers--Small Companies	17	34.000	34	37	14	4.168
Finance Nonmanagers--Small Companies	15	33.266	34	33	25	6.605

Source: Appendix B, Tables B-18 and B-19 for raw scores.

Table 39, a listing of the mean score performances by manager and nonmanager groups and subgroups, is used for data interpretations in the summary discussions of the results.

TABLE 39

THE MEAN SCORES BY DESCENDING ORDER FROM HIGHEST TO LOWEST PERFORMANCE FOR MANAGER AND NONMANAGER GROUPS AND SUBGROUPS

Category	Mean
Finance Managers--Middle	37.000
Finance Managers--Top	35.629
Retail Managers--Top	35.500
All Top Managers	35.019
All Managers--College Graduates	34.725
All Finance Managers	34.658
Finance Managers--Small Companies	34.000
Manufacturing Managers--Top	33.307
All Managers--Some College	33.295
Finance Nonmanagers--Small Companies	33.266
All Nonmanagers--College Graduates	32.400
All Male Managers	32.000
Composite All Managers	31.922
All Female Managers	31.523
All Manufacturing Managers	31.382
Manufacturing Managers--Middle	31.125
All Middle Managers	30.880
All Finance Nonmanagers	30.725
All Male Nonmanagers	30.170
All Retail Managers	29.804
Manufacturing Managers--Supervisory	29.500
All Nonmanagers--Some College	29.169
Composite All Nonmanagers	29.090
All Manufacturing Nonmanagers	28.714
All Managers--High School	28.714
All Female Nonmanagers	28.413
All Nonmanagers--High School	28.245
All Supervisory Managers	27.888
All Retail Nonmanagers	27.850
Retail Managers--Middle	27.833
Finance Managers--Supervisory	27.166
Retail Managers--Supervisory	26.818
All Nonmanagers--Grade School	20.000
All Managers--Grade School	19.333

Summary

As measured by achievement test mean scores, manager groups of (1) a composite of all managers, (2) finance managers, and (3) manufacturing managers exhibited significantly higher levels of personal economic understandings than corresponding nonmanagement groups; however, the retail manager group did not exhibit a significantly higher level of personal economic understandings than retail nonmanagers. An analysis of the retail management group indicated an influence that lowered the overall mean score performance of the composite retail management group was the supervisory retail group which had a low mean score of 26.818. In contrast, the analysis of the top managers in retailing indicated a high mean score of 35.500 compared to top finance managers whose mean score was 35.629.

In the evaluation of personal economic understandings of the retail group, the seeming exception to the general findings of the study that the managers' mean score performance significantly exceeds the nonmanagers' mean score performance, could be accounted for by the findings that the retail manager group when compared with the finance and manufacturing manager groups was composed of (1) a lower per cent of top managers than the finance manager group, and top managers had a high mean score as a group; (2) a smaller number of top managers than the manufacturing manager group; (3) a higher per cent of supervisory level personnel whose mean score was low as a group; (4) a lower per cent of college graduates, and college graduates had a high mean score as a group; and (5) a higher per cent of high school level personnel whose mean score was low as a group. (See Table 39; and Appendix B, Table B-36.)

The higher the position level in management, the higher was the mean score performance measured by an achievement test for personal economic understandings. A composite of all top managers had a significantly higher mean score than a composite of all middle and a composite of all supervisory managers. A composite of all middle managers had a significantly higher mean score than a composite of all supervisory managers. The influence of education level is seen in the performance mean score of managers stratified as to top, middle, and supervisory. In the sampling of top, middle, and supervisory managers, 54 per cent of the top managers were college graduates, 18 per cent of middle managers were college graduates, and 11 per cent of supervisory managers were college graduates. (See Table 39; and Appendix B, Table B-36.)

As seen in the results of Hypotheses 15 through 20, education was a significant influence in managers' performances on an achievement test which measured personal economic understandings; however, there was no significant difference in mean scores of managers who were college graduates and managers with some college attendance. Managers who were college graduates had a mean score that was significantly higher than managers who attended high school. Managers who had attended college had a mean score that was significantly higher than the mean score of managers who had attended high school. Managers who had some college attendance had a significantly higher achievement in personal economic understandings than nonmanagers who had some college attendance. There was no significant difference in the mean score performance of managers who attended high school and the mean score performance of nonmanagers who attended high school.

Finance managers had a significantly higher mean score than (1) manufacturing managers, and (2) retail managers. There was no significant difference between the mean scores of all retail managers, and the mean scores of all manufacturing managers. The finance managers' superior mean score performances may be accounted for by the fact that finance managers engage in job specializations and experiences that include more of the personal finance concepts than the job specializations and experiences of retail managers and manufacturing managers.

Finance nonmanagers had a significantly higher mean score than retail nonmanagers. There was no significant difference in the mean scores of finance and manufacturing nonmanagers, and there was no significant difference in the mean scores of retail and manufacturing nonmanagers.

The performance of nonmanagers was not influenced by the educational level of the examinees, when a comparison was made of nonmanagers with some college attendance and nonmanagers who attended high school. There was no significant difference in the mean scores of nonmanagers with some college and nonmanagers who attended high school. The "nonmanagers" who were college graduates were a small group of 15 which was 12.2 per cent of the nonmanagement group. It cannot be said that the college graduate group was representative of the nonmanagers in this study. A breakdown of the job positions of the college graduate group gave a composition of five professional people in the group: two engineers, one management trainee, one field representative in sales, and one employee holding a temporary production worker job while awaiting his assignment to an assured management position. (See Appendix B, Exhibit 3.)

When comparisons were made of managers and nonmanagers in small finance companies employing less than ten employees, there was no significant difference in the mean scores of the two groups. Nonmanagers in small finance companies had a mean score of 33.266 which was less than one per cent lower than the mean score of 34.000 for finance managers in small companies. The mean score of all finance managers was 34.658 compared to the mean score of 34.000 for finance managers in small companies. Nonmanagers in small finance companies achieved a mean score for personal economic understandings that was (1) higher than the mean score of a composite of nonmanagers, and (2) higher than the mean score of large finance company nonmanagers. (See Table 39.)

Because of the disparity of sample sizes based upon sex, no attempt was made to compare the statistical significance of the difference in the mean scores of managers and nonmanagers on the basis of sex; however, the mean score of all male managers was higher than the mean score of all female managers; also, the mean score of all male nonmanagers was higher than the mean score of all female nonmanagers. (See Table 39; and Appendix B, Table B-36.)

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Purpose

Personal economic understandings of managers and nonmanagers were investigated in this study. The purpose of this study was to determine the extent of managers' and nonmanagers' understandings of personal economics, and to analyze and interpret knowledge differences in personal economic understandings evidenced by two occupational groups, managers and nonmanagers.

This study was an attempt to identify deficiencies in personal economic understandings of managers and nonmanagers, and to evaluate the significance in the difference in the mean performance of managers and nonmanagers as measured by a personal economic understandings achievement test. It was also an attempt to indicate how the evidence gathered could be used in adult education programs sponsored by business and industry.

Specifically, the problems investigated were:

1. Do managers and nonmanagers both exhibit a range of deficiences in (a) budgeting, (b) wise buying, (c) wise use of goods and time, (d) using bank facilities, (e) consumer credit, (f) thrift, (g) insurance and pensions, (h) housing, (i) legal information, (j) understanding tax forms, and (k) vocational information?

2. Do managers as a composite group from finance, retail, and manufacturing companies exhibit a higher level of personal economic understandings than nonmanagers as a composite group from finance, retail, and manufacturing companies?

3. Do (a) finance managers exhibit a higher level of personal economic understandings than finance nonmanagers, (b) retail managers exhibit a higher level of personal economic understandings than retail nonmanagers, and (c) manufacturing managers exhibit a higher level of personal economic understandings than manufacturing nonmanagers?

4. Do finance, retail, and manufacturing managers exhibit differences in personal economic understandings?

5. Do finance, retail, and manufacturing nonmanagers exhibit differences in personal economic understandings?

6. Do (a) top managers exhibit a higher level of personal economic understandings than middle and supervisory managers, (b) middle managers exhibit a higher level of personal economic understandings than supervisory managers?

7. Do the educational level attainments of managers and nonmanagers relate to personal economic understandings?

8. Do managers in small finance companies employing less than ten employees exhibit a higher level of personal economic understandings than nonmanagers employed in those companies?

Procedure

The procedure followed in this study consisted of five steps: (1) a review of pertinent research and literature in the area of personal economic understandings, (2) the choice of an evaluation instrument which could be used to categorize and evaluate the data obtained for this investigation, (3) the sampling of the appropriate population and distribution of the examination, (4) the collection and analysis of the data for the research, and (5) the writing of the dissertation.

The city of Longview, Texas, was the setting chosen for the sampling of finance, retail, and manufacturing firm data relating to personal economic understandings. The sampling and collection of data

covered the period of March 1974 through June 1974. The subjects of the study were finance, retail, and manufacturing managers and nonmanagers. The sampling of 47 large companies with 10 or more employees consisted of 129 managers who were compared with 122 nonmanagers. The sampling of 13 small companies with less than 10 employees consisted of 17 managers and 15 nonmanagers.

The test instrument selected to measure personal economic understandings was Forkner's Achievement Test of Personal-Business Knowledges and Understandings, Form A. The detail of management and nonmanagement deficiencies in content areas of (1) budgeting; (2) wise buying; (3) wise use of goods and time; (4) using bank facilities; (5) consumer credit; (6) thrift; (7) insurance and pensions; (8) housing; (9) legal information; (10) understanding tax forms; and (11) vocational information were analyzed by Forkner's matrix chart of facts, generalizations, interpretations, and applications.

Test data were analyzed by (1) Forkner's matrix chart of items by content and objectives; (2) hypotheses which were developed and tested statistically; (3) the "t" test which was used to determine the significance of the difference in mean scores of manager and nonmanager groups and subgroups; (4) composition per cents of sampling categories; and (5) the research investigator's formulae for per cent of fact, generalization, interpretation, and application questions answered incorrectly.

Findings

Based on an analysis of the test data presented in Chapter IV, the major findings were:

1. Managers generally, in their personal economic understandings in all content areas, had a lower per cent deficiency than nonmanagers.

2. All managers and nonmanagers exhibited some deficiencies in all content areas of personal economic understandings of (a) budgeting, (b) wise buying, (c) wise use of goods and time, (d) using bank facilities, (e) consumer credit, (f) thrift, (g) insurance and pensions, (h) housing, (i) legal information, (j) understanding tax forms, and (k) vocational information.

3. Both managers and nonmanagers had greater deficiencies in question content areas of insurance, credit, buying, and vocational information.

4. Listed in a descending order of per cent of questions answered incorrectly, finance managers had the highest deficiencies in the categories of interpretation questions, followed by generalization, fact, and application questions.

5. Listed in a descending order of per cent of questions answered incorrectly, retail managers had the highest deficiencies in the categories of interpretations and facts equally, followed by application and generalization questions.

6. Listed in a descending order of per cent of questions answered incorrectly, manufacturing managers had the highest deficiencies in the categories of interpretations followed by facts, then generalization and application questions equally.

7. Listed in a descending order of per cent of questions answered incorrectly, finance and retail nonmanagers had the highest deficiencies in the categories of interpretations followed by facts, then generalization and application questions equally.

8. Listed in a descending order of per cent of questions answered incorrectly, manufacturing nonmanagers had the highest deficiencies in the categories of facts, then interpretations, followed by application and generalization questions.

As measured by achievement test mean scores, the major findings were:

1. Managers as a composite group had a significantly higher level of personal economic understanding than nonmanagers as a composite group.

2. Finance managers had a significantly higher level of personal economic understanding than finance nonmanagers; retail managers did not have a significantly higher level of personal economic

understanding than retail nonmanagers; manufacturing managers had a significantly higher level of personal economic understanding than manufacturing nonmanagers.

3. Finance managers had a significantly higher level of personal economic understanding than retail and manufacturing managers; there was no significant difference in the level of personal economic understanding of retail and manufacturing managers.

4. Finance nonmanagers had a significantly higher level of personal economic understanding than retail nonmanagers; there was no significant difference in the level of personal economic understanding of finance and manufacturing nonmanagers; there was no significant difference in the level of personal economic understanding of retail and manufacturing nonmanagers.

5. Top managers had a significantly higher level of personal economic understanding than middle managers and supervisory managers; middle managers had a significantly higher level of personal economic understanding than supervisory managers.

6. There was no significant difference in the level of personal economic understanding of managers who were college graduates and managers who had attended college; managers who were college graduates had a significantly higher level of personal economic understanding than managers who had attended high school.

7. Managers who had attended college had a significantly higher level of personal economic understanding than managers who attended high school; managers who had attended college had a significantly higher level of personal economic understanding than nonmanagers who had attended college.

8. There was no significant difference in the level of personal economic understanding of managers who had attended high school and nonmanagers who had attended high school.

9. There was no significant difference in the level of personal economic understanding of nonmanagers who had attended college and nonmanagers who had attended high school.

10. There was no significant difference in the level of personal economic understanding of managers of small finance companies employing less than ten and nonmanagers of those companies.

Conclusions

Since all managers and nonmanagers exhibited deficiencies in all content areas of personal economic understandings, and since both managers

and nonmanagers had great deficiencies in question content areas of insurance, credit, buying, and vocational information, both managers as "teacher-counselors" and "students," and nonmanagers as "students" need instruction and improvement in personal economic understandings.

In a business environment where managers have a background of some college attendance or are college graduates and where similarities are seen in the management processes in business and personal finance activities in household management, managers achieve a higher mean score performance in personal economic understandings than nonmanagers.

Top managers are engaged in a broader spectrum of management functions and policy-making decisions than middle and supervisory managers, and normally educational and training requirements are higher for top managers than for middle and supervisory managers. Top managers as a group in Longview, Texas, were better educated and had a significantly higher personal economic understandings achievement mean score than middle and supervisory managers.

Middle managers are engaged in a broader spectrum of management functions and policy-making decisions than supervisory managers; and normally educational and training requirements are higher for middle managers than for supervisory managers. Middle managers as a group in Longview, Texas, were better educated and had a significantly higher personal economic understandings achievement mean score than supervisory managers.

Supervisors engage in the process of directing, but do not engage extensively in planning, organizing, and staffing; and normally educational and training requirements are lower for supervisory managers than for top

and middle managers. Supervisory managers as a group in Longview, Texas, were less educated and had a significantly lower personal economic understandings achievement mean score than top and middle managers. The educational level composition of supervisors in Longview, Texas, was made up of a high percentage of high school personnel and a low percentage of college graduates.

A seeming exception to the rationale of higher mean score performance in personal economic understandings by managers, when compared to nonmanagers, was found in the retail group. There was no significant difference in the personal economic understandings achievement mean score of retail managers as a group and retail nonmanagers as a group; however, a high percentage of high school personnel and a low percentage of college graduates were found in the composition of the retail management group.

Both the factors of some college attendance or college graduation, and engagement in the management processes are factors that enable managers to score significantly higher than nonmanagers on an achievement test that measures personal economic understandings. By itself neither the factor of some college attendance by nonmanagers, nor by itself the factor of engagement in the management processes by managers who have a high school education, will assure a higher mean score performance on a personal economic understandings achievement test.

Since in Longview, Texas, small finance company managers did not score significantly higher than small finance company nonmanagers and since small finance company nonmanagers scored higher than all other nonmanagement groups on an achievement test for personal economic understandings, further research is needed to investigate job specializations

and quasi management responsibilities of secretaries and finance specialists in small finance companies, in relationship to achievement in personal economic understandings.

Recommendations

Curriculum content in personal economic programs for both managers and nonmanagers in Longview, should emphasize instruction in insurance, credit, buying, and vocational information. Because of the research findings of particular concept areas where high per cent deficiencies were demonstrated, interpretation and fact information categories need to be emphasized in programs for retail and manufacturing managers. Interpretation and generalization information and concepts need to be emphasized in programs adapted to the needs of finance managers. All nonmanagers have greater need for education in fact and interpretation areas than in generalization and application areas. Since top managers in all categories and middle managers in finance and manufacturing categories gave evidence of high mean scores on the Forkner test, educational improvement needs for counseling in personal economics are not as great for those groups as the educational improvement needs of retail middle managers, and supervisory managers of all groups.

The following are recommendations for approaches to be used in educational programs sponsored by business and industry to improve the personal economic understandings of business and industry personnel in Longview, Texas:

1. Companies should sponsor "in house" libraries consisting of texts, free literature, and audio-visual materials.
2. Finance, retail, and manufacturing companies should interchange resource personnel; such resource persons should lead or

direct programs in periodic meetings, cooperatively sponsored by business and industry.

3. Inter-company field trips to local businesses and industrial firms should acquaint "student business personnel" with the practical business setting and its contributions to personal economic understandings.

4. Business and educational institutions should jointly sponsor personal economic literature holdings in the LeTourneau College Library and the Community Library, both located in the city of Longview.

5. Extension courses and night classes in personal economics should be offered in local private educational institutions, junior college and four-year state university programs.

6. Business and industrial firms should study the possibility of summer workshops for managers and nonmanagers, sponsored and funded jointly by The Life Insurance Institute of America and local business and industrial organizations.

7. Program formats for personal economic education should make use of a variety of approaches based on the differences in groups and subgroups of managers and nonmanagers. The following is a suggested list of possible program approaches: (a) panels, (b) symposiums, (c) dialogues, (d) forums, (e) clinics, (f) seminars, (g) institutes, (h) workshops, (i) college level adult education night classes for adult groups of managers and nonmanagers.

This research study investigated personal economic understandings of manager and nonmanager groups and subgroups, and recommended approaches for business sponsored education programs utilized to improve economic understandings of personnel in business and industrial firms in Longview, Texas. Since Longview is a representative American community of 55,000 population, and is a dynamic growth area, this study could serve as a model to be used by other representative cities whose citizens are interested in improving personal economic understandings of business and industrial personnel.

BIBLIOGRAPHY

Books

Aschheim, Joseph, and Hsieh, Ching-Yao. Macroeconomics: Income and Monetary Theory. Columbus, Ohio: Charles E. Merrill Publishing Company, 1969.

Ayars, Albert L. "Economic Education for Adults." Handbook of Adult Education in the United States. Edited by Malcolm S. Knowles. Chicago: Adult Education Association of the U.S.A., 1960.

Bartels, Robert. The Development of Marketing Thought. Homewood, Illinois: Richard D. Irwin, Inc., 1962.

Beach, Dale S. Personnel, the Management of People at Work. 2d ed. New York: The Macmillan Company, 1970.

Bloom, Benjamin S.; Hastings, J. Thomas; and Madaus, George F. Handbook on Formative and Summative Evaluation of Student Learning. New York: McGraw-Hill Book Company, 1971.

Blum, Milton L., and Balinsky, Benjamin. Counseling and Psychology, Vocational Psychology and Its Relation to Educational and Personal Counseling. New York: Prentice-Hall, Inc., 1951.

Bunting, Whitney. "Social Responsibility of the Corporation." Management in Perspective, Selected Readings. Edited by William Schlender, William Scott, and Alan Filley. Boston: Houghton Mifflin Company, 1965.

Cohen, Jerome B., and Hanson, Arthur W. Personal Finance, Principles and Case Problems. 3d ed. Homewood, Illinois: Richard D. Irwin, Inc., 1964.

Corrigan, Dorothy D. Workbook for a Successful Workshop. Chicago: American Library Trustee Association, 1967.

Crews, James W. "The Teaching of General Business and Economic Education." Contributions of Research to Business Education. Ninth Yearbook of the National Business Education Association. Washington, D.C.: National Business Education Association, 1971.

Daughtrey, A. S. Methods of Basic Business and Economic Education. Cincinnati: South-Western Publishing Company, 1965.

Davis, Richard M. Wide World of Credit and Consumerism. Shreveport, Louisiana: International Credit Research Foundation. 1972.

DeBrum, S. Joseph, and Mason, William John. "Evaluation in General Business." Evaluation of Pupil Progress in Business Education. Seventeenth Yearbook of The Eastern Business Teachers Association and The National Business Teachers Association. Somerville, New Jersey: Somerset Press, 1960.

Donaldson, Elvin F. Personal Finance. 2d ed. New York: The Ronald Press Company, 1956.

Downie, N. M., and Heath, R. W. Basic Statistical Methods. 3d ed. New York: Harper and Row, 1970.

Farwell, Loring C.; Gane, Frank Herbert; Jacobs, Donald; Jones, Sidney; and Robinson, Roland. Financial Institutions. 4th ed. Homewood, Illinois: Richard D. Irwin, Inc., 1966.

Frankel, M. L. Economic Education. New York: Center for Applied Research in Education, Inc., 1965.

French, Wendell. The Personnel Management Process, Human Resources Administration. Boston: Houghton Mifflin Company, 1964.

Ferencz, William R.; Ferencz, Dorothy; and Moss, Sharon. "Socio-Business Economic Education in the Community and Junior Colleges." Socio-Business Economic Education. Forty-first Yearbook of The Eastern Business Teachers Association. Somerville, New Jersey: Somerset Press, 1968.

Garrett, Annette. Counseling Methods for Personnel Workers. New York: Family Service Association of America, 1945.

Good, Carter V. Problems and Hypothesis, Introduction to Educational Research. New York: Appleton-Century-Crofts, Inc., 1959.

Haimann, Theo, and Scott, William G. Management in the Modern Organization. Boston: Houghton Mifflin Company, 1970.

Hamilton, David. The Consumer in Our Economy. Boston: Houghton Mifflin Company, 1962.

Hardaway, Mathilde, and Maier, Thomas B. Tests and Measurements in Business Education. 2d ed. Cincinnati: South-Western Publishing Company, 1952.

Jowett, Benjamin. "Politica." The Works of Aristotle Translated into English: Politica, Oeconomica, Atheniensium, Respublica. Translated by Benjamin Jowett, E. S. Forster, and Frederick G. Kenyon. London: Oxford University Press, 1952.

Kriz, Joseph A., and Duggan, Curtis J. Your Dynamic World of Business. New York: McGraw-Hill Book Company, 1973.

Leone, Fred C. Applied Statistics Through Programming. Orange, New Jersey: Monroe Calculator Company, 1971.

McFarland, Dalton E. Management Principles and Practices. 2d ed. New York: The Macmillan Company, 1964.

McNeal, James U., ed. Dimensions of Consumer Behavior. 2d ed. New York: Appleton-Century-Crofts, 1969.

Miller, Harry L. Teaching and Learning in Adult Education. New York: The Macmillan Company, 1964.

National Association for Public School Adult Education. Adult Basic Education: A Guide for Teachers and Teacher Trainers. Washington, D.C.: National Association for Public School Adult Education, 1966.

Nolan, C. A.; Hayden, Carlos K.; and Malsbary, Dean R. Principles and Problems of Business Education. Cincinnati: South-Western Publishing Company, 1967.

Office of Consumer Affairs and New York Public Library. Consumer Education Bibliography. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1971.

Polishook, William M. "Philosophical Comments: Some Personal Reflections on Social-Business Education." Socio-Business Economic Education. Forty-first Yearbook of The Eastern Business Teachers Association. Somerville, New Jersey: Somerset Press, 1968.

Polishook, William M. "Evaluation in the Social Business Subjects." Evaluation of Pupil Progress in Business Education. Seventeenth Yearbook of The Eastern Business Teachers Association and The National Business Teachers Association. Somerville, New Jersey: Somerset Press, 1960.

Roman, John C., and Finch, Robert. Family Financial Management: Transactions and Business Papers. Cincinnati: South-Western Publishing Company, 1970.

Siegel, Sidney. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill Book Company, 1956.

Terry, George R. Principles of Management. Revised edition. Homewood, Illinois: Richard D. Irwin, Inc., 1956.

Tonne, Herbert A., and Nanassy, Louis C. Principles of Business Education. New York: McGraw-Hill Book Company, 1970.

Troelstrup, Arch W. Consumer Problems and Personal Finance. 3d ed. New York: McGraw-Hill Book Company, 1965.

Troelstrup, Arch W. The Consumer in American Society: Personal and Family Finance. 5th ed. New York: McGraw-Hill Book Company, 1974.

Unger, Maurice A., and Wolf, Harold A. Personal Finance. Boston: Allyn and Bacon, Inc., 1969.

Wasson, Charles R. The Economics of Managerial Decision: Profit Opportunity Analysis. New York: Appleton-Century-Crofts, 1965.

Wilson, W. Harmon. "Outcomes of Socio-Business Economic Education," Socio-Business Economic Education. Forty-first Yearbook of The Eastern Business Teachers Association. Somerville, New Jersey: Somerset Press, 1968.

Articles

Damon, Edward. "Consumer Education Rides Again." Clearinghouse, XL (March, 1966), 391.

Fortune, November, 1952, XLVI, No. 5, 135.

Funston, Keith. "Economic Illiteracy, Unsolved Problem of American Education." The Balance Sheet, XIV (May, 1960), 389.

Jelley, Herbert M. "New Developments in Teaching Consumer Education." Business Education Forum, XXII (March, 1968), 8.

Maynes, E. Scott. "The Payoff for Intelligent Consumer Decision-Making." Journal of Home Economics, LXI, No. 2 (February, 1969), 97.

Peterson, Esther. "Things Go Better With Consumer Education" The PTA Magazine, XL (May, 1966), 9.

Doty, Roy A., and Wald, Robert M. "The Top Executive--A Firsthand Profile." Harvard Business Review, XXXII (July-August, 1954), 47.

Unpublished Materials

Bernardi, Ray Dee. "The Collegiate Course in Personal Finance: Measurement of Learning Accomplished by Selected College Students." Unpublished Ph.D. dissertation, University of Oklahoma, 1969.

Blair, Laura Bryan. "A Comparison of Personal-Business Knowledges and Understandings of Tenth-Grade Vocational and Non-Vocational Students." Unpublished Ed.D. dissertation, Oklahoma University, 1971.

Cooke, Blaine McLyman. "Economic Education in Industry." Unpublished Ph.D. dissertation, University of Minnesota, 1954.

Forkner, Irvine H. "An Achievement Test of Personal-Business Knowledges and Understandings." Unpublished Ph.D. dissertation, Teachers College, Columbia University, 1963.

Hall, E. Carl. "Selected Areas of Personal Economics Conceptually Defined." Unpublished Ed.D. dissertation, University of Oklahoma, 1964.

Jelley, Herbert M. "A Measurement and Interpretation of Money Management Understandings of Twelfth-Grade Students." Unpublished E.D. dissertation, University of Cincinnati Teachers College, 1958.

Kell, Vennetta Bynum. "An Instrument for the Evaluation of Understandings in Family Finance." Unpublished Ed.D. dissertation, University of Oklahoma, 1961.

Knapp, Charles W. "A Test to Determine Certain Consumer Knowledges and Concepts Possessed by College Students at Macalester College." Unpublished Master's Thesis, University of Minnesota, 1952.

Ogden, Russell Lee. "The Construction and Standardization of Achievement Test Designed to Measure Personal Financial Knowledges, Understandings, and Applications Possessed by Selected College Students." Unpublished Ed.D. dissertation, Colorado State College, 1964.

Peters, Robert M. "Some Factors Related to Achievement of Personal-Business Knowledges and Unverstandings of High School Students." Unpublished Ph.D. dissertation, University of Minnesota, 1965.

Taylor, Richard Blair. "Money Management Practices and Attitudes of Married University Students." Unpublished Ed.D. dissertation, University of Oklahoma, 1964.

Young, Joseph Hooker. "The Relationship Between Variation of Opinion on Selected Economic Issues and Certain Personal Factors Among Some of the Members of Four Occupational Groups in the State of Florida in 1949." Unpublished Ph.D. dissertation, Indiana University, 1953, cited by Dissertation Abstracts, p. 1021.

Other Sources

Campbell, Sally R., and Consumer Information Services of Sears, Roebuck and Company. Consumer Education in an Age of Adaptation. Chicago: Sears, Roebuck and Company, 1971, pp. 11-19, 30-39, 56-66, 67-73.

Dun and Bradstreet Reference Book. New York: Dun and Bradstreet, Inc., Vol. 503.

Furness, Betty. The New Approach to Consumer Education, Proceedings of the First Regional Conference on Consumer Education. Albany, New York: The University of the State of New York, the State Education Department Curriculum Development Center, 1968, p. 23.

Institute of Life Insurance. Making the Most of Your Money: Lessons in Consumer Education for Adults. New York: Educational Division, Institute of Life Insurance, 1971.

Joint Council on Economic Education. Test of Understandings in Personal Economics: Interpretative Manual and Discussion Guide. New York: Joint Council on Economic Education, 1971, p. 1.

Money Management Institute. Your Guide for Teaching Money Management. Chicago: Household Finance Corporation, 1970, p. i.

Natella, Arthur A. The New Approach to Consumer Education, Proceedings of the First Regional Conference on Consumer Education. Albany, New York: The University of the State of New York, the State Education Department Curriculum Development Center, 1968, p. 2.

Oklahoma Bankers Association. Teacher's Guide to Banking. Oklahoma City: Young Executives Committee of the Oklahoma Bankers Association, 1970.

Overman, Glenn D. Economic Concepts Everyone Should Know. Monograph 95. Cincinnati: South-Western Publishing Company, 1954, pp. 3-4.

Policies Commission for Business and Economic Education. This We Believe About the Role of Business Education in Consumer Education. Washington, D.C.: National Business Education Association, March, 1973.

APPENDIX A

DATA COLLECTION MATERIALS

Exhibit 1

POST CARD REMINDER COMMUNICATION

This reminder is being mailed to all companies participating in the family finance research. If you have overlooked the collection and mailing of the examinations, may I urge you to give attention to this matter within the next day or two.

If you have mailed your packet, please accept my sincere thanks. Your cooperation is important to vital research which will help LeTourneau College and the community. Thank you again for your participation.

O. M. Wellman
Professor

Exhibit 2

LETTER REMINDER COMMUNICATION*

I appreciated your sharing of valuable time with me during my recent visit with you. Your offer to help me was encouraging. Forty-four companies in the finance, retail-wholesale, and manufacturing categories have forwarded their examinations to me as of this date.

Some of the retail-wholesale group have not returned their packets. This reminder letter has been mailed to all participating retail-wholesale companies, since I have no way of knowing which particular companies have not responded.

You may have already mailed your examination packets. If you have done so, accept my sincere thanks. If you have not yet mailed your packet of examinations, please return them to me as soon as possible.

When I have received the examinations from the participating companies, I can send to you the code numbers and performance scores of all Longview personnel who took the examinations.

I sincerely want the research to be of great help and use to the employees and managers of Longview. Again, I congratulate the business community of Longview, who portray such a cooperative and progressive spirit by participating in this research project.

Cordially,

O. M. Wellman
Professor

*This letter was also mailed to manufacturing companies--the word "manufacturing" was substituted for the words "retail-wholesale."

Exhibit 3

INSTRUCTION STATEMENT

Your cooperation in developing important research in the area of family finance understandings by company employees and managers in Longview will be used as the basis for a research project at The University of Oklahoma. The term, family finance, means an understanding of budgeting, wise buying, wise use of goods and time, using bank facilities, consumer credit, thrift, insurance and pensions, housing, legal information, tax forms, and vocational information.

Inflation is on the minds of everyone and a knowledge of family finance is an approach to help overcome the inflation problem for the American home. Intelligent household money management is vital for the free enterprise system. For business this research has significance in the fact that business managers are counselors, both formally and informally, to nonmanagement employees.

Thus, the study will benefit the Longview community and LeTourneau College. On the basis of the examination results, I will make recommendations that may be used by educators to improve understandings of family finance in Longview.

Answer the information blank as accurately as possible. You are asked to take no more than 50 minutes for the examination. Place both the test and the information blank in the envelope provided. Please seal the envelope. The manager will mail all of the examinations of employees and managers to me in an envelope provided for that purpose.

The test papers will be coded so that I will not know the name of the person or the specific companies participating in the research project. Your employer will not know your score. No company or person will be identified in the research writing. For example, I will know I have examined retail companies, banks, or manufacturing companies, but I will not know which retail company, bank, or manufacturing company, or the scores of the persons in those companies who took the examination.

Please remember your code number so that you can later compare your score with a list of coded scores of Longview personnel who took the examination.

Thank you for participating in this research project and for providing information that may be used by educators to help employees and managers in Longview to improve their family finance understandings.

O. M. Wellman
Professor

Exhibit 4

DATA SHEET

INFORMATION BLANK (Code_____) Complete the following: Age_____Sex____

Number employed by company_____Number of years employed by company_____
How long in present position_____.
Education: (Check highest level attained) Grade School___High School___
College___College Graduate___
Type of company: (Check one) Retailing_____Finance_____Manufacturing___

If your company is in a retailing classification, check one of the following:

Variety store____	Department store (chain)____
Furniture store____	Drug store (departmentalized)____
Supermarket ____	Women's clothing store (departmentalized)____
Automobile dealer sales____	Men's clothing store (departmentalized)____
Public service retail____	Auto supply and other (departmentalized)____
Lumber company and store____	Other (identify)_____

If your company is in a finance company classification, check one of the following:

Bank____	Insurance agency (life)____
Savings and loan____	Insurance agency (casualty)____
Consumer loan (personal finance)____	Insurance agency (life and casualty)____
Real estate____	Investment broker____
Credit Union____	Other (identify)_____
Mortgage company____	

If your company is in a manufacturing classification, check here____

Check one: I am an executive, administrator, manager, or supervisor.
YES_____ NO_____
If you answered "NO" to the above question, give the title of your position as an employee_____
If you answered "YES," read the following classification as to whether you are top, middle, or supervisory management:

TOP management refers to any one of the following: (Examples)
President Vice president of major activities Plant or store manager
Owner or partner Chief or senior executive

MIDDLE management refers to those who are accountable to top management: (Examples)

Assistant store manager	Division head
Assistant finance manager	Major activity department head
Assistant plant manager	Junior executive
Superintendent	Works manager
Office manager	Production control superintendent
Head of traffic	Senior executive who heads up major activities
Purchasing agent	General supervisor in charge of other supervisors
Department store buyer	General foremen who supervise other foremen

DATA SHEET--Continued

SUPERVISORY management refers to those who represent the connecting link between employees and middle management: (Examples)
Foremen Retail department head
Supervisors who report to and are accountable to middle management

After you have read the above categories concerning top, middle, and supervisory management, decide which category you represent and check one item that best describes your position:
Top management____Middle management____Supervisory management____

Title of position_____

Exhibit 5

THE FORKNER PERSONAL-BUSINESS
ACHIEVEMENT TEST--FORM A

Directions: Read each item completely and decide which choice best completes the statement or answers the question. When you have decided which answer is best, circle the number corresponding to your choice. That is, if you think choice 2 is the best answer to test item 1, circle number 2. Circle one answer only for each question.

Your score will be the number of right answers, so it will be to your advantage to answer every question, even if you are not sure of the right answer.

1. According to law, the manufacturer's label on a sweater must include information about
   1. the size and color.
   2. methods of cleaning and care.
   3. shrinkage such as "Sanforized."
   4. the kinds of combinations of fibers.

2. In order for a written contract to be legally enforceable, which of the following must be included?
   1. The names of the parties entering the agreement.
   2. Evidence of legal ownership by the seller.
   3. A guarantee on the goods to be sold.
   4. The credit rating of the buyer.

3. A credit rating is best defined as
   1. the means by which something of value is obtained with the promise to pay for it in the future.
   2. a person's reputation for honesty and dependability that shows he will pay his debts when due.
   3. the amount of money a person is able to earn that shows whether he can pay his debts in the future.
   4. the amount of assets a person has that shows his ability to pay his debts when due.

4. John does not have a checking account. He wishes to order $30 worth of merchandise from a mail order store which requires cash before shipment. Which one of the following ways is the most suitable for John to send the cash?
   1. Traveler's check
   2. Currency
   3. Counter check
   4. Bank money order

5. When being interviewed for a job, a person should
   1. never ask about salary.
   2. let the interviewer guide the discussion.
   3. be willing to accept any job offered him.
   4. bring up personal problems as reasons for being hired.

6. It would be best for one to seek advice in which one of the following situations?
   1. Before one signs an installment contract for a $3,000 automobile.
   2. Before one buys a $10,000 life insurance policy.
   3. When one is planning to draw up his will.
   4. When one has been involved in an automobile accident for which he has insurance.

USE THE FOLLOWING INFORMATION TO ANSWER QUESTIONS 7 AND 8:

John's parents give him $2.50 allowance each week, and he usually earns $5.00 each week, although sometimes he earns as much as $2.00 extra on his part-time job. He prepared the following weekly budget for his own use.

Estimated Income		Estimated Expenditures	
Allowance	$2.50	Savings	$ .50
Part-time work	5.00	School needs	1.00
		School lunches	2.00
		Personal needs	1.00
		Donations	.50
		Snacks and fun	2.50
Total	$7.50	Total	$7.50

7. Would John's budget be considered good or poor? Why?
   1. Good because he allowed one-third for entertainment.
   2. Good because he included only his regular income.
   3. Poor because he forced his expenses to equal his income.
   4. Poor because he planned to save less than 10% of his income.

8. After keeping his budget for several months, John found that his actual expenses in some of the budget categories were greater and some were smaller than the amounts he had budgeted. What should he do about his budget now?
   1. Revise his budget using income and expense records as a guide.
   2. Make a completely new budget that includes his extra income.
   3. Change his spending habits so that his actual expenses will be the same as his budgeted expenses.
   4. Stop keeping his budget because such planning seldom can be followed.

9. It would be economically wise to buy a home rather than rent when
   1. money can be borrowed to make the down payment.
   2. the budget allowance for housing must be increased.
   3. the future in terms of income and position appears secure.
   4. rents are slightly higher than mortgage payments.

10. One of the major occupational changes in the United States since 1950 is that job opportunities have increased for
    1. skilled farm workers.
    2. skilled office workers.
    3. workers with general rather than special training.
    4. workers who have dropped out of school.

11. Before shopping, Mrs. Jones compared her weekly grocery list with various newspaper advertisements. She found that Store A advertised her favorite brand of coffee reduced from 79¢ to 69¢ per pound. Store B is small and does not advertise. Store C advertised several items on her list at a savings of 2 or 3 cents on each item. Store D advertised double Green Stamps given with each purchase but prices seemed only slightly higher. In which store would Mrs. Jones be most likely to save money? Why?
    1. Store A because the saving on coffee is a good indication of savings on other groceries.
    2. Store B because prices might be lower since it does not advertise.
    3. Store C because of the known savings of several of the items on her list.
    4. Store D because the extra stamps she would receive would more than make up for the slightly higher prices.

12. Which of the following is a service offered by commercial banks to individuals?
    1. Lend money to help them pay for such things as furniture and automobiles.
    2. Issue postal money orders to help them pay their bills by mail.
    3. Cash personal checks for those who do not have an account in that bank.
    4. Accept money for deposit in other banks.

13. Mrs. Wills paid $50 down on a new electric dishwasher and signed an installment contract for the balance. The dealer's warranty covered all parts and labor for one year. Two months later the motor stopped. Mrs. Wills called the dealer and he said, "I am not responsible for the repair or replacement of the motor." Mrs. Wills should now have the machine repaired and
    1. pay for the repairs herself.
    2. stop making her monthly installment payments.
    3. tell all her friends about the poor service she received.
    4. deduct the cost of the repairs from her monthly payments.

14. What is a deed?
    1. Written evidence of ownership of real property.
    2. Written evidence of clear title to real property.
    3. A contract of sale of real property.
    4. A contract for a loan to purchase real property.

15. Mr. Harrison died when his wife was 48 years old. He was fully covered by social security and has $20,000 of life insurance. Which one of the following plans would be the most advantageous to Mrs. Harrison?
    1. Arrange for a lump sum settlement of the life insurance and life income settlement of the social security benefits, starting immediately.
    2. Arrange for a lump sum settlement of the social security benefits, and a life income settlement of the life insurance, starting immediately.
    3. Arrange for a life income settlement from both, the life insurance starting immediately and the social security starting at her age 62.
    4. Arrange for a life income settlement from both, the social security starting immediately and the life insurance starting at her age 62.

16. When interest earnings are added to savings deposits and future interest payments are made on both the deposits and accumulated interest, it is called
    1. accumulating interest.
    2. add-on interest.
    3. installment interest.
    4. compound interest.

17. A good investment is one that
    1. has a long dividend record and is in an old established company.
    2. earns a fair return, is safe, and is readily marketable.
    3. is listed on various stock exchanges, and is in a business that is highly competitive.
    4. has a high growth potential and has low marketability.

18. Which of the following advertising slogans is misleading?
    1. "Progress is our most important product."
    2. "Four out of five doctors recommend."
    3. "The pause that refreshes."
    4. "Better living through chemistry."

19. One good reason for keeping a budget is that it tends to
    1. increase one's money income.
    2. increase one's standard of living.
    3. decrease one's economic necessities.
    4. decrease one's fixed expenses.

20. Mary worked part-time during the 10-month school year and earned $540. Each month her employer deducted a certain amount for federal income tax withholding. Which one of the following should Mary do at the end of the year?
    1. Nothing. She earned less than $600 in one year, therefore she does not have to pay any income taxes.
    2. Tell her parents to include her earnings and taxes withheld on their income tax return.

3. Leave the amount on deposit with the Internal Revenue Service to reduce the amount of taxes she may pay in the future.
4. File an income tax return to the Internal Revenue Service and ask for a refund.

21. According to many employers, the major reason most people lose their jobs is their lack of skill in
1. human relations.
2. reading and spelling.
3. mathematics.
4. job techniques.

22. Which one of the following would be the best source of information about the educational requirements, duties, and salaries for different kinds of jobs?
1. Help wanted ads.
2. Personnel directors.
3. Private employment agencies.
4. Dictionary of Occupational Titles.

23. An open account permits a customer to
1. buy goods and to pay for them with regular payments over a period of time
2. select goods that are put aside by the merchant and held until the goods are paid for by regular weekly payments.
3. show his credit card when making a purchase, sign a sales slip, and to pay for the purchase at the end of the month.
4. open a charge account in any store by merely showing his charge-a-plate.

24. A properly kept check stub record will
1. provide legal proof that a bill has been paid.
2. give a complete record of income and expenses.
3. provide legal proof that a deposit has been made.
4. indicate the approximate amount of money in the account.

25. The Smiths have recently completed paying for a 5-year-old car. They think it is time to buy a new car which they can do by trading in their old car and paying $65 per month for 30 months. Their budget allowance for transportation is $80 per month. Should the Smiths buy the new car?
1. Yes because they can budget for the monthly payments.
2. Yes because their old car is completely paid for.
3. No because they will not get enough trade-in value for their old car.
4. No because they would be unable to afford insurance, maintenance and gasoline.

26. Last year Mr. Smith had an adjusted gross income of $6,000. His records show the following:

Interest on the mortgage on his home	$600
State income tax	80
Medical expenses	200
Church donations	150
Gift to his mother	300

Mr. Smith found the following Federal Income Tax regulations:

Deductions Allowable	Deductions Not Allowable
Interest on debts	Gifts to political parties
State and local taxes	Social Security taxes
Medical expenses in excess of 3% of adjusted gross income	Federal excise taxes
	Gifts to individuals
Charitable and religious contributions	

Based on Mr. Smith's records and the Federal Income Tax Regulations shown above, what is the total deduction he may claim on his federal income tax return?

1. $850
2. $960
3. $1000
4. $1230

27. If a person purchases 100 shares of stock in Company A and a $1,000 bond in Company B, what is his relationship with each company?
    1. He is a part owner of both Company A and Company B.
    2. Both Company A and Company B owe him money.
    3. He is part owner of Company A and Company B owes him money.
    4. He is a part owner of Company B and Company A owes him money.

28. A time budget is a plan to help
    1. budget one's weekly or monthly pay check.
    2. use one's work and leisure hours effectively.
    3. decide when one can afford to buy something on credit.
    4. pay one's monthly bills on time.

29. Joan took a test that was designed to help her discover what kinds of activities she likes most. What is this type of test commonly called?
    1. An achievement test.
    2. A personality test.
    3. An interest inventory.
    4. A vocational inventory.

30. If a person owns a car and carries public liability insurance, that insurance protects him
    1. from claims resulting from injuries to other people by his car.
    2. from claims resulting from damage to another car by his car.
    3. by paying medical expenses in case he or his passengers are injured while in his car.
    4. by paying for repairs to his car if it has been damaged by another car.

31. Before buying a new TV set, John wants to find out the make and model that will give him the best service at the price he can afford to pay. Which of the following is most likely to give him the most reliable information?

1. Consumer Reports or Consumer Bulletin.
2. Advertising in newspapers and magazines.
3. Sales clerks and the experience of his friends.
4. The National Bureau of Standards or the Federal Trade Commission.

32. Mr. French has a good job with a secure future and is paying $90 per month for rent. His budget allowance for housing is $90 and cannot be increased. He has $1,000 in his savings account. He has found a new home that can be purchased for $1,000 down and mortgage payments of $90 per month. Would he be wise to buy the new home or to continue to rent? Why?
    1. Buy because he can make a large down payment.
    2. Buy because his future income will be steady.
    3. Rent because his housing budget will meet only the mortgage payments.
    4. Rent because $1,000 is too large an investment to make all at once.

33. SELECTION OF YOUR INDIVIDUAL INCOME TAX FORM

Form	Adjusted Gross Income	Method of Computation
1040A	$5,000 or less	Tax table
1040A	$5,000 to $10,000	Standard Deduction (10% of gross income)
1040	Any income	Itemize deductions

    Mr. Jones' adjusted gross income for the year equals $6,000. His deductions total $725. To provide himself with the greatest tax savings, which tax form should he use and what would be the best way for determining the amount of his tax?
    1. Form 1040A, standard deduction.
    2. Form 1040, tax table.
    3. Form 1040, standard deduction.
    4. Form 1040, itemize deductions.

34. While reconciling his monthly bank balance, John found he had outstanding checks of $35.00 and a monthly service charge of $2.00. Which of the following procedures should John use to complete his reconciliation correctly?
    1. Subtract $35.00 from the bank statement balance and add $2.00 to his check stub balance.
    2. Subtract $35.00 from his bank statement balance and subtract $2.00 from his check stub balance.
    3. Add $35.00 to the bank statement balance and add $2.00 to his check stub balance.
    4. Add $35.00 to the bank statement balance and subtract $2.00 from his check stub balance.

35. If a person purchased a refrigerator on credit and was unable to pay his debt, the store to whom he owed the money may
    1. order a deficiency judgement.
    2. invoke the statute of limitations.
    3. obtain an attachment on some of his property.
    4. charge compound interest on the amount owed.

36. The money that is exchanged to make a contract legally binding is called the
    1. offer.
    2. lien.
    3. garnishment.
    4. consideration

37. One advantage to a person buying on credit is that he often
    1. saves money.
    2. buys impulsively.
    3. gets better service.
    4. buys only what he needs.

38. In planning a budget, which of the following is considered a fixed expense?
    1. Insurance.
    2. Utilities.
    3. Clothing.
    4. Food.

39. MONTHLY SOCIAL SECURITY BENEFITS

If average monthly earnings were	$300.00	$400.00
Retired worker at age 65	$105.00	$127.00
Worker's wife is 65 or over	52.50	63.50
Widow with children under age 18	78.80	95.30
One child under 18	78.80	95.30
Each additional child under 18	78.80	63.50

*The maximum allowance for any family is $254 per month.

Mr. Wilson and his wife are both 65 and are fully covered by social security. His average monthly earnings have been $400 and her average monthly earnings have been $300. Based upon the table shown above, what monthly retirement income would the Wilsons receive from Social Security?
    1. $127.00
    2. $179.50
    3. $190.50
    4. $232.00

40. A period of inflation would cause the most financial stress to which of these groups?
    1. Wage earners.
    2. Retired workers.
    3. Salaried employees.
    4. Professional people.

41. After completing the correct steps to reconcile his bank balance, John found the check stub record and the bank statement were still not in balance. What should he do now?
    1. Check the accuracy of the arithmetic on the bank statement.
    2. Compare the amounts deposited with those shown on the bank statement.

3. Compare the amounts on the canceled checks with those shown on the bank statement.
4. Take the check stub record, canceled checks, and bank statement to the bank for help.

42. A person can borrow $120 from his bank at 8% interest annually and repay the loan in six monthly installments. Which of the following would be the easiest and correct way to determine the dollar cost of that loan?

1. Divide $120 by 6 months and multiply that answer by .08.
2. Divide $120 by .08 and divide that answer by 2.
3. Multiply $120 by .08 and divide that answer by 2.
4. Multiply $120 by .08 and divide that answer by 6 months.

43. Tom is married and has one small child. He purchased his home 5 years ago on a 30-year mortgage. He own $5,000 of life insurance. He has an opportunity to invest $20 a month in the common stock of a good electronics firm. He investigated and found the firm to be in excellent financial condition. In this situation, would this be a good or poor investment? Why?
1. Good because electronics firms have a history of rapid growth.
2. Good because he investigated before he decided to invest.
3. Poor because he has not completely paid for his home.
4. Poor because he has not provided adequate insurance protection for his dependents.

44. The Better Business Bureau is an agency of
1. the federal government that works to increase business profits.
2. the federal government that works to protect consumers.
3. private business that works to increase business profits.
4. private business that works to protect consumers.

45. Before deciding to buy a new sweater, the first factor considered by one who uses good buying habits is the
1. price one can afford to pay.
2. clothing one already owns.
3. quality of the material.
4. type of material.

46. Mr. Able, age 30 and single, is interested in providing himself additional retirement income when he reaches 65. If he were to pay $35 per month, which one of the following policies would provide him the greatest amount of retirement income?
1. Term to 65.
2. Life-paid-up at 65.
3. Endowment at 65.
4. Annuity at 65.

47. Mr. Johnson is married, age 40, has a good job, and a good insurance program. During the next 25 years, he wants to build a retirement fund that will have a purchasing power equal to or greater than the dollars he invests over the 25-year period. Which one of the following types of investments will most likely provide the retirement fund he desires?
    1. Blue Chip stocks because their market value tends to increase as the economy grows.
    2. Corporate bonds because they provide good interest income and a fixed-dollar return.
    3. Preferred stocks because their dividends will provide a guaranteed income.
    4. Municipal bonds because their interest is not taxable and will provide a higher net income at the present time.

48. Mrs. Wells wants to buy a new washing machine. She has investigated and found that Brand A is "recommended" by Consumers' Research, Inc., while Brand B has the Good Housekeeping Seal. These machines sell for the same price and have the same warranty. Which washing machine, if any, should Mrs. Wells buy? Why?
    1. Either A or B because the Good Housekeeping Seal and the Consumers' Research recommendation are of equal value.
    2. Machine A because the Consumers' Research company tests products more thoroughly than does Good Housekeeping.
    3. Machine B because the Good Housekeeping Seal is a guaranty of the quality of the product.
    4. Neither A or B because the Good Housekeeping Seal and the Consumers' Research recommendation are only advertising practices.

49. Over a 20-year period, does a 5-year term or a whole-life insurance policy have the highest net cost? Why?
    1. Term because there is no cash value.
    2. Term because the premiums increase each 5 years.
    3. Whole life because of the high cash value.
    4. Whole life because the premiums are higher.

50. Which one of these taxes usually takes a larger portion of income from low income groups than from high income groups.
    1. Personal income taxes.
    2. Sales taxes.
    3. Property taxes.
    4. Excise taxes.

APPENDIX B

STATISTICAL INFORMATION

Exhibit 1

STATISTICAL FORMULA FOR THE "Z" TEST

The following statistical formula for the "z" test was utilized to verify the "t" test results.[1]

1. $SD_{\bar{x}} = \sqrt{S_{\bar{x}_1}^2 + S_{\bar{x}_2}^2}$, the standard error of the difference between two means for uncorrelated data.

2. $S_{\bar{x}_1}$; $S_{\bar{x}_2}$ = the standard errors of each mean.

3. $S_{\bar{x}_1} = \frac{S_1}{\sqrt{N_1 - 1}}$; $S_{\bar{x}_2} = \frac{S_2}{\sqrt{N_2 - 1}}$

4. S_1 = Standard deviation of distribution 1

   S_2 = Standard deviation of distribution 2

5. $\bar{x}_1$, $\bar{x}_2$ are the means of distribution 1 and distribution 2

6. $D_{\bar{x}} = \bar{x}_1 - \bar{x}_2$

7. Incorporate $D_{\bar{x}}$ and $SD_{\bar{x}}$ into standard score units as follows:

   $$z = \frac{D_{\bar{x}}}{SD_{\bar{x}}}$$

Downie and Heath's table for evaluation of the "z" test for actual and critical values was used in this study.[2]

---

[1] N. M. Downie and R. W. Heath, Basic Statistical Methods (New York: Harper and Row, 1970), pp. 171-72.

[2] Ibid., pp. 302-9.

Exhibit 2

COMPARISON OF THE "T" TEST AND "Z" TEST EVALUATIONS
OF THE ACTUAL AND CRITICAL VALUES
FOR HYPOTHESES 2-21

Hypothesis 2 (.05 level)
μ (Composite All Managers) > μ (Composite All Nonmanagers)
N = 129 N = 122
t actual 3.577 > t critical 1.65; df = 249
z actual 3.565 > z critical 1.645; thus the hypothesis was supported.

Hypothesis 3 (.05 level)
μ (All Finance Managers) > μ (All Finance Nonmanagers)
N = 41 N = 40
t actual 2.756 > t critical 1.66; df = 79
z actual 2.722 > z critical 1.645; thus the hypothesis was supported.

Hypothesis 4 (.05 level)
μ (All Retail Managers) > μ (All Retail Nonmanagers)
N = 41 N = 40
t actual 1.499 < t critical 1.66; df = 79
z actual 1.484 < z critical 1.645; thus the hypothesis was not supported.

Hypothesis 5 (.05 level)
μ (All Manufacturing Managers) > μ (All Manufacturing Nonmanagers)
N = 47 N = 42
t actual 2.094 > t critical 1.66; df = 87
z actual 2.052 > z critical 1.645; thus the hypothesis was supported.

Hypothesis 6 (.05 level)
μ (All Finance Managers) = μ (All Retail Managers)
N = 41 N = 41
t actual 3.466 > t critical 1.99; df = 80
z actual 3.423 > z critical 1.96; thus the null hypothesis was rejected.

Hypothesis 7 (.05 level)
μ (All Finance Managers) = μ (All Manufacturing Managers)
N = 41 N = 47
t actual 2.581 > t critical 1.99; df = 86
z actual 2.526 > z critical 1.96; thus the null hypothesis was rejected.

Hypothesis 8 (.05 level)
μ (All Retail Managers) = μ (All Manufacturing Managers)
N = 41 N = 47
t actual 1.25 < t critical 1.99; df = 86
z actual 1.224 < z critical 1.96; thus the null hypothesis was accepted.

Hypothesis 9 (.05 level)
μ (All Finance Nonmanagers) = μ (All Retail Nonmanagers)
N = 40 N = 40
t actual 2.163 > t critical 1.99; df = 78
z actual 2.136 > z critical 1.96; thus the null hypothesis was rejected.

Hypothesis 10 (.05 level)
μ (All Finance Nonmanagers) = μ (All Manufacturing Nonmanagers)
N = 40 N = 42
t actual 1.406 < t critical 1.99; df = 80
z actual 1.389 < z critical 1.96; thus the null hypothesis was accepted.

Hypothesis 11 (.05 level)
μ (All Retail Nonmanagers) = μ (All Manufacturing Nonmanagers)
N = 40 N = 42
t actual 0.656 < t critical 1.99; df = 80
z actual 0.650 < z critical 1.96; thus the null hypothesis was accepted.

Hypothesis 12 (.05 level)
μ (All Top Managers) > μ (All Middle Managers)
N = 52 N = 50
t actual 3.637 > t critical 1.66; df = 100
z actual 3.578 > z critical 1.645; thus the hypothesis was supported.

Hypothesis 13 (.05 level)
μ (All Top Managers) > μ (All Supervisory Managers)
N = 52 N = 27
t actual 5.903 > t critical 1.66; df = 77
z actual 5.496 > z critical 1.645; thus the hypothesis was supported.

Hypothesis 14 (.05 level)
μ (All Middle Managers) > μ (All Supervisory Managers)
N = 50 N = 27
t actual 1.988 > t critical 1.67; df = 75
z actual 2.051 > z critical 1.645; thus the hypothesis was supported.

Hypothesis 15 (.05 level)
μ (All Managers-College Graduates) > μ (All Managers-Some College)
N = 40 N = 44
t actual 1.283 < t critical 1.66; df = 82
z actual 1.257 < z critical 1.645; thus the hypothesis was not supported.

Hypothesis 16 (.05 level)
μ (All Managers-College Graduates) > μ (All Managers-High School)
N = 40 N = 42
t actual 4.578 > t critical 1.66; df = 80
z actual 4.536 > z critical 1.645; thus the hypothesis was supported.

Hypothesis 17 (.05 level)
μ (All Managers-Some College) > μ (All Managers-High School)
N = 44 N = 42
t actual 3.849 > t critical 1.66; df = 84
z actual 3.777 > z critical 1.645; thus the hypothesis was supported.

Hypothesis 18 (.05 level)
μ (All Managers-Some College) > μ (All Nonmanagers-Some College)
N = 44 N = 53
t actual 3.839 > t critical 1.66; df = 95
z actual 3.873 > z critical 1.645; thus the hypothesis was supported.

Hypothesis 19 (.05 level)
μ (All Managers-High School) > μ (All Nonmanagers-High School)
N = 42 N = 53
t actual 0.354 < t critical 1.66; df = 93
z actual 0.351 < z critical 1.645; thus the hypothesis was not supported.

Hypothesis 20 (.05 level)
μ (All Nonmanagers-Some College) > μ (All Nonmanagers-High School)
N = 53 N = 53
t actual 0.776 < t critical 1.66; df = 104
z actual 0.769 < z critical 1.645; thus the hypothesis was not supported.

Hypothesis 21 (.05 level)
μ (Finance Managers-Small Companies) > μ (Finance Nonmanagers-Small Companies)
N = 17 N = 15
t actual 0.381 < t critical 1.70; df = 30
z actual 0.358 < z critical 1.645; thus the hypothesis was not supported.

Exhibit 3

ADDITIONAL STATISTICAL DATA: NONMANAGERS, COLLEGE GRADUATES BY OCCUPATION

Finance Nonmanagers, College Graduates, by Occupation:

Clerical Assistant to Manager
Management Trainee
Secretary
Solicitor--Life Insurance Company
Unidentified

Retail Nonmanagers, College Graduates, by Occupation:

Sales Clerk
Secretary (to President)
General Clerk (Senior Clerk)

Manufacturing Nonmanagers, College Graduates, by Occupation:

Chemical Engineer
Clerk (Coordinator)
Salesman (Field Sales Representative)
Machine Operator
Project Engineer
Production Worker
Temporarily Working as a Machinist While Waiting for an Assured Management Job

TABLE B-1

STANDARD DEVIATION DATA FOR HYPOTHESES
CATEGORIES 2 THROUGH 21

Category	Standard Deviation
Composite All Managers	6.331
Composite All Nonmanagers	6.201
All Finance Managers	6.374
All Finance Nonmanagers	6.468
All Retail Managers	6.309
All Retail Nonmanagers	5.371
All Manufacturing Managers	5.534
All Manufacturing Nonmanagers	6.481
All Top Managers	4.771
All Middle Managers	6.610
All Supervisory Managers	5.672
All Managers--College Graduates	5.551
All Managers--Some College	4.658
All Managers--High School	6.294
All Nonmanagers--Some College	5.726
All Nonmanagers--High School	6.510
Finance Managers--Small Companies	4.168
Finance Nonmanagers--Small Companies	6.605

TABLE B-2

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR COMPOSITE ALL MANAGERS (N=129)

Raw Score	Frequency	Raw Score	Frequency
45	1	30	8
42	2	29	9
41	4	28	2
40	6	27	4
39	6	26	5
38	9	25	3
37	4	24	7
36	9	23	2
35	7	22	2
34	10	21	2
33	8	16	3
32	9	14	1
31	5	13	1

TABLE B-3

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR COMPOSITE ALL NONMANAGERS (N-122)

Raw Score	Frequency	Raw Score	Frequency
45	1	28	4
44	1	27	7
42	1	26	9
41	1	25	2
39	3	24	3
38	2	23	4
37	4	22	1
36	4	21	5
35	5	20	5
34	5	19	4
33	6	18	1
32	6	17	1
31	15	16	1
30	10	14	2
29	9		

TABLE B-4

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL FINANCE MANAGERS (N-41)

Raw Score	Frequency	Raw Score	Frequency
45	1	33	2
42	2	32	2
41	3	31	1
40	4	30	1
39	3	29	1
38	2	25	1
37	2	24	2
36	5	22	2
35	5	16	1
34	1		

TABLE B-5

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL FINANCE NONMANAGERS (N=40)

Raw Score	Frequency	Raw Score	Frequency
45	1	29	2
42	1	28	2
39	2	27	2
38	1	26	2
37	4	24	2
36	1	23	2
35	4	21	1
33	2	20	1
32	1	19	1
31	3	17	1
30	4		

TABLE B-6

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL RETAIL MANAGERS (N=41)

Raw Score	Frequency	Raw Score	Frequency
40	1	29	3
39	1	27	2
38	5	26	2
37	1	25	1
36	1	24	5
34	3	23	2
33	4	21	1
31	2	16	1
30	5	13	1

TABLE B-7

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL RETAIL NONMANAGERS (N-40)

Raw Score	Frequency	Raw Score	Frequency
39	1	27	3
36	1	26	4
35	1	25	1
34	1	23	2
33	3	21	2
32	4	20	2
31	2	19	1
30	3	18	1
29	6	14	1
28	1		

TABLE B-8

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL MANUFACTURING MANAGERS (N-47)

Raw Score	Frequency	Raw Score	Frequency
41	1	31	2
40	1	30	2
39	2	29	5
38	2	28	2
37	1	27	2
36	3	26	3
35	2	25	1
34	6	21	1
33	2	16	1
32	7	14	1

TABLE B-9

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL MANUFACTURING NONMANAGERS (N=42)

Raw Score	Frequency	Raw Score	Frequency
44	1	27	2
41	1	26	3
38	1	25	1
36	2	24	1
34	4	22	1
33	1	21	2
32	1	20	2
31	10	19	2
30	3	16	1
29	1	14	1
28	1		

TABLE B-10

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL TOP MANAGERS (N=52)

Raw Score	Frequency	Raw Score	Frequency
42	2	33	5
41	3	32	2
40	3	31	2
39	3	30	2
38	6	29	2
37	3	26	1
36	7	24	1
35	5	16	1
34	4		

TABLE B-11

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL MIDDLE MANAGERS (N=50)

Raw Score	Frequency	Raw Score	Frequency
45	1	30	3
41	1	29	4
40	2	28	1
39	3	27	2
38	2	26	2
37	1	25	2
36	2	24	4
35	2	23	2
34	5	21	1
33	2	14	1
32	4	13	1
31	2		

TABLE B-12

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL SUPERVISORY MANAGERS (N=27)

Raw Score	Frequency	Raw Score	Frequency
40	1	28	1
38	1	27	2
34	1	26	2
33	1	25	1
32	3	24	2
31	1	22	2
30	3	21	1
29	3	16	2

TABLE B-13

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL MANAGERS--COLLEGE GRADUATES (N=40)

Raw Score	Frequency	Raw Score	Frequency
45	1	33	2
41	3	32	2
40	3	31	2
39	2	30	1
38	4	29	2
37	3	24	1
36	4	21	1
35	3	16	1
34	5		

TABLE B-14

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL MANAGERS--SOME COLLEGE (N=44)

Raw Score	Frequency	Raw Score	Frequency
42	2	33	2
41	1	32	4
40	1	31	3
39	4	30	4
38	2	29	3
37	1	28	2
36	4	27	2
35	3	26	2
34	3	24	1

TABLE B-15

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL MANAGERS--HIGH SCHOOL (N=42)

Raw Score	Frequency	Raw Score	Frequency
40	2	27	2
38	3	26	2
36	1	25	3
35	1	24	5
34	2	23	2
33	4	22	2
32	3	21	1
30	3	14	1
29	4	13	1

TABLE B-16

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL NONMANAGERS--SOME COLLEGE (N=53)

Raw Score	Frequency	Raw Score	Frequency
45	1	28	2
39	1	27	3
37	2	26	5
36	2	25	1
35	2	24	1
34	1	23	3
33	4	21	1
32	4	20	1
31	5	19	1
30	5	14	2
29	6		

TABLE B-17

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL NONMANAGERS--HIGH SCHOOL (N=53)

Raw Score	Frequency	Raw Score	Frequency
42	1	28	2
41	1	27	4
39	1	26	4
38	1	25	1
37	2	24	1
36	1	23	1
35	2	22	1
34	3	21	3
33	1	20	3
32	2	19	3
31	8	18	1
30	1	17	1
29	3	16	1

TABLE B-18

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR FINANCE MANAGERS--SMALL COMPANIES (N-17)

Raw Score	Frequency	Raw Score	Frequency
40	1	33	2
39	2	32	1
38	1	30	2
37	3	29	1
35	1	28	1
34	1	27	1

TABLE B-19

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR FINANCE NONMANAGERS--SMALL COMPANIES (N=15)

Raw Score	Frequency	Raw Score	Frequency
43	1	33	3
40	1	32	1
38	2	24	1
37	1	23	1
36	2	19	1
34	1		

TABLE B-20

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL MALE MANAGERS (N=108)

Raw Score	Frequency	Raw Score	Frequency
45	1	31	4
42	2	30	7
41	4	29	8
40	4	28	2
39	5	27	4
38	7	26	5
37	4	25	1
36	8	24	7
35	5	21	2
34	9	16	3
33	7	14	1
32	7	13	1

TABLE B-21

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL FEMALE MANAGERS (N-21)

Raw Score	Frequency	Raw Score	Frequency
40	2	32	2
39	1	31	1
38	2	30	1
36	1	29	1
35	2	25	2
34	1	23	2
33	1	22	2

TABLE B-22

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL MALE NONMANAGERS (N=47)

Raw Score	Frequency	Raw Score	Frequency
45	1	30	3
44	1	29	3
42	1	27	3
39	2	26	2
38	1	23	1
36	1	22	1
35	1	21	1
34	3	19	2
33	2	18	1
32	5	16	1
31	10	14	1

TABLE B-23

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL FEMALE NONMANAGERS (N=75)

Raw Score	Frequency	Raw Score	Frequency
41	1	28	4
39	1	27	4
38	1	26	7
37	4	25	2
36	3	24	3
35	4	23	3
34	2	21	4
33	4	20	5
32	1	19	2
31	5	17	1
30	7	14	1
29	6		

TABLE B-24

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR FINANCE MANAGERS--TOP (N=27)

Raw Score	Frequency	Raw Score	Frequency
42	2	34	1
41	2	33	2
40	1	32	1
39	2	31	1
38	1	30	1
37	2	29	1
36	5	24	1
35	4		

TABLE B-25

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR RETAIL MANAGERS--TOP (N=12)

Raw Score	Frequency	Raw Score	Frequency
40	1	34	1
38	4	33	2
37	1	31	1
36	1	30	1

TABLE B-26

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR MANUFACTURING MANAGERS--TOP (N=13)

Raw Score	Frequency	Raw Score	Frequency
41	1	34	2
40	1	33	1
39	1	32	1
38	1	29	1
36	1	26	1
35	1	16	1

TABLE B-27

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR FINANCE MANAGERS--MIDDLE (N=8)

Raw Score	Frequency	Raw Score	Frequency
45	1	35	1
41	1	32	1
40	2	24	1
39	1		

TABLE B-28

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR RETAIL MANAGERS--MIDDLE (N=18)

Raw Score	Frequency	Raw Score	Frequency
39	1	26	1
38	1	25	1
34	2	24	3
33	1	23	2
31	1	21	1
30	2	13	1
29	1		

TABLE B-29

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR MANUFACTURING MANAGERS--MIDDLE (N=24)

Raw Score	Frequency	Raw Score	Frequency
39	1	31	1
38	1	30	1
37	1	29	3
36	2	28	1
35	1	27	2
34	3	26	1
33	1	25	1
32	3	14	1

TABLE B-30

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR FINANCE MANAGERS--SUPERVISORY (N=6)

Raw Score	Frequency	Raw Score	Frequency
40	1	22	2
38	1	16	1
25	1		

TABLE B-31

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR RETAIL MANAGERS--SUPERVISORY (N=11)

Raw Score	Frequency	Raw Score	Frequency
33	1	26	1
30	2	24	2
29	2	16	1
27	2		

TABLE B-32

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR MANUFACTURING MANAGERS--SUPERVISORY (N-10)

Raw Score	Frequency	Raw Score	Frequency
34	1	29	1
32	3	28	1
31	1	26	1
30	1	21	1

TABLE B-33

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL NONMANAGERS--COLLEGE GRADUATES (N=15)

Raw Score	Frequency	Raw Score	Frequency
44	1	33	1
39	1	31	2
38	1	30	4
36	1	24	1
35	1	21	1
34	1		

TABLE B-34

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL MANAGERS--GRADE SCHOOL (N=3)

Raw Score	Frequency	Raw Score	Frequency
26	1	16	2

TABLE B-35

FORKNER TEST RAW SCORES AND RAW SCORE FREQUENCIES
FOR ALL NONMANAGERS--GRADE SCHOOL (N=1)

Raw Score	Frequency
20	1

TABLE B-36

SUBCATEGORIES AND SAMPLE SIZES AND PER CENTS OF MANAGERS AND NONMANAGERS

Category	Size (N)	Per Cent
Managers by Educational Level		
All Managers		
College Graduates	40	31.0
Some College	44	34.0
High School	42	33.0
Grade School	3	2.0
	129	100.0
Finance Managers		
College Graduates	19	46.0
Some College	11	27.0
High School	11	27.0
	41	100.0
Retail Managers		
College Graduates	7	17.0
Some College	16	39.0
High School	17	42.0
Grade School	1	2.0
	41	100.0
Manufacturing Managers		
College Graduates	14	30.0
Some College	17	36.0
High School	14	30.0
Grade School	2	4.0
	47	100.0
Top Managers		
College Graduates	28	54.0
Some College	13	25.0
High School	10	19.0
Grade School	1	2.0
	52	100.0
Middle Managers		
College Graduates	9	18.0
Some College	21	42.0
High School	20	40.0
	50	100.0

TABLE B-36--Continued

Category	Size (N)	Per Cent
Supervisory Managers		
College Graduates	3	11.11
Some College	10	37.04
High School	12	44.44
Grade School	2	7.41
	27	100.00
Nonmanagers by Educational Level		
All Nonmanagers		
College Graduates	15	12.2
Some College	53	43.4
High School	53	43.4
Grade School	1	1.0
	122	100.0
Finance Nonmanagers		
College Graduates	5	12.5
Some College	19	47.5
High School	16	40.0
	40	100.0
Retail Nonmanagers		
College Graduates	3	7.5
Some College	24	60.0
High School	13	32.5
	40	100.0
Manufacturing Nonmanagers		
College Graduates	7	17.0
Some College	10	24.0
High School	24	57.0
Grade School	1	2.0
	42	100.0
Managers by Position		
All Managers		
Top	52	40.0
Middle	50	39.0
Supervisory	27	21.0
	129	100.0

TABLE B-36--Continued

Category	Size (N)	Per Cent
Finance Managers		
Top	27	65.9
Middle	8	19.5
Supervisory	6	14.6
	41	100.0
Retail Managers		
Top	12	29.0
Middle	18	44.0
Supervisory	11	27.0
	41	100.0
Manufacturing Managers		
Top	13	28.0
Middle	24	51.0
Supervisory	10	21.0
	47	100.0
Managers by Age		
Under age 20	1	1.0
Age 20-29	25	19.0
Age 30-39	38	30.0
Age 40-49	40	31.0
Age 50 and over	25	19.0
	129	100.0
Nonmanagers by Age		
Under age 20	5	4.0
Age 20-29	48	39.0
Age 30-39	33	27.0
Age 40-49	22	18.0
Age 50 and over	14	12.0
	122	100.0
Managers by Sex		
Male	108	84.0
Female	21	16.0
	129	100.0
Nonmanagers by Sex		
Male	47	39.0
Female	75	61.0
	122	100.0

TABLE B-37

FINANCE MANAGERS BY OCCUPATION

Position	No. of Managers Participating
President	4
Vice President	14
Treasurer	1
Secretary-Treasurer	2
Partner	5
Sales Manager	1
Divisional Sales Manager	1
Operations Manager	1
Office Manager	4
General Agent	1
District Manager	1
Loan Officer	2
Bookkeeper Supervisor	3
Unidentified	1

TABLE B-38

FINANCE NONMANAGERS BY OCCUPATION

Position	No. of Nonmanagers Participating
Secretary	7
Management Trainee	1
Receptionist	1
Teller	4
Cashier	3
Underwriter	3
Sales Representative	1
Insurance Solicitor	1
Clerical Assistant to Manager	8
Salesman	1
Clerk	3
Proofreader	2
Unidentified	1
Bookkeeper	3
Investment Broker	1

TABLE B-39

RETAIL MANAGERS BY OCCUPATION

Position	No. of Managers Participating
President	1
Store Manager	9
Assistant Store Manager	6
Division Manager	1
General Manager	2
Supervisor	13
Business Manager	1
Sales Manager	1
Accountant Manager	1
Security and Personnel	1
Service Manager	1
Unidentified	4

TABLE B-40

RETAIL NONMANAGERS BY OCCUPATION

Position	No. of Nonmanagers Participating
Secretary	4
Bookkeeper	2
General Clerk	4
Inventory Control Clerk	1
Office Clerk	1
Sales Clerk	4
Credit Clerk	1
Payroll Clerk	1
Salesman	5
Cashier	7
PBX Operator	3
Teletype Operator	1
Stockman	2
Management Trainee	2
Checker	1
Unidentified	1

TABLE B-41

MANUFACTURING MANAGERS BY OCCUPATION

Position	No. of Managers Participating
President	5
Vice President	3
General Manager	1
Superintendent	2
Plant Manager	1
Personnel Manager	3
Foreman	5
Controller	1
Sales Manager	6
Sales Coordinator	1
Chief Engineer	1
Production Control Manager	2
Shipping and Receiving Supervisor	1
Supervisor	1
Inventory Supervisor	2
Office Manager	4
Purchasing Agent	2
Communications Director	1
Head of Engineering Department	1
Unidentified	4

TABLE B-42

MANUFACTURING NONMANAGERS BY OCCUPATION

Position	No. of Nonmanagers Participating
Machine Operator	10
Secretary	5
Clerk	4
Welder	1
Guard	1
Chemical Operator	2
Project Engineer	1
Instrument Mechanic	1
Truck Driver	1
Chemical Engineer	1
Production Expediter	1
Estimator	1
Machine Estimator	1
Inventory Clerk	1
Computer Programmer	1
Machinist	1
Production Worker	3
Receptionist	1
Bookkeeper	1
Salesman	2
Lift Truck Operator	1
Draftsman	1

TABLE B-43

FINANCE MANAGERS OF SMALL COMPANIES EMPLOYING LESS THAN 10 EMPLOYEES (13 COMPANIES--17 MANAGERS PARTICIPATING)

Employee Size and Type Co.	Type Manager	Position Level	Sex	Age	Educational Level
1 Real Estate	Owner	Top	M	61	College Grad.
2 Real Estate	Owner	Top	F	62	High School
2 Life Insurance	Owner	Top	M	45	College Grad.
6 Life/Casualty	Owner	Top	M	43	Some College
7 Life Insurance	Unidentified	Middle	M	48	High School
6 Life/Casualty	Office Manager	Superv.	F	24	Some College
7 Life Insurance	Dist. Manager	Top	M	37	Some College
7 Life Insurance	Underwriter	Top	M	48	College Grad.
4 Consumer Loan	Branch Manager	Top	M	26	Some College
4 Consumer Loan	Asst. Manager	Middle	M	25	College Grad.
5 Consumer Loan	Credit Superv.	Superv.	M	48	College Grad.
8 Savings & Loan	Vice President	Top	M	33	College Grad.
8 Savings & Loan	Asst. Vice Pres.	Top	F	31	Some College
8 Savings & Loan	President	Top	M	48	College Grad.
9 Consumer Loan	Asst. Vice Pres.	Top	M	54	Some College
6 Life/Casualty	Owner/Partner	Top	M	37	Some College
6 Life/Casualty	Owner/Partner	Top	M	46	College Grad.

TABLE B-44

FINANCE NONMANAGERS OF SMALL COMPANIES EMPLOYING LESS THAN 10 EMPLOYEES (13 COMPANIES--15 NONMANAGERS PARTICIPATING)

Employee Size and Type Co.	Type Nonmanager	Sex	Age	Educational Level
6 Life/Casualty	Clerk	F	45	High School
7 Life Insurance	Secretary	F	45	High School
6 Hospital/Life	District Secretary	F	47	Some College
7 Life Insurance	Salesman	M	54	Some College
7 Life Insurance	Secretary	F	40	Some College
4 Consumer Loan	Cashier	F	55	High School
4 Consumer Loan	Cashier	F	26	Some College
6 Real Estate	Saleswoman	F	44	College Grad.
6 Real Estate	Saleswoman	F	42	High School
6 Real Estate	Secretary	F	58	High School
5 Consumer Loan	Secretary	F	47	Some College
5 Consumer Loan	Cashier/Discount Clerk	F	41	Some College
8 Savings & Loan	Secretary	F	31	College Grad.
6 Life/Casualty	Secretary	F	36	Some College
6 Life/Casualty	Secretary	F	34	High School