To the Graduate Council:

I am submitting herewith a dissertation written by Janice Demarest Staley Cole entitled "A Comparative Study of economic Literacy of High School Students Taking Economics and Marketing Education in Tennessee Public Secondary Schools." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, in Human Ecology.

Carroll B. Coakley

Dr. Carroll B. Coakley, Major Professor

We have read this dissertation
and recommend its acceptance:

Walter A. Comer

Thomas R. Turner

Bill J. Radcliff

Accepted for the Council:

Carl Minkel

A COMPARATIVE STUDY OF ECONOMIC LITERACY OF HIGH SCHOOL STUDENTS TAKING ECONOMICS AND MARKETING EDUCATION IN TENNESSEE PUBLIC SECONDARY SCHOOLS

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Janice Demarest Staley Cole

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DEDICATION

This dissertation is dedicated to my parents

Joseph H. Staley

March 1, 1909 to November 2, 1989

and

Janice D. Staley

Who gave me a love of life,

the courage to try, and

taught me to look for the best in all things.

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Saving the best to last, I say THANK YOU to my family. To my son Cliff, Congratulations on becoming a doctor (MD) before your mom. To my son Clay, I will always be grateful for your mathematical expertise. Our phone bills should drop drastically - Texas is truly long distance. To my husband, Cliff, Your love, understanding, and support have been my anchor. This could not have been achieved without you.

ABSTRACT

Educators, business leaders and economists have expressed concern about the lack of basic economic understanding of high school graduates in the United States. Tennessee is one of 15 states requiring at least one semester of economics for high school graduation. Marketing education teaches economic principles in an applied setting. The Tennessee Department of Education allows one full year of marketing education to satisfy the economics graduation requirement. This study was conducted to determine if students taking marketing learn economic principles at the same level as students taking economics. The study also compared the level of economic understanding of Tennessee students with nationally normed levels of economic understanding using The Test of Economic Literacy developed by the National Council on Economic Education.

The findings of the study led to the following conclusions:

1. Students taking traditional economics courses appeared to have a better understanding of economic concepts than students taking marketing education.
2. Students enrolled in traditional economics courses had higher grade point averages than students enrolled in marketing courses. Grade point average had a direct correlation to test scores. However, grade point average did not account for the entire discrepancy in test scores.

3. Although economics teachers held the statistically more positive attitude toward economics, both groups viewed economics with a positive attitude. The literature indicated that teachers with an indifferent attitudes negatively affected student learning while teachers with normal and enthusiastic attitudes produced similar learning outcomes. The lack of direct correlation between teacher attitude and test scores supported the literature.
4. Marketing and economics teachers appeared to have similar levels of exposure to college economics courses.
5. Local education agencies have greater control in determining when students take high school courses. This freedom had not changed the make up of either economics or marketing classrooms. These classrooms were still composed primarily of juniors and seniors.
6. The results indicated the ability of secondary students to know, understand, apply, analyze and evaluate economic concepts fell short of expectations. Tennessee should strengthen the economics curriculum for both economics and marketing because both groups scored lower than the national norm.

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CHAPTER 1

INTRODUCTION

A number of articles have been written expressing concern about the lack of basic understanding in the area of economics on the part of high school graduates in the United States. Walstad and Soper (1988) stated: "Economics should now be added to the list of failing subjects because ... poor performance by many high school students in their knowledge of basic economic concepts" (p. 3). During a seminar in the early part of the nineteen-eighties, Phillips Petroleum Company reported on a survey they had conducted of college freshmen to determine their attitudes toward the Free Enterprise system. The results indicated the majority of students believed the government should manage, if not own, most of the businesses in the United States. Further research demonstrated a lack of knowledge of both economics and the Free Enterprise system. Becker, Greene, and Rosen (1990) stated that: "Business, political, and labor leaders have shared the economists' views that the general public does not understand economics, although they have not always agreed on what constitutes an understanding of economics" (p. 231). In response to these concerns, several states have included economic education in their list of required subjects while other states have included it as an elective course option. Tennessee is among the states requiring at least one semester of economics for graduation.

One alternative method of teaching economics at the secondary school level is marketing education, a two to three year vocational program designed to prepare students for careers in marketing, management, and merchandising. The curriculum is divided into three core areas which include economic foundations of marketing, marketing and business foundations, and human resource foundations (Farese, 1990), therefore, providing a strong economic education focus. In short, marketing education is considered applied economics with a foundation in theoretical economics. In view of this, Tennessee Minimum Rules and Regulations identifies one year of marketing education as a substitute for one semester of economics (p. 43).

STATEMENT OF PROBLEM

Marketing education approaches economics from an applied perspective. The marketing education curriculum framework addresses the same terminal objectives as stated in the economics' curriculum framework. The marketing education curriculum was reviewed by the State Department of Education and university experts in the field. Economics and marketing education were considered equally valid approaches to teaching economic concepts. The problem of the study is that a formal comparison has not been made of the learning outcomes for marketing education and economics. A study of this nature could be utilized to establish verifiable data supporting the decision to recognize the substitution of marketing education for economics credit.

PURPOSE OF THE STUDY

The purpose of the study was to compare the level of economic literacy of secondary school students receiving credit for classes in economics and marketing education to determine if the principles of economics are learned at the same level by both groups. A second part of this study was to compare the level of economic literacy demonstrated by Tennessee students in both first year marketing education and economics with the national economic literacy findings.

RESEARCH QUESTIONS

Data from secondary economics and marketing education programs in Tennessee were assessed to determine the difference in level of economic literacy between the two groups. The study examined the following questions:

1. Is there a difference in the test scores of students enrolled in marketing education programs and economics programs in Tennessee public secondary schools?
2. Is there a difference in student characteristics between marketing programs and economics programs?
3. Is there a difference in teacher characteristics between teachers teaching marketing education and economics?
4. Are test scores of Tennessee students similar to the national test scores using the Test of Economic Literacy?

RATIONALE

Information gained from investigating the research questions can be used in several ways. The first three research questions explore possible differences in the learning outcomes of the two teaching treatments and factors that can influence these outcomes. The results of this information can be used to improve student placement and curriculum development thereby improving the effectiveness of each approach to teaching economic concepts.

The fourth research question addresses possible differences between secondary school economic understanding in Tennessee and secondary school economic understanding measured on a national scale. Results from this portion of the study can be used as one component in the evaluation of Tennessee economic curriculum strengths and weaknesses. Use of a national norm as a criterion can provide a foundation upon which to strengthen both the marketing education curriculum and the economics curriculum in Tennessee.

THEORETICAL FRAMEWORK

The principles guiding the development of the study are comprised of two categories. The first is the justification for allowing secondary students to meet economic education graduation requirements through one year of marketing education. The literature showed that many scholars, industrialists, and business people firmly believe that the free enterprise system cannot survive without an understanding of basic economic principles. Research also revealed that less than one half of

the secondary school graduates attend college. Therefore the assumption can be made that it is essential for the concepts of economics be taught at the secondary level.

The research of Walstad and Soper (1988) indicated that students enrolled in traditional economics programs scored higher on the Test of Economic Literacy than did students enrolled in consumer economics and social studies programs. Their research did not include students enrolled in marketing education programs.

The review of literature revealed that marketing education programs have developed a set of prebaccalaureate core competencies with a strong foundation in fundamental marketing and economic principles. These competencies address the six levels of cognitive learning as described in Bloom's Taxonomy of Educational Objectives. An assumption can be made that there is a strong correlation between the economic concepts taught in two programs.

The testing mechanism used to evaluate the level of economic understanding was the Test Of Economic Literacy (TEL) developed by the National Council on Economic Education. The TEL is a third generation nationally normed standardized test. Research indicated that the 1985 revision is a more statistically reliable testing instrument than its two predecessors.

Research revealed that a number of student, teacher, and environmental factors influence the educational outcomes in many classroom situations. Using the 1986 norming sample as a reference,

four indicators were selected to be included in the study as potential factors affecting test results.

HYPOTHESES

Building on the rationale for the study and the theoretical framework, three null hypotheses were developed to answer the first three research questions. The hypotheses of the study included:

Null Hypothesis One

There is no significant difference in the level of economic literacy between high school students who take economics and those who take marketing education.

Null Hypothesis Two

There is no significant difference in student ability as measured by grade point average or maturity as measured by year in school between students enrolled in marketing programs and students enrolled in economics programs.

Null Hypothesis Three

There is no significant difference in teacher training in economics as measured by the number of college economics courses taken and attitude toward economics as measured on an attitude scale between those teaching marketing education and those teaching economics.

LIMITATIONS AND DELIMITATIONS

The research design identified several strengths and weaknesses in the study. Random selection of the classes to be tested positively

affected the external validity of the study. The selection process was chosen in order that the findings of the study be applicable to all marketing and economics programs in Tennessee public secondary schools. The sample size and follow up procedures were intended provide a ninety five percent confidence level. However, only fifty-seven percent of the marketing classes and forty-one percent of the economics classes returned the completed test materials. This limited the application of the results to those marketing and economics classes actually participating in the study.

Both programs were tested near the end of the school year. However, many marketing programs emphasized economic and marketing principles during the first semester while the economics programs were in the process of teaching those principles. Differences in test scores could have been influenced by the length of time between presentation of subject matter and testing.

The research design selected was an ex-post-facto posttest only comparative study. The students participating in the study were not randomly assigned to treatment groups. The test was given at the end of the economics and marketing courses. Therefore, the study measured the aggregate level of economic knowledge. This did not account for any pre-existing economic knowledge students brought into the classroom. It did not measure the knowledge gained between the beginning of the course and the end of the course. The assumption was made that prior knowledge was limited and did not significantly affect the outcome of the study.

The parameters around which the study was designed also involved the type of schools and programs included. A school had to be a Tennessee secondary public school offering both marketing education and economics. Technical centers and feeder schools were not considered part of the population. Only Principles of Marketing I, combined one year Principles of Marketing (I and II), and traditional secondary Economics courses were included in the sampling group.

DEFINITION OF TERMS

1. Economics Programs - One semester secondary programs presenting traditional economic concepts satisfying the economics credit requirement for graduation set out in the Tennessee Minimum Rules and Regulations.

2. Grade Point Average - High school grade point average is one measure of a student's academic ability and academic standing. Grade point average is often used as an indicator of how well a student will succeed in secondary and post secondary school subjects. Grade point average is determined by assigning a numerical value to each letter grade: A = 4 points., B = 3 points., C = 2 points., D = 1 point., and F = 0 points. The sum of the points received for all course work completed is divided by the total number of courses to determine the overall grade point average.

3. Marketing Education - A secondary course of study designed to, "prepare students for initial employment; further study; and

advancement in marketing, merchandising, and management" (Tennessee Department of Education, 1992, p. v).

4. Marketing Education Economic Fundamentals - "Focuses on the basic economic principles. It helps students become economically literate and functional in the American free enterprise system" (Tennessee Department of Education, 1992, p. 3).

5. Marketing Education Marketing Foundations - "Provides an overview of all of the marketing concepts in relation to how goods and services are produced and sold in the market place" (Tennessee Department of Education. 1992. p. 3).

6. Marketing Education Programs - First year or one year marketing education programs meeting the guidelines set out by the Minimum Rules and Regulations for economics credit.

7. National Council on Economic Education - Formally known as the Joint Council on Economic Education

8. Student Characteristics - Those student oriented factors that help influence educational outcomes. For the purpose of this study, they include student ability as measured by grade point average and student maturity as measured by classification as freshman, sophomore, junior, or senior.

9. Teacher Attitude - The enthusiasm exhibited by a teacher toward teaching economics and economics in general. The level of attitude is measured on a 5 point 3 question attitude inventory.

10. Teacher Characteristics - Those factors that help influence educational outcomes. For the purpose of this study, they include teacher attitude toward economics and teacher training

11. Teacher Training - The number of college economics courses taken by a teacher.

12. Test of Economic Literacy - A third generation nationally normed achievement test developed by the National Council on Economic Education in 1985 used to measure the level of economic understanding of secondary students.

ORGANIZATION OF THE STUDY

Chapter 1 contains an introduction to the need for economic education at the secondary level and the methods of teaching economics. The statement of the problem of the study, research questions and hypotheses are presented with the rationale and theoretical base of the study. The limitations, delimitation, and definitions are also presented in this chapter.

Chapter 2 presents a review of the literature related to economic education at the secondary level and factors affecting the educational outcomes. The analysis of secondary economic education includes high school economics, methods of teaching economic principles, marketing education, Bloom's taxonomy of educational objectives, and the Test of Economic Literacy. The factors influencing educational outcomes include teacher training, teacher attitude, student grade-point average, and student year in school.

Chapter 3 describes the methods and procedures used to develop and complete the study. The population, research design, and sampling technique are identified. Testing procedures, independent variable, dependent variables, and statistical tests are detailed.

Chapter 4 discusses the findings of the study. The research hypotheses are presented with an analysis of the data collected.

Chapter 5 presents a summary of the study. A review of the major findings, conclusions, and recommendations are presented.

The last section includes a list of references, appendices, and vita. The appendices contain copies of correspondence related to the study, the Test of Economic Literacy, teacher attitude inventory, and reporting forms.

CHAPTER 2

REVIEW OF LITERATURE

The review of literature was divided into two categories. The first category examined the literature surrounding economic education at the secondary level. The topics covered in this section include secondary school economics, methods of teaching economics, marketing education, taxonomy of educational objectives, and the Test on Economic Literacy. The second category examined selected factors contributing to student academic success. These factors include grade point average, year in school, teacher training, and teacher attitude.

ECONOMIC EDUCATION AT THE SECONDARY LEVEL

Secondary School Economics

Economics as a secondary school subject is considered by many to be a significant component of the social studies curriculum. Stigler (1983) presented two criteria for the requirement of learning in a specific area. The first criterion is that the knowledge be considered a means of common communication. The second is that the type of knowledge cannot be economically purchased from experts. In the area of economic education, both criteria are met because many of the decisions that are made on a daily basis have an economic origin or economic impact. These decisions require a common frame of reference and vocabulary.

They include employment, wages, and taxes to name a few. Decisions on education, drug prevention, and social issues are not direct economic decisions but have an economic impact. Considering decisions in these areas are made on a daily basis, it is not economically feasible to contact "experts" before each decision is made.

Ahmadi, Schaffer, and Calkins (1986) contend that exposure to economic education is necessary for the perpetuation of our economic system. Although the study concentrated on post secondary economics, a relationship can be strongly suggested for secondary economic education. If a knowledge of economics is necessary for the survival of the Free Enterprise System; if, as reported by Walstad and Soper (1988), only about one half of the high school graduates go on to college; and if many of those who do attend college never take an economics course; then this segment of the population must be exposed to economics in secondary school. Similar beliefs concerning the importance of economic education were also described by Walstad and Soper (1984).

Schug (1982, 1985) defined economic education as a method of teaching personal and social critical thinking and decision making skills necessary for good citizenship. The importance of economics education is reinforced as many states require some form of economics education prior to graduation from high school. Although economics education is not taught in every state, at least fifteen states require a minimum of one semester of economics for graduation (Manzer, 1989).

Methods of Teaching Economic Principles

Walstad and Soper (1988; 1988; 1987; 1986; 1984) contend that courses in economics are necessary to produce economic literacy in students. Their conclusions were based on a trio of studies with data gathered from the 1985 revised edition of the Test on Economic Literacy. Using regression analysis, the conclusion was drawn that students completing an economics course made significantly greater increases in economic literacy than students who took consumer economics, social studies with economics, or social studies without economics (1986, p. 8). An additional comparison was made between economics courses using the Developmental Economic Education Program (DEEP) and those not affiliated with the program. The study showed that the DEEP influence had a significant impact. The baseline data for these studies came from a national sample of 3,031 high school students given the Test of Economic Literacy (TEL). The highest post test score among the groups was 52 percent correct. This score was achieved by students taking economics. The study argued that although economics students scored higher than other groups, 52 percent was a poor showing.

Marketing Education

Research demonstrated that consumer education and social studies do not provide an equivalent economic education impact, the same cannot be said for marketing education. This program addresses economics as a major component of the curriculum. A portion of the marketing education curriculum is an applied economics curriculum

that combines economic and marketing fundamentals as they relate to the concepts of marketing, management, and merchandising.

Over the years, marketing education has gone through a series of transformations. Each modification has been characterized by a specialized set of career focuses. Course work revolved around retailing careers until the late seventies. In the early nineteen hundreds, Lucinda Prince was credited with the establishment of the first school to train young adult women in retail sales. Her school was located in Boston, Massachusetts (Husted, 1986). The first high school cooperative retail programs were established in 1909 in the Cincinnati, Ohio public schools under the direction of Superintendent, Frank Dyer. Similar independent training programs were established in a number of cities across the United States through 1917 (Husted, 1986).

The Smith-Hughes Act was passed in 1917. According to an article in the May, 1976, issue of the American Vocational Journal, this legislation provided the first official federal recognition of secondary vocational education. Although the field of retail training was not specifically addressed by the legislation, the Smith-Hughes Act stated:

> It (vocational education) is especially designed to prepare workers for the more common occupations in which the great mass of our people find useful employment. As here used, it means that form of education whose controlling purpose is to give training of a secondary grade to persons over 14 years of age for increased efficiency in useful employment in the trades and industries, in agriculture, in

> commerce and commercial pursuits, and in callings based upon a knowledge of home economics (Barlow, 1976. p. 56).

Marketing education was not a separate educational entity. However, interpretation of the legislative references to commerce and commercial pursuits established the validity for ensuing program development. The period from 1917 to 1936 saw the rise of training programs in selling occupations through the establishment of a Commercial Education Service as part of the United States Office of Education and the publication of Bulletin No. 22, Retail Selling and Bulletin No 24, Vocational Education for Foreign Trade and Shipping (Husted, 1986).

With the passage of the George-Deen Act in 1936, an appropriation of one million dollars was authorized for a new program called distributive education. At this point, marketing education began to expand its focus. Although training for retail selling careers still held the primary directive, career alternatives involving the entire distributive process were included under the educational umbrella. In his article tracing the history of marketing education, Husted (1986) described the impact the George-Deen Act had on the field:

> At this point, people began to think, speak, and write of marketing education rather than selling, salesmanship, merchandising, and similar terminology. Dr. Paul H. Nystrom, professor of marketing, Columbia University and member of the Federal Advisory Board for Vocational

> Education is credited with coining the term "distributive education" (name for marketing education from 1936 - 1980). Dr. Nystrom also deserves credit for the passage and implementation of the George-Deen Act. No specific title was provided to the "distributive" education program in the act, so Dr. Nystrom borrowed the word "distributive" from the legislation which referred to training for "distributive occupations." Distributive and even distribution were little known words in relationship to the selling process. The final decision to use distributive education was delayed for years (p. 6).

Because marketing education required the inclusion of cooperative methodology, instruction was still closely linked to the retail jobs available to students. In 1956, John Beaumont was appointed director of the Distributive Education Branch of the Division of Vocational Education in the U. S. Office of Education. Under his direction, the "Taxonomy of Distributive Education" was developed. The taxonomy classified distributive occupations into a broad range of occupational clusters (Husted, 1986). The Vocational Education Act of 1963 provided funding for programs that met a variety of state vocational education needs. "Categorical limitations of funds by the older acts were deleted and amendments permitted funds of both acts (Smith-Hughes and George-Barden) to be so shifted by states to meet funding needs of any occupational program so deemed necessary by that state" (Cheek, 1991, p. 9). This revision stimulated the growth of non-cooperative distributive

education programs which in turn expanded the career base for further program development. The concept of a competency based curriculum design began to emerge during this period. These factors combined to broaden and strengthen the curriculum which was to develop into present day marketing education.

At the time the changes began to escalate, a broader educational application was reflected in the second of the three names associated with the marketing programs. The name, Marketing and Distributive Education, was adopted in 1980. The new name combined both old and new, identifying a period of transition. During the mid-eighties two major events occurred providing a lasting impact on the field of prebaccalaureate marketing. The first was the development of a national curriculum framework in 1984. The second event was the 1985 name change to marketing education. This change dropped all reference to distribution and aligned the curriculum with the broader concepts of marketing reflected in the national framework.

The mission statement described in the publication of the National Curriculum Framework (NCF, 1987) set guidelines for curriculum development in marketing education.

> The mission of Marketing Education at prebaccalaureate levels is to develop competent workers in and for the major occupational areas within marketing, assist in the improvement of marketing techniques, and build understanding of the wide range of social and economic

responsibilities that accompany the right to engage in marketing in a free enterprise system (p. 2).

The framework was a two-part outline identifying the Functions of Marketing and Marketing Foundations. The topics identified as Marketing Foundations formed the nucleus around which the entire curriculum was developed. These topics included Economic Foundations of Marketing, Marketing and Business Foundations, and Human Resource Foundations. The first two topics "played" a vital role in the development of a strong curriculum focus on economic education. The National Curriculum Framework (1987) defined these basic foundations as:

Economic Foundations of Marketing

Basic economic principles and concepts of free-enterprise and free-market economies that are fundamental to an understanding of marketing activities.

Instructional areas identified as part of Economic Foundations include Basic Concepts, Economic Systems, Cost-Profit Relationships, International Concepts, and Economic Trends/Indicators. (NCF. 1987. p. 6)

Marketing and Business Foundations

Basic skills and understanding of the marketing concept and the business environment and management systems within which it is implemented.

The broad instructional areas classified as Marketing and Business Foundations are Business Concepts, Marketing

Concepts, Management Concepts, and Operational Concepts (NCF 1987, p.6).

There are nine marketing functions recognized in the framework. They include distribution, financing, marketing-information management, pricing, product and service planning, promotion, purchasing, risk management, and selling. Each function is developed in relationship to the foundations of marketing. Individual marketing courses are then built on the basic framework addressing specific levels of employment including entry-level, career-sustaining, marketing specialist, marketing supervisor, and manager/entrepreneur.

According to the 1987 Curriculum Framework, the concepts, attitudes, and skills identified by the marketing industry as necessary competencies for all marketing education curricula form the marketing core curriculum. There are eighteen economic competencies and ten basic marketing/business competencies identified through the Marketing Education Resource Center. The key competencies for economics include: goods and services, economic resources, economic activities, utility, supply and demand, price, economic systems, private enterprise, profit, business risk, competition, productivity, specialization of labor, organized labor, gross national product, business cycles, government and business, and international trade. The competencies for marketing and business include the importance of marketing, marketing functions, marketing strategies, market identification, channels of distribution, business and society, business ownership, management, production, and accounting. These competencies at the prebaccalaureate marketing

courses focus on conceptual and skill application as used in actual business operations (Husted, 1986).

The Marketing Education Curriculum Framework adopted by the Tennessee Board of Education in 1992 utilized the national curriculum framework and core competencies as the foundation for all marketing courses in the state's public schools and accredited private schools. In addition, a concerted effort was made to develop terminal objectives that reflected the six levels of cognitive learning as described in Bloom's Taxonomy of Educational Objectives.

Taxonomy of Educational Objectives

Bloom, Engelhart, Frust, Hill, and Krathwohl (1956) developed a system of classifying educational objectives that has become known as Bloom's Taxonomy of Educational Objectives. The taxonomy classifies educational objectives in the cognitive domain of learning. It has been used extensively in the development and evaluation of curriculum for all subject areas. "The cognitive domain includes those objectives which deal with the recall or recognition of knowledge and the development of intellectual abilities and skills" (p. 7). The taxonomy was developed as a hierarchical ordering of six major classes from simple to complex cognitive skills. The classes include: knowledge, comprehension, application, analysis, synthesis, and evaluation. Bloom, Engelhart, Frust, Hill, Krathwohl (1956) described each taxonomy as follows:

Knowledge

> The recall of specific and insoluble bits of information. The emphasis is on symbols with concrete referents. This material, which is at a very low level of abstraction, may be thought of as the elements from which more complex and abstract forms of knowledge are built (p. 201).

Comprehension

> This represents the lowest level of understanding. It refers to a type of understanding or apprehension such that the individual knows what is being communicated and can make use of the material or idea being communicated without necessarily relating it to other material or seeing its fullest implications (p. 204).

Application

> The use of applications in particular or concrete situations. The abstractions may be in the form of general ideas, rules of procedures, or generalized methods. The abstractions may also be technical principles, ideas, and theories which must be remembered and applied (p. 205).

Analysis

> The breakdown of a communication into its constituent elements or parts such that the relative hierarchy of ideas is made clear and/or the relations between the ideas expresses are made explicit. Such analyses are intended to clarify the communication, to indicate how the communication is organized, and the way in

which it manages to convey its effects, as well as its basis and arrangement (p. 205).

Synthesis

The putting together of elements and parts so as to form a whole. This involves the process of working with pieces, parts, elements, etc., and arranging and combining them in such a way as to constitute a pattern or structure not clearly stated before (p. 206).

Evaluation

Judgments about the value of material and methods for given purposes are evaluated. Quantitative and qualitative judgments about the extent to which material and methods satisfy criteria. Use of a standard of appraisal. The criteria may be those determined by the student or those which are given to him (p. 207).

The taxonomies are further explored as they apply to evaluation of economic knowledge in the section covering The Test On Economic Literacy.

The Test Of Economic Literacy

The National Council on Economic Education was established in the post World War II era out of concern for the preservation of our Free Enterprise System. The Council was created as the national umbrella organization for all affiliated State Councils and Collegiate Centers for Economic Education (Wiegand 1984, p. 4) In this capacity, the council has funded a significant amount of the research on high school economic

education. The development of the Test of Economic Literacy (TEL) in 1985 has been a major contribution. The test is the only national achievement test on high school economic literacy (Walstad and Soper 1988). The predecessor to the current test was the Test of Economic Understanding (TEU) in 1964.

The revision procedure was designed to increase validity and reliability of the testing instrument. The process included the development of four test drafts. The first and second drafts were created using the 1977 TEL questions as a starting point. New items were written to accommodate additions to the curriculum focus while obsolete questions were eliminated. The second draft was field tested using 1,900 Ohio students in grades ten, eleven, twelve, and college. Following the field test, the fifty questions included on both forms were evaluated to ensure that questions represented an adequate range of difficulty levels. Difficulty values ranged from more difficult (.25) to less difficult (.75)

Questions were also evaluated according to ability to discriminate between levels of economic understanding. The revised test questions reflect five of the six cognitive levels in Bloom's Taxonomy. Table 1 shows Bloom's Taxonomy as it relates to the revised test. The sixth level, synthesis, was not included because it is not easily measured through multiple choice questions.

The revised test measures four economic content categories and twenty two economic concepts. Six economic concepts are covered under economic fundamentals; six economic concepts are covered under microeconomics; seven economic concepts are covered under

Table 1

Five-Level Cognitive Taxonomy for the Test of Economic Literacy

Level	Objective	Operative Verbs	Emphasis
I Knowledge	To show that the student knows	list, recall, remember, tell, define, identify label, locate, recognize	recognition and recall ability to remember facts in a form close to the way they were first presented
II Comprehension	To show that the student understands	explain, illustrate, describe, summarize, interpret, expand, convert, measure, understand, translate, extrapolate	grasp the meaning and intent of information -- ability to tell or translate in own words
III Application	To show that the student can use what is learned	demonstrate, apply, use, construct, find solutions, collect information, perform, solve, use abstractions, choose appropriate procedures	use of information ability to apply learning to new situations and real life circumstances
IV Analyze	To show that the student perceives and can pick out the most important points in material presented	analyze, debate, differentiate generalize, conclude, distinguish, organize, determine	reasoning - ability to break down information into component parts and to detect relationships of one part to another and to the whole
V Evaluate	To show that the student can judge and evaluate ideas information, solutions procedures, and goals	compare, decide, judge, evaluate, conclude, contrast appraise, develop criteria	criteria or standards for evaluation and judgement - ability to make judgments based on criteria or standards

Note. From "Test of Economic Literacy" by J. C. Soper and W. B. Walstad, 1987, Second Edition Examiner's Manual, p. 4. Copyright 1987 by the Joint Council on Economic Education.

macroeconomics; and three economic concepts are covered under international economics (Soper and Walstad, 1988). Table 2 synthesizes the economic concepts from Form A of the Test of Economic Literacy and the elements of Bloom's cognitive taxonomy.

The third version of the test was field tested using a sample size of 1,100 eleventh and twelfth grade economics students from Ohio and Nebraska. Again the results of the test were reviewed using item difficulty and discrimination analysis. Content clarity, readability and grammar were checked. From this pool of questions, two forty-six item tests were selected to create the fourth draft.

The current test is a more statistically reliable testing instrument than its predecessor. One measure of reliability is parallel construction between different test forms used to measure the same concepts. The original Test of Economic Literacy included Form A and Form B. This test was criticized because it lacked parallel construction or equality in measuring the same economic concepts. Consequently, the development process followed the procedures utilized by the Educational Testing Service in Princeton, New Jersey. Anchor items were used to establish parallelism between the two forms. Fifteen anchor questions common to each test form were included in the two sets of forty-six items. Supporting the claim of internal consistency or homogeneity Walstad and Soper (1988) reported pretest coefficient alphas of .81 for Form A and .80 for Form B of the test. Posttest comparison of coefficient alphas were not available at the time the pretest comparisons were made. However, the original Test of Economic Literacy had a similar coefficient alpha of .87.

Table 2

Content-Cognitive Matrix: TEL Form A
(Soper and Walstad. 1988. p.5)

Content Categories	Cognitive Level I	II	III	IV	V	No. of Questions	Percent
Fundamental Economic Concepts						12	26.1
1. Scarcity		23/3				2	
2. Opportunity cost/trade-offs			2/4	5		3	
3. Productivity		6			8	2	
4. Economic systems	7					1	
5. Economic institutions & incentives	9	11				2	
6. Exchange, money, & interdependenc	12		1			2	
Microeconomic Economic Concepts						13	28.3
7. Markets & prices		10	13			2	
8. Supply & demand	14		15/16		17	4	
9. Competition & market structure			18/19			2	
10. Income distribution	20	21				2	
11. Market failures				22	23	2	
12. Role of government		24				1	
Macroeconomic Economic Concepts						13	28.3
13. Gross national product	26					1	
14. Aggregate supply		27				1	
15. Aggregate demand		28		29		2	
16. Unemployment				30		1	
17. Inflation & deflation				31/32		2	
18. Monetary policy		34	35		38	3	
19. Fiscal policy	36			33/37		3	
International Economic Concepts						8	17.4
20. Comparative advantage/barriers to trade		39	40	41		3	
21. Balance of payments & exchange rat	42			43/44		3	
22. International growth & stability		45/46				2	

In addition to the anchor items, parallel construction was demonstrated through the comparison of mean scores for the two forms. The pretest mean test score of Form A was 19.73 and the pretest mean test score of Form B was 18.60 (Walstad and Soper, 1988).

FACTORS CONTRIBUTING TO STUDENT ACADEMIC SUCCESS

A variety of factors influence the educational outcomes in almost every classroom situation. Walstad and Soper (1980) identified ten factors that have an effect on the level of student economic understanding. Their study used regression analysis on data gathered from the 1986 Test of Economic Literacy norming sample. The original sample involved 8,206 students. However, a total of only 1,630 cases were used in the study because these students had matched pre and post scores on all data. The usable sample also involved 85 teachers.

The factors were classified as student, teacher, or environmental factors. Student factors were those involving grade level, gender, race, intelligence, and family income. The number of college credits taken in economics was the only teacher variable identified by Walstad and Soper. Environmental factors were those that did not include either teacher or student characteristics. These factors were the type of class, the size of school, the type of community, and the geographic location of the school.

The results of the study suggest that the type of secondary school course taken, the size of school, teacher course work in college

economics, student intelligence, race, gender, and level of family income all played a significant role in the level of student economic understanding (Walstad and Soper 1989).

Teacher Training

The amount of teacher training in any skill or subject area influences the ability to perform well in that area. This is especially true for classroom teachers. Walstad and Watts (1985) expressed the belief that "Knowledge of subject matter and methods of teaching it are essential to effective instruction in the social studies and all subjects: however, the need for substantial teacher training is probably greatest in economics" (p. 10).

Bosshardt and Watts (1990) completed a study designed to identify the impact that teacher training had on student learning in economics. Two conclusions were drawn from the study. The first involved the quality of teaching: "The clear message from our results is the importance of qualified well trained instructors and the benefits that can reasonably be expected from programs that improve their (the teacher's) training in a subject area like economics" (p. 275). The second conclusion was less positive identifying a problem in the current level of teacher training. The study concluded that many social studies and economics teachers had little or no formal training in economics. The result was that the students in those classes learned less economics than students in classes taught by teachers with a greater number of

college credits in economics.

Lynch (1990) likewise demonstrated the importance of formal teacher training in the field of economics. The study examined the impact of teacher training on learning of both micro and macro economic concepts. Students of teachers with low to moderate economic training showed an increase in economic understanding of micro economic concepts; however, a teacher needed four or more college courses in economics before students showed a significant increase in understanding of the more complex macro economic concepts.

Marlin (1991) found that there was a positive correlation between experience teaching economics and student performance levels, while general teaching experience had a negative impact. He projected that one had to "keep up with" economic trends and that recent graduates were more effective teachers. His study also indicated a strong economic background as measured by the number of hours a teacher had in college economic courses translated into a more positive attitude toward economics.

Teacher Attitude

Experience indicates that enthusiasm toward an activity frequently influences a person's point of view toward that activity. Both enthusiasm and viewpoint are associated with a positive attitude. Attitude and enthusiasm appear to be contagious factors influencing others' attitudes and disposition toward the designated activity. Based on the assumption

that this observation is accurate, the attitude a teacher has toward the subject or subjects he or she teaches will influence his or her students' attitude and performance.

This assumption has been alluded to for many years. Larkins and McKinney (1982) cited early references to teacher enthusiasm by Barr, Rosenshine, and other authors. These observations did not measure the impact of teacher enthusiasm on academic achievement but on student perceptions of teachers. In their review of several previous studies, Larkins and McKinney reported on several studies involving academic achievement and teacher enthusiasm. Mastin (1963) demonstrated increased social studies learning in middle school classes taught by enthusiastic teachers. Larkins and McKinney set up a controlled experiment utilizing seventh grade social studies students. The results of the study contradicted expected results. Students taught by uninterested and normally interested teachers scored higher on the social studies test that did students taught by overtly enthusiastic teachers. The experiment was replicated using the same teachers and students under tighter controls. The same unit of social studies was not retaught. This time the students taught by unenthusiastic teachers scored significantly lower than did students in the other treatment groups. However, the scores of students taught with normal and high enthusiasm were not significantly different.

Marlin (1991) investigated the effect of teacher attitudes on student attitudes and learning using data from the 1987 National Assessment of

Economic Education survey. Marlin reported that little prior research existed on the complex interaction between teacher attitude and student performance and behavior. He used a three-choice Likert scale to rate teacher enthusiasm toward economics. The results of the study indicated that the teacher's attitude and enthusiasm had the most significant impact on the learning process: "... an increase of one point in the (teacher) attitude survey could translate into almost three and a half points on the TEL score, an 8 percent increase in student grade" (p. 11). These results reinforced the earlier research of Foeller (1988). He concluded that the degree of enthusiasm toward economics on the part of the teacher did effect the amount of economics learned and was reflected in student test scores.

Student Grade Point Average

There is ample literature identifying a variety of factors that influence the amount of economic knowledge learned by high school students. One of these factors is academic ability demonstrated by IQ or grade point average (Peterson 1992; Marlin 1991; Becker, Greene and Rosen 1990; Lynch 1990; Walstad and Soper 1989).

Several different methods have been used by researchers to measure academic ability. In their research, Walstad and Soper (1989) used the 100-point Quick Word Test to estimate student IQ. They reported each point on the Quick Work Test added .32 of a point to the prediction of the posttest TEL score. Marlin (1991) used a combination

of GPA and SAT or ACT scores to measure the effect of intelligence on the testing process. He also concluded that smart students perform better on tests.

Research conducted by Peterson (1992) examined fundamental differences between high school students who elected to take economics and secondary school students who elected not to take economics. After identifying and accounting for the systematic differences, the study considered the course impact on economic knowledge. He concluded that "the higher a student's overall grades, the higher his or her average score on the TEL" (p. 12).

Student Year In School

A number of studies have examined the impact of age or year in school on the level of economic understanding. The majority of students taking economics were identified as either juniors or seniors in high school. This factor did not make a significant difference in student scores on the Test of Economic Literacy (Walstad and Soper 1989).

Traditionally, both economics and marketing education have been offered at the junior and senior level of high school in Tennessee. However, changes in the Minimum Rules and Regulations have allowed individual school systems to modify curriculum offerings to better meet community needs. As a result, freshmen and sophomores may be enrolled in economics courses, while sophomores may be enrolled in first year marketing education.

SUMMARY

The review of the literature showed that economic education at the secondary level is vital to a well informed society with the capability to make judicious, complex economic decisions on a daily basis. In order to accomplish the goal of sound economic education, both economics and marketing education address the same basic concepts. Traditional economics classes approach learning from a theoretical stand point while marketing education uses an applied learning approach. Both economics and marketing education strive to develop the higher order cognitive skills also necessary for effective decision making. The revised 1987 edition of the Test of Economic Literacy developed through the auspices of the National Council on Economic Education is a reliable and valid tool to measure levels of prebaccalaureate economic understanding.

Research also indicated that a number of factors influence the amount of learning that occurs in the classroom. Some of these factors involve student characteristics, teacher characteristics, or environmental characteristics. The number of college courses in economics taken by a teacher influences student performance on the Test of Economic Literacy. In addition, the attitude the teacher has toward economics strongly influences student attitude toward economics as well as student learning.

Student academic ability is a primary indicator of student success in economics. Although IQ has been the traditional measure of academic

ability, the overall grade point average of a student is also a reliable predictor of success. Furthermore research has shown both juniors and seniors learn high school economics equally well. However, changes in Tennessee's Minimum Rules and Regulations necessitate investigation of grade-level parity for economics students and marketing education students.

CHAPTER 3

METHODOLOGY AND PROCEDURES

The purpose of the study was to compare the level of economic literacy of Tennessee secondary school students receiving credit for classes in marketing education and economics to determine if the principles of economics are learned at the same level by both treatment groups. A second part of this study was to compare economic literacy of Tennessee students in both first year marketing education and economics with the national economic literacy findings. This chapter describes the methods and procedures used to develop and complete the study. The population, research design, and sampling technique are identified. Testing procedures, independent variable, dependent variables, and statistical tests are detailed.

POPULATION

The population of the study consisted of secondary schools offering both marketing education and economics programs in Tennessee public secondary schools during the 1993-1994 school year. All of the one hundred and seventeen schools contained the population were included in the study.

RESEARCH DESIGN

The study was an ex-post-facto study because it was not feasible to assign subjects to a treatment group. However, it was possible to randomly select participating classes to be tested.

R X_1 O

R X_2 O

R Random selection

X_1 Marketing Education treatment

X_2 Economics treatment

O Test of Economic Literacy

--- Non-equivalent groups

SAMPLING TECHNIQUE

The sampling technique used was a simple random sampling technique. The population included all regular public secondary schools offering both first year marketing education and economics in the state of Tennessee during the 1993-1994 school year. It did not include unique population schools such as separate vocational-technological centers, adult high schools, alternative schools, schools for the emotionally or physically handicapped, etc. Economics programs were secondary programs presenting traditional economic concepts approved by the

State Department of Education. They did not include social studies courses with an economics curriculum component, consumer economics programs, or Junior Achievement programs. Marketing education programs were first year or one year marketing education programs meeting the guidelines set out by the Minimum Rules and Regulations for economics credit. The marketing programs did not include specialty marketing programs such as Hospitality Marketing or Vehicle and Petroleum Marketing. Students did not have to receive economics credit for marketing in order for the program to be included in the study.

The Directory of Public Schools Approved Nonpublic Special State Schools and the State Department of Education State of Tennessee (1990-91) and The Marketing Education Directory (1993-94) identified one hundred seventeen schools offering both first year marketing education and economics. All of the schools were initially included in the study. Several schools were removed from the sampling pool due to administrative restrictions concerning the research project. From schools in which more than one marketing education or economics class was offered, one class of each was randomly selected using a table of random numbers.

INSTRUMENTATION

The classes randomly identified in each category were given a post-test using the Test of Economic Literacy (TEL), 1985 revised Form A developed by the National Council on Economic Education. This is a nationally normed standardized test. The pretest evaluation of internal

consistency of Form A was a coefficient alpha equal to .81 Validity checks for the test included expert review of the test questions for content, clarity, readability, grammar, discrimination and difficulty. Item analysis produced a difficulty variance between .25 and .75.

A questionnaire identifying pertinent student and teacher demographic data was completed by each teacher. Each teacher also completed a three item questionnaire measuring attitude toward economics on a five point Likert Scale. A one indicated a low attitude toward economics and a five indicated a high attitude toward economics.

PROCEDURES

Approval Procedures

A request for permission to use the Test of Economic Literacy was made to the National Council on Economic Education. Authorization to use the test was granted through a telephone request by Ms. Joan Baranski. The National Council did not require written consent as long as the reproduction of the tests and data were not used for commercial purposes.

In January, 1994, a letter was sent to the principal of each identified secondary school requesting program data and requesting permission to include the school in the study. A similar request was made to the research coordinator of the Memphis City Schools to include the system in the study. Follow up telephone calls were attempted to those schools from which no response was received.

A telephone call was made to Ms. Melissa O. Wilson, State Consultant for Marketing Education, in December, 1993, requesting permission to present an overview of the study to marketing teachers during the spring State Career Development Conference held in Nashville, Tennessee.

Data Collection Procedures

In January, 1994, a letter was sent to all marketing teachers in Tennessee informing them that the study was to be conducted and that an explanation would be presented at the State Career Development Conference in March. A brief overview of the study was presented on March 10, 1994 during the teachers' meeting. Attendance at this meeting was required for all marketing teachers attending the conference. In addition, a dessert party was given that evening as an advance thank you.

In late March and early April 1994, a packet including copies of the post-test, instructions on administering the test, parental consent form, and a pre-paid return envelope was sent to each participating teacher. The teacher data sheet, attitude inventory, and questionnaire of student demographic data were also included. Complete test packets and a new letter of explanation were sent to those principals who had not responded to the first request. Teachers who wished to discuss the testing procedure by telephone either called or requested a telephone interview.

The Test of Economic Literacy was administered to all students in the programs selected. The test was administered by the teacher of each

program. The tests were returned by mail immediately after administration. Pre-posted and addressed mailing packets were provided.

Response Rate

One hundred and seventeen schools offering both first year marketing education and economics were identified for the study. Of that number, twenty two schools were removed from the study due to administrative restrictions regarding the research project. The ninety five remaining schools were sent test packets. An additional eight schools were removed from the population after returning the unused test packets leaving a total of eighty seven schools in the population. Fifty six individual schools participated in the study. Test packets were completed and returned by fifty marketing teachers, which represented a fifty seven percent response rate. Thirty six economics teachers completed and returned the test packets, representing a forty one percent response rate.

Several factors contributed to the low response rate. The primary factor was the lack of response by school principals. Seventy six principals did not return the initial request to include their school in the study. Three to four attempts were made to contact the non-responding administrators by telephone. When direct contact was not possible, verbal data was obtained from the school secretary on the number of marketing and economics programs to facilitate random selection.

End of school year activities were another factor that may have contributed to the low response rate. An attempt to accommodate for this factor was made by allowing some flexibility in the testing time frame. Because the testing process occurred close to the end of the school year, reminder letters and telephone reminders were not feasible.

Data Tabulation Procedures

In excess of 5500 tests were sent to the ninety-five schools included in the population. Two types of answer sheets were used requiring different scoring methods. The first type of answer sheet was mechanically scored using a ScanTron device. The second type of answer sheet required manual scoring. The researcher had access to a limited number of ScanTron forms and reproduced the remaining answer sheets developed by the National Council for Economic Education for the Test of Economic Literacy. Each set of classroom scores was transferred to a summary sheet from which class averages were calculated for each dependent variable. An Analysis of Variance was calculated manually for each of these variables. The basic data was also entered into the SPSS program for analysis. The results of the two methods of analysis were compared. The manual calculation of the Analysis of Variance for teacher enthusiasm demonstrated no significant difference. However, the computer analysis did indicate a significant difference between the teachers in the two treatment groups. A scatter diagram was used to look for a linear relationship between enthusiasm and test scores. No linear relationship was visually indicated between the two dependent

variables. Regression analysis was used to confirm this observation Both manual and computer analysis identified a statistical difference in grade point average between students in the two treatment groups. A scatter diagram suggested a linear relationship between grade point average and test scores. Regression analysis was used to verify the relationship. The SPSS program was used to perform an Analysis of Covariance.

VARIABLES

Independent Variables

The independent variable identified in this study was the educational program classified into two treatment groups marketing education and economics.

Dependent Variables

The first dependent variable in the study was level of economic literacy as measured by the 1985 revised Test of Economic Literacy Form A developed by the National Council on Economic Education. Other dependent variables included student characteristics and teacher characteristics. Student characteristics were measured by grade point average and year in school. Teacher characteristics were measured by the number of preparatory economics courses and attitude toward economics.

STATISTICAL TREATMENT

Five statistical treatments were used to test the null hypotheses. In order to determine if there was a statistical difference in the test scores between students taking marketing and economics, a one way analysis of variance (ANOVA) procedure was used at the $p \leq 0.05$ and $p \leq 0.01$ levels of significance.

In order to determine if there was a statistical difference in student grade point average between students taking marketing and economics, a one way ANOVA was used at the $p \leq 0.05$ and the $p \leq 0.01$ levels of significance.

A one way ANOVA was used at the $p \leq 0.05$ level of significance to determine if there was a statistical difference in student year in school between students taking marketing and economics.

In order to determine if there was a statistical difference in the number of economics courses taken by teachers who taught marketing and teachers who taught economics, a one way ANOVA was used at the $p \leq 0.05$ level of significance.

A one way ANOVA was used at the $p \leq 0.05$ and the $p \leq 0.01$ levels of significance to determine if there was a statistical difference in teacher attitude toward economics between teachers who taught marketing and economics.

A significant difference was found in the test scores of students taking marketing and economics. A Scatter Diagram was used to identify the existence of a linear relationship between test scores and each student characteristic and teacher characteristic also exhibiting a

significant F. The identified variable was used as a covariate for re-examining the first null hypothesis.

A Bar Graph was used to show the difference between Tennessee scores on the Test of Economic Literacy and national scores.

CHAPTER 4

FINDINGS OF THE STUDY

The purpose of the study was two fold. The first purpose was to determine if students who take first year marketing education learn the principles of economics at the same level of understanding as those who take Economics. The second purpose was to compare the level of economic literacy of students in both marketing education programs and economics programs in Tennessee with the nationally normed sample. This chapter presents an explanation of the four research questions and a statistical analysis of the three resulting null hypotheses.

RESEARCH QUESTIONS AND RESEARCH HYPOTHESES

Research Question One

Research question one was: **Is there a difference in the test scores of students enrolled in marketing education programs and economics programs in Tennessee public secondary schools?** To answer this question, Null Hypothesis One was developed.

Null Hypothesis One

There is no significant difference in the level of economic literacy between high school students who take economics and those who take marketing education.

The Test of Economic Literacy, 1985 Revised Edition Form A, developed by the National Council on Economic Education, was administered to fifty first year marketing education classes and thirty six economics classes across the state of Tennessee. The test consisted of forty-six multiple choice questions. The mean score for the marketing education classes was 17.025 correct responses or 37 percent of the total possible score. The mean score for the economics classes was 20.020 correct responses or 43.5 percent out of 100 percent. A one-way Analysis of Variance was performed at the $p \leq 0.05$ level of confidence. The test results identified an F ratio of 25.68. An F ratio of 3.96 was required for significance at the 95 percent confidence level for 1 and 85 degrees of freedom. Significant difference was also evaluated at the $p \leq 0.01$ level. An F ratio of 6.963 was required for significance at this level. There was a significant difference between the two sets of scores. Students taking economics scored significantly higher than marketing students on the Test of Economic Literacy. Null Hypothesis One was rejected. Table 3 summarizes the test scores for each treatment group. Table 4 summarizes the Analysis of Variance for the test scores.

Research Question Two

The second research question was: Is there a difference in the characteristics of students enrolled in marketing education programs and economics programs in Tennessee public secondary schools? Two characteristics were identified as potential factors affecting student achievement. These factors were student grade point average and

Table 3

Test Scores by Individual Program for Number of Correct Responses and Percentile Grade		
TYPE OF PROGRAM	NUMBER OF CORRECT RESPONSES OUT OF 46 QUESTIONS	PERCENTILE GRADE
Marketing Education	17.025	37
Economics	20.02	43.5

Table 4

ANOVA Summary Table for Comparing the Difference in Test Scores

Source of Variation	Sum of Squares	Degrees of Freedom	Variance Estimate	F
Between Treatments	188.267	1	188.267	25.68*
Within Treatments	615.851	84	7.331	
Totals	804.118	85		

Statistically significant, $p \leq .05$
An F ratio of 3.96 is required for significance at the for 1 and 85 degrees of freedom.
Statistically significant, $p \leq .01$
An F ratio of 6.963 is required for significance

student year in school. Null Hypothesis Two was developed to measure the affects of these factors.

Null Hypothesis Two

There is no significant difference in student grade point average or year in school between students enrolled in marketing programs and students enrolled in economics programs.

Research has determined that both student ability and maturity influence school performance. Student grade point average has been used as a measure of ability and predictor of academic success. Student year in school is associated with chronological age. The maturity of a person has been linked to age. Maturity has been shown to influence a student's ability to comprehend and synthesize more complex cognitive material. Eighty-one of the eighty-six programs reported the students' year in school. This represents a 94.1 percent of the sample. Student grade point average was more difficult to identify because several schools across the state did not compute overall grade point average until a students senior year. Seventy seven of the eighty six classes reported grade point average. This represented an 89.5 percent of the sample. Table 5 depicts both year in school and grade point average.

A One-way Analysis of Variance was used to compare the student year in school. The test produced an F ratio of .506. An F ratio of 3.96 was required for significance at the 95 percent confidence level for 1 and 80 degrees of freedom. No significant difference was found in the average year in school of marketing classes and the average year in school of the

Table 5

Student Characteristics as Measured by Individual Program Average for Year in School and Grade Point Average		
TYPE OF PROGRAM	**YEAR IN SCHOOL**	**GRADE POINT AVERAGE**
Marketing Education	11.4	2.559
Economics	11.5	2.856

economics classes. The portion of the null hypotheses stating there is no significant difference between student year in school between marketing students and economics students was not rejected. Table 6 summarizes the Analysis of Variance for year in school.

The mean grade point average for marketing students was 2.559. The mean grade point average for economics students was 2.856. A One-Way Analysis of Variance produced an F ratio of 13.733. This ratio was considerably higher than the 3.96 F ratio needed to demonstrate a significant difference in grade point average between the two groups at the 95 percent confidence level for 1 and 76 degrees of freedom. A significant difference continued to be demonstrated when compared to the 6.963 ratio needed for significance at the 99 percent confidence level. Economics students had a significantly higher grade point average than did marketing students. Table 7 summarizes the Analysis of Variance for grade point average. The null hypothesis stating there is no significant difference between student grade point average between marketing students and economics students was rejected.

Research Question Three

Research question three was: **Is there a difference in teacher characteristics between teachers teaching marketing education and economics?** Two teacher characteristics were identified as potential factors affecting student achievement. These factors were economics training and attitude toward economics. Null Hypothesis Three was developed to measure the affects of these factors.

Table 6

ANOVA Summary Table for Comparing the Difference in Year in School				
Source of Variation	**Sum of Squares**	**Degrees of Freedom**	**Variance Estimate**	**F**
Between Treatments	0.099	1	0.099	0.506
Within Treatments	15.439	79	0.195	
Totals	15.565	80		

An F ratio of 3.96 is required for significance at the $p \leq .05$ level for 1 and 80 degrees of freedom.

Table 7

ANOVA Summary Table for Comparing the Difference in Student Grade Point Average

Source of Variation	Sum of Squares	Degrees of Freedom	Variance Estimate	F
Between Treatments	1.635	1	1.635	13.733*
Within Treatments	8.93	75	0.119	
Totals	10.565	76		

Statistically significant, $p \leq .05$
An F ratio of 3.96 is required for significance at the $p \leq .05$ level for 1 and 76 degrees of freedom.
Statistically significant, $p \leq .01$
An F ratio of 6.963 is required for significance

Null Hypothesis Three

There is no significant difference in teacher training in economics as measured by the number of college economics courses taken and attitude toward economics as measured on an attitude scale between those teaching marketing education and those teaching economics.

Teacher characteristics often influence student performance. A teacher's level of knowledge about the subject matter has been shown to affect student performance. The number of courses taken by a teacher in the subject area is an indicator of the level of knowledge. Eighty one of eighty six teachers reported the number of college economics courses taken. Marketing teachers had taken an average of 4.02 economics courses. Economics teachers had taken an average of 4.51 economics courses. A One-Way Analysis of Variance, as shown in Table 8, found no significant difference in the number of economics courses taken by teachers in the two treatments. The calculated F ratio was .979 while an F ratio of 3.96 was necessary for significant difference at the 95 percent confidence level for 1 and 80 degrees of freedom. The portion of the null hypothesis stating that there was no significant difference in teacher training in economics as measured by the number of college economics courses between the economics teachers and marketing teachers was not rejected.

The attitude of a teacher toward the subject he or she is teaching has been shown to have an impact on student performance. Teacher attitude toward economics was measured on a three question attitude inventory. A copy of the inventory is located in Appendix D. Eighty three

Table 8

ANOVA Summary Table for Comparing the Difference in the Number of Preparatory Economics Courses Between Marketing Teachers and Economics Teachers

Source of Variation	Sum of Squares	Degrees of Freedom	Variance Estimate	F
Between Treatments	4.778	1	4.778	0.979
Within Treatments	385.222	79	4.876	
Totals	390	80		

An F ratio of 3.96 is required for significance at the $p \leq .05$ level for 1 and 80 degrees of freedom.

of eighty six teachers responded to the questionnaire. This was 96.5 percent of the sample. The attitude of marketing teachers toward economics was 4.159 while the attitude of economics teachers toward economics was 4.383 on a 5.0 point scale. A One-Way Analysis of Variance identified a significant F ratio of 4.103. An F ratio of 3.96 was required for significance at the 95 percent level of confidence for the 1 and 82 degrees of freedom. However, the difference in attitude scores was not significant at the 99 percent confidence level. An F ration of 6.963 would have been required to maintain significance at this level. The null hypothesis was rejected at the $p \leq 0.05$ level. Economics teachers held a more positive attitude toward economics than did marketing teachers. Table 9 summarizes the Analysis of Variance.

Statistical analysis of the data revealed a significant difference in both student grade point average and teacher attitude between the two treatment groups. It was necessary to determine if these factors influenced the test scores. A scatter diagram was constructed to visually identify the existence of a linear relationship between teacher attitude and test scores. No linear relationship was exhibited between test scores and teacher attitude. Figure 1 depicts the scatter diagram for teacher attitude and test scores.

A second scatter diagram was constructed to identify the existence of a linear relationship between student grade point average and test scores. The diagram showed a positive correlation between the two variables. Regression analysis produced an R value of .44718. This confirmed the linear relationship between test scores and grade point

Table 9

ANOVA Summary Table for Comparing the Difference in Teacher Attitude Toward Economics

Source of Variation	Sum of Squares	Degrees of Freedom	Variance Estimate	F
Between Treatments	1.348	1	1.348	4.103*
Within Treatments	26.618	81	0.328	
Totals	27.966	82		

*Statistically significant, $p \leq .05$

An F ratio of 3.96 is required for significance at the $p \leq .05$ level for 1 and 82 degrees of freedom.

An F ratio of 6.963 is required for significance at the $p \leq .01$ level for the and 82 degrees of freedom.

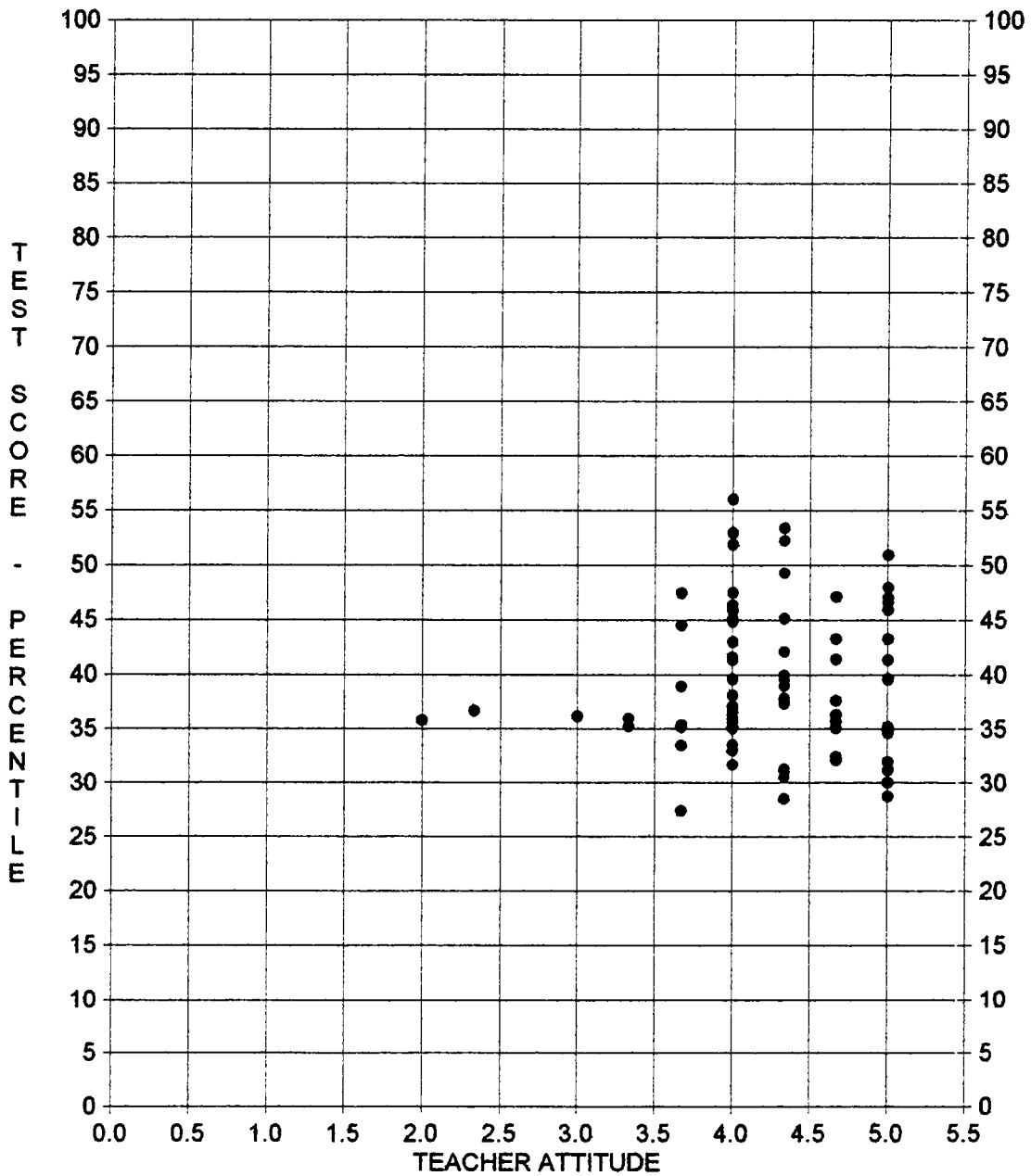

Figure 1. Correlation between teacher attitude and test scores

average. Figure 2 depicts the linear relationship between grade point average and test scores.

Analysis of Covariance

Based on the visual and statistical linear relationship between grade point average and test scores for marketing students and economics students, an assumption was made that the difference in grade point average contributed to the variation in test scores. It was necessary to adjust the test scores statistically to remove or reduce the influence of greater scholastic ability on the part of economics students as measured by grade point average on the test scores. An Analysis of Covariance using student grade point average as the covariate was performed on the test scores. Although the distance between the test scores of the two groups was decreased, economics students still demonstrated greater economic understanding than marketing students. The unadjusted F ratio was 25.68 while the adjusted F ratio was 19.688. The adjusted ratio remained well above the 3.13 required for significance at the 95 percent confidence level for 2 and 76 degrees of freedom. Further analysis indicated that an F ratio of 4.881 was required for significance at the 99 percent level of confidence The null hypothesis stating that there was no significant difference between test scores of economics students and test scores of marketing students continued to be rejected. Table 10 summarizes the Analysis of Covariance.

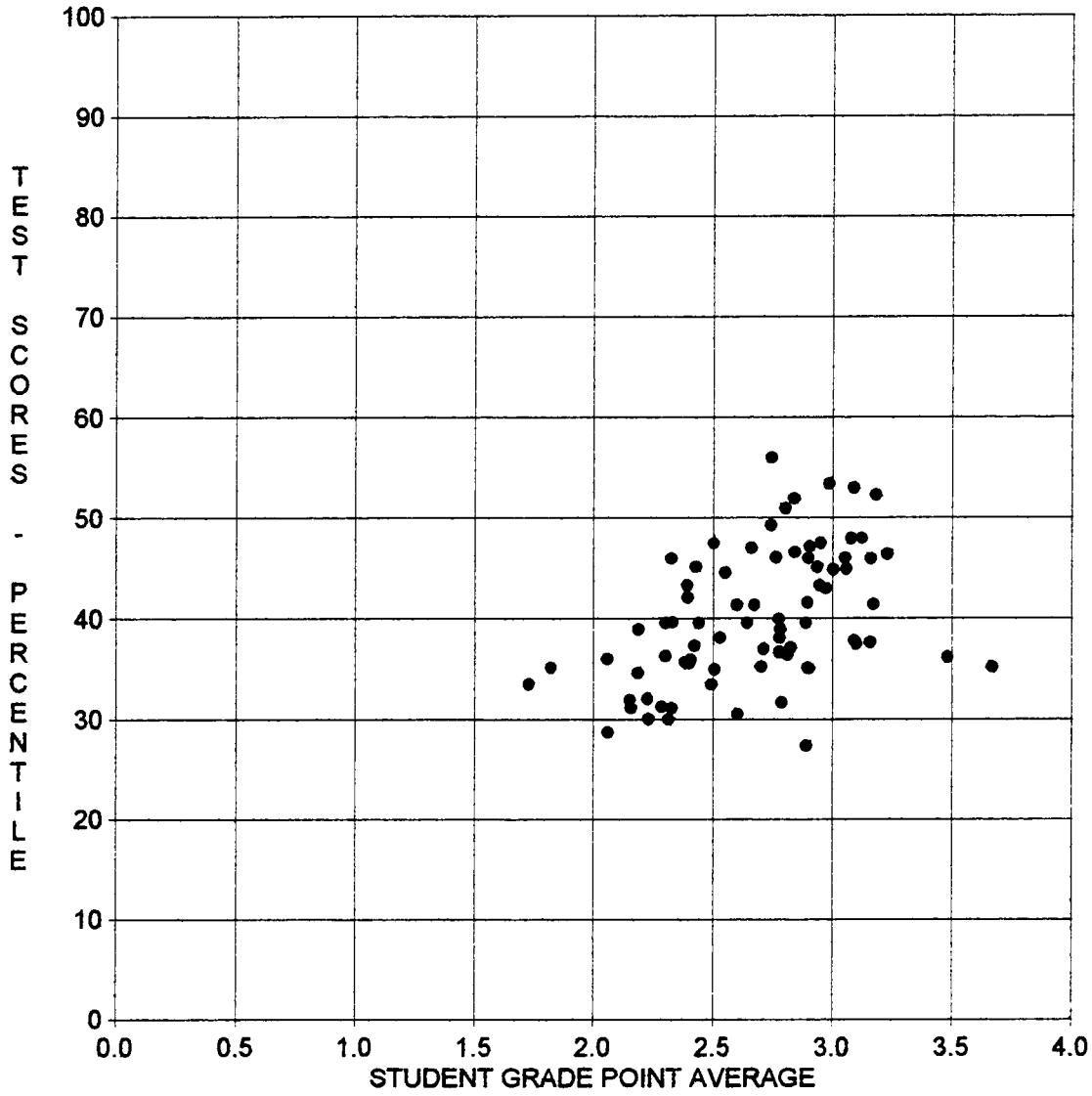

Figure 2. Correlation between grade point average and test scores

Table 10

ANCOVA Summary Table for Comparing Test Scores of Marketing and Economics Students for Differences in Grade Point Average

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F	P
Covariate GPA	139.589	1	139.589	22.672	'.000
Main Effects PROGRAM	102.85	1	102.85	16.705	'.000
Explained	242.439	2	121.219	19.688	'.000
Residual	455.61	74	6.157		
Total	698.049	76	9.185		

Statistically significant, $p \leq .05$
An F ratio of 3.13 is required for significance at the $p \leq .05$ level for 2 and 76 degrees of freedom.
Statistically significant, $p \leq .01$
An F ratio of 4.881 is required for significance

Research Question Four

The second purpose of this study was to compare the mean score of Tennessee students with the national mean score. Research question four was: Are test scores of Tennessee students similar to the national test scores using the Test of Economic Literacy? The overall national mean score of students with economics was 50.7 or 23.33 correct responses out of forty-six questions. As described earlier, this score was established in the Spring of 1986, with a sample of 3,153 students having taken an economics course. The combined mean score for both groups of Tennessee students participating in the study was 40.3 or 18.55 correct responses. The economics treatment mean score was 43.5 or 20.02 correct responses. The marketing education treatment mean score was 37 or 17.025 correct responses. Figure 3 visually depicts the mean scores of each group.

Summary

Data obtained from the marketing programs and economics programs participating in the study were analyzed in this chapter. Three of the four research questions resulted in the development of three null hypotheses. These hypotheses were analyzed using inferential statistics. The decision to reject or not reject the null hypotheses was based on a .05 level of significance. The fourth research question was answered using descriptive statistics.

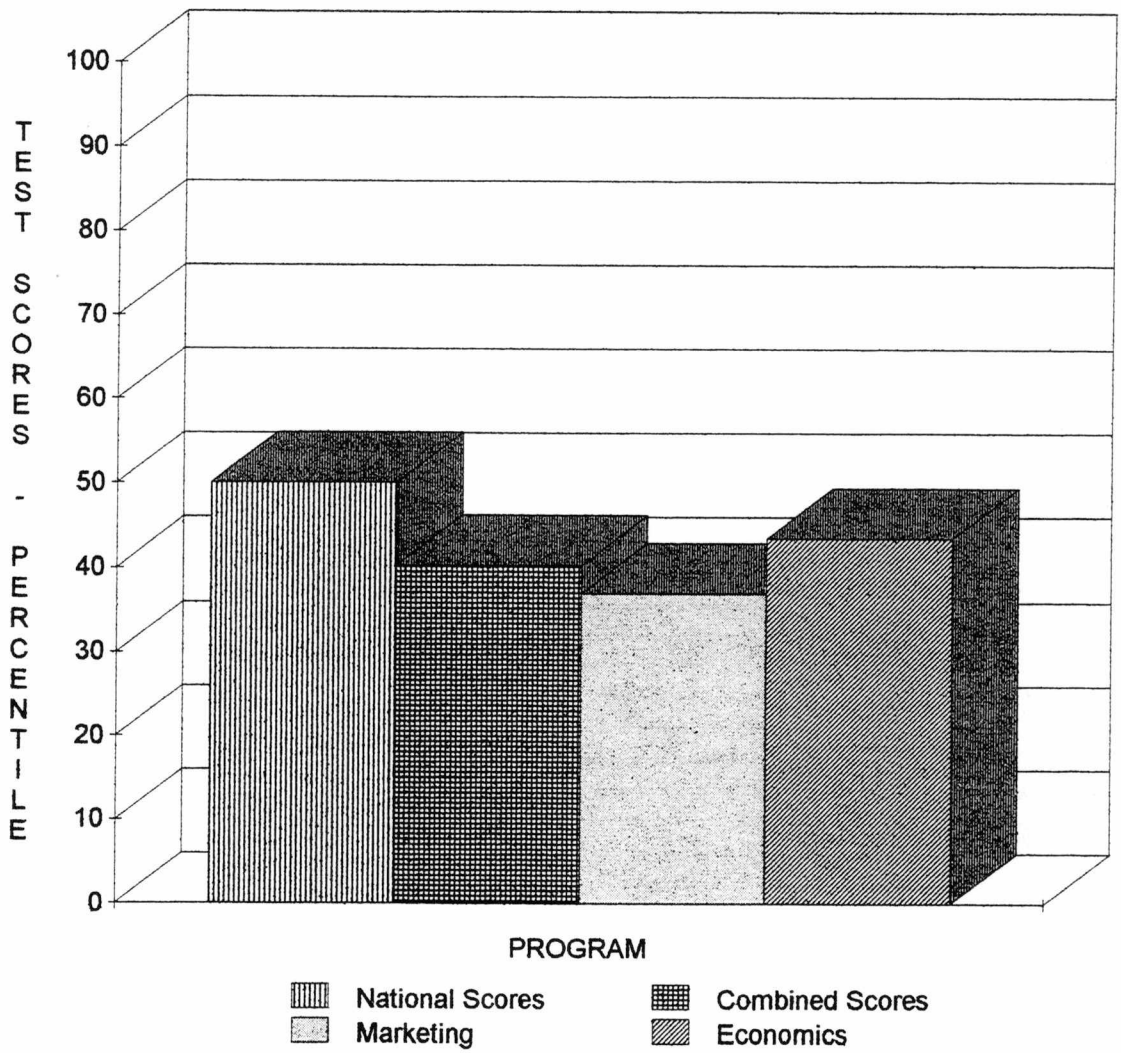

Figure 3. Bar graph of the National Test Score, the Combined Tennessee Test Score, the Marketing Education Test Score and the Economics Treatment Test Score on the Test of Economic Literacy

CHAPTER 5

SUMMARY, FINDINGS, CONCLUSIONS, RECOMMENDATIONS, AND RESEARCHER REFLECTIONS

Chapter 5 presents a summary of the study, major findings based on the analysis of the data, and conclusions based on the findings. Recommendations are presented for potential uses of the study and future research. Researcher reflections contain the observations and thoughts of the researcher as they relate to the study.

SUMMARY

The purpose of the study was to compare the level of economic literacy of secondary school students receiving credit for classes in economics and marketing education in Tennessee during the 1993-1994 school year to determine if the principles of economics were learned at the same level by both groups. Three research questions were asked and three null hypotheses were developed to answer these questions.

A second part of this study was to compare economic literacy of Tennessee students in both first year marketing education and economics with the national economic literacy findings. One research question was developed to answer this question.

The first question asked if there was a difference in economics test scores between students enrolled in marketing education programs and economics programs. The second question sought to establish

differences between grade point average and year in school for the two groups of students. The third question addressed differences in preparatory training and enthusiasm between teachers teaching the two types of programs. The purpose of the fourth research question was to compare the performance of Tennessee students with the nationally normed sample.

The 1985 Test of Economic Literacy Form A developed by the National Council on Economic Education was used to determine the level of economic understanding for students enrolled in secondary marketing education and secondary economics. A demographic questionnaire was used to identify student grade point average, student year in school, and the number of teacher college economics courses taken. A three question five point Likert Scale questionnaire was used to measure teacher attitude toward economics.

Fifty six of eighty seven schools participated in the study. Fifty marketing programs and thirty six economics programs returned test packets. Mean scores were calculated for each participating program. A mean score was calculated for each treatment group. An Analysis of Variance was calculated to identify any significant difference between the dependent variables of each treatment group. A scatter diagram was used to identify any linear relationship between significant student and teacher characteristics and test scores. An Analysis of Covariance was used to identify continued significant difference in test scores statistically equating for these differences. A bar graph was used to visually compare the marketing education program mean score, economics program mean

score, and combined Tennessee mean score, with the national sample mean score on the test of Economic Literacy.

MAJOR FINDINGS

This section presents a summary of the findings of the data resulting from the study. The major findings were:

1. A significant difference was found in the test scores between the two treatment groups at both the .05 and .01 probability levels. The aggregate marketing education program score (37 or 17.025 correct responses) was lower than the aggregate economics score (43.5 or 20.02 correct responses).
2. The analysis of potentially contribution factors revealed that only student grade point average showed a significant difference between treatment groups and a linear relationship to test scores. The level of significance was demonstrated at both the $p \leq .05$ and $p \leq .01$ confidence levels.
3. The test scores of marketing students remained significantly lower than test scores of economics students after the scores were statistically adjusted for differences in grade point average. This finding held true at both the $p \leq 0.05$ and the $p \leq 0.01$ significance levels.
4. The attitude of economics teachers toward economics was higher than the attitude of marketing teachers at the .05

probability level. However, the attitudes toward economics were not significantly different at the .01 probability level.

5. A linear relationship between teacher attitude toward economics and test scores was not demonstrated.
6. A significant difference in teacher training did not exist between teachers of students in economics and teachers of students in marketing. Marketing teachers had taken an average of four college economics courses (4.02) while economics teachers had taken an average of four and one half economics courses (4.51).
7. The grade level of students was not significantly different between the two treatment groups. The average grade level was eleventh grade or junior year in school (marketing education 11.4 grade and economics 11.5 grade).
8. Students in Tennessee scored lower on the Test of Economic Literacy than the national norm. The comparison included the combined scores of both treatments (40.3 or 18.55 correct responses) and the individual treatment groups (see finding 1) with the national norm (50.7 or 23.33 correct responses).

CONCLUSIONS

This section presents the conclusions based on the findings of the study. Inferences apply only to those Tennessee marketing and economics programs participating in the study. This is due to the fact

that the response rate included only fifty-three percent of the marketing programs sampled and thirty-five percent of the economics programs sampled.

The findings of the study led to the following conclusions:

1. Students taking traditional economics courses appeared to have a better understanding of economic concepts than students taking marketing education.
2. Students enrolled in traditional economics courses had higher grade point averages than students enrolled in marketing courses. The results of the study indicated that grade point average had a direct correlation to test scores. However, the correlation did not account for the entire discrepancy in test scores between students in marketing programs and students in economics programs.
3. Although economics teachers held the statistically more positive attitude toward economics than the marketing teachers, both groups of teachers viewed economics with a positive attitude. The review of literature indicated that several studies showed that teachers with an indifferent or uninterested attitudes negatively affected student learning while teachers with normally or highly enthusiastic attitudes produced similar learning outcomes. The lack of direct correlation between teacher attitude and test scores supported the literature.
4. Marketing teachers and economics teachers appeared to have had the same level of exposure to college economics courses.

5. Local education agencies have been given greater control in determining when students may take high school courses. This freedom had not changed the student make up of either economics classrooms or marketing classrooms. These classrooms were still made up primarily of juniors and seniors.
6. The results indicated The ability of secondary students to know, understand, apply, analyze and evaluate economic concepts falls short of the expectations of business leaders, economists, and educators. Tennessee should strengthen the economics curriculum for both economics and marketing because both groups scored lower on the Test of Economic Literacy than the national norm.

RECOMMENDATIONS

The following recommendations are made based on the findings and conclusions of the study. Recommendations are organized by category.

Application of Findings and Conclusions

1. Marketing education teachers should place more emphasis on basic fundamental economic concepts with two goals in mind:
    a. A short range goal to meet or exceed the mean score of Tennessee economics programs (43.5).

b. A long range goal built upon meeting the short range goal. This goal should be to exceed the national norm score of 50.3 because this score does not demonstrate competent knowledge of economics.

2. Economics teachers should also set long range goals to improve the level of economic understanding of their students.

Continued Research

Research should continue which can be used to improve student guidance in the selection of curriculum offerings that better meet student needs. The research should provide a foundation for continued curriculum development for marketing education and economics to ensure economic literacy and the survival of the American Free Enterprise System.

1. This study should be replicated with several goals in mind:
   a. To increase participation in the study by both marketing programs and economics programs to improve the external validity of the study and resulting applicability to all programs in Tennessee.
   b. Expanded assessment of student characteristics to include previous exposure to secondary economics, student attitude toward economics, student career goals, family income, parental occupation, etc.

c. Expanded assessment of teacher characteristics to include number of years to teaching experience, dates of most recent exposure to college economics courses, continued economics inservice training, previous business operations experiences, etc.

2. Expand the focus of the data analysis to include the identification of those specific concept areas where students have the greatest difficulty. Potential concept areas include Fundamental Economic Concepts, Microeconomics Economic Concepts, Macroeconomics Economic Concepts, and International Economic Concepts.

RESEARCHER REFLECTIONS

This section of the research study contains reflections and observations that are not verifiable through the data collected. They are points to be considered in relation to the study.

1. The initial interest in this study was sparked out of a concern I had over the lack of knowledge about economics in general and the American Free Enterprise System in particular on the part of students at my high school. These students were in my marketing classes . Most were either taking economics or had taken economics. In addition, marketing had been approved by the State Department of Education as fulfilling the economics graduation requirement. I had co-authored the marketing economics

curriculum and believed that equivalent concepts were included in both curriculum offerings.

2. Although economics programs appeared to provide a better background for learning economic concepts, the researcher believes that the results of the study do not accurately reflect the level of economic understanding of either program treatment group. The low response rate for both marketing education programs and economics programs leads the researcher to ask the following question: Do the non-responding programs reflect the same levels of economic literacy and demographic make-up as the responding programs for each treatment group? Had it been possible to test students earlier in the school year, a follow-up study of the non-responders could have been conducted to determine the answer to this question.
3. The test appears to be a relatively difficult instrument. Some administrators and teachers may have declined to participate due to this perception. As grounds for this suspicion, the researcher recalls a phone call from an administrator of one of the non-responding schools. The administrator commented on the difficulty level of the instrument and was concerned about a possible poor reflection on the school's marketing and economics programs.
4. It is the researcher's opinion that many of the brighter students gravitate toward or are influenced to take economics rather then marketing education. Marketing education falls under the

vocational or technical umbrella and may not be perceived as a college bound course. In addition, many schools do not provide a strong assessment of student career aptitudes and interests. Therefore, many students and guidance personnel are unaware of the potential benefits of marketing education programs for those interested in business, government, and non-business managerial careers.

5. The researcher believes that teachers of both economics and marketing education should have a stronger preparatory background in the subject area. The average number of college economics courses for both groups was greater than 4 but less than 4.6 courses. Some teachers in both treatment groups had as few as 1, 2 or 3 preparatory college economics courses. The literature review maintained that a minimum of 4 college economics courses was necessary for adequate teaching. However, the level of student learning did not begin to increase until 5 college preparatory courses had been taken. Therefore, teachers should be required to take a minimum of 5 college courses in economics to be certified to teach either secondary economics or secondary marketing education.

6. The researcher also believes that periodic up-dating through formal course work or through inservice experiences would have a positive impact on classroom settings and should be part of the re-certification standards. A combination of formal training in

economics and inservice experience should also be explored as a possible alternative means of certification in both subjects.

7. It is also the researchers opinion that grade level may a greater impact in the future evaluation of both marketing and economics programs. The maturity level influences a students ability to perform well at certain cognitive levels. An understanding of economics requires upper level reasoning skills. Juniors and seniors in high school have developed greater cognitive skills. Increased graduation requirements and greater local curriculum control may increase the number of freshmen and sophomores enrolled in marketing programs and economics programs in the future.

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LIST OF REFERENCES

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APPENDICES

APPENDIX A
PRINCIPAL CORRESPONDENCE
Principal Letter 1
Principal Response Form
Principal Letter 2



committed to the improvement of marketing

Janice "Dee" Cole
Teacher Coordinator

Harriman High School
600 Georgia Street
Harriman, TN 37748
(423) 882-1821

February 7, 1994

_____, Principal
_____ High School
_____
_____, TN _____

Dear Mr. _____:

I am a doctoral student at the University of Tennessee beginning research for my dissertation. My topic is A COMPARATIVE STUDY OF ECONOMIC LITERACY OF HIGH SCHOOL STUDENTS TAKING ECONOMICS AND MARKETING EDUCATION IN TENNESSEE PUBLIC SECONDARY SCHOOLS. Information from this study may be useful in determining the strengths in economic education for both Economics and Marketing Education programs. _____ High School has been selected to participate in the study. The procedures to be followed are described below.

One economics class and one marketing education class from _____ High School will be included in the study. The TEST OF ECONOMIC LITERACY will be administered by each classroom teacher. This is a nationally normed standardized test developed by the National Council on Economic Education. Additional information for the study will include student gender, student grade point average, student year in school, number of economics classes taken by the teacher, and teacher attitude toward economics. All scores and data will be reported in terms of class averages. Data related to individual schools, teachers, and students will not be reported. Both classes will be tested during the month of April. All materials and postage will be provided to the school.

I would like permission to include _____ High School in the study.

Sincerely,

Janice D. Cole

enclosure

TO: Dee Cole

FROM:

____ Yes
____ No

_____ may be included in the Comparative Study of Economic Literacy of High School Students Taking Economics and Marketing Education in Tennessee Secondary Schools.

Please indicate the number of teachers teaching Economics this semester and the number of Economics classes each is teaching.

TEACHER	# ECONOMICS CLASSES

____ No
____ Yes Parental consent forms needed
____ #

_____ _____
(Principal Signature) (Date)



committed to the improvement of marketing

Janice "Dee" Cole
Teacher Coordinator

Harriman High School
600 Georgia Street
Harriman, TN 37748
(423) 882-1821

April , 1994

_____, Principal
_____ High School
_____
_____, TN _____

Dear _____:

This is a follow up letter to correspondence sent February 7, 1994, concerning dissertation research for A COMPARATIVE STUDY OF ECONOMIC LITERACY OF HIGH SCHOOL STUDENTS TAKING ECONOMICS AND MARKETING EDUCATION IN TENNESSEE PUBLIC SECONDARY SCHOOLS. Enclosed please find the test packets for both the economics teacher and marketing teacher.

Thank you for your participation in this project as it will strengthen the findings of this project. However, if you or either of your teachers choose not to participate, please place the test materials in the pre-posted envelopes found in the teacher packets and return.

Sincerely,

Janice D. Cole

enclosure

APPENDIX B

MARKETING TEACHER CORRESPONDENCE

Marketing Teacher Letter 1

Marketing Teacher Letter 2

Marketing Teacher Letter 3

January 10, 1994
Route 6 Box 618
Harriman, TN 37748

Ms_____
Marketing Education
_____ High School
_____
_____, TN _____

Dear _____:

Happy New Year! We hope you are preparing for regional and state conferences with many excited students and excellent projects. This year is exciting for us because it gives us an opportunity to contact each of you for input that affects marketing education. In fulfillment of the University of Tennessee degree requirements, we are conducting two research studies that involve marketing education programs throughout the state.

The first study will be conducted close to regional conference time and involve a brief Survey of marketing instructors regarding effective instructional activities. The results of this survey will be used as the basis for a national Delphi technique study for classification of instructional activities by perceptual modality. The second study will be conducted after the state conference and will include the administration of an economics test to one of your Marketing I classes for the purpose of comparing marketing and economics program scores. Your principal will be receiving a letter requesting permission to include your school in the study.

We are requesting your help in these studies so that the data gathered will be accurate and may be presented thoroughly. The resulting findings and recommendations will hopefully serve marketing education programs and instructors throughout Tennessee.

Best wishes for outstanding regional and state recognition.

Sincerely,

Trish McCurry
University of Tennessee

Dee Cole
University of Tennessee



committed to the improvement of marketing

Janice "Dee" Cole
Teacher Coordinator

Harriman High School
600 Georgia Street
Harriman, TN 37748
(423) 882-1821

TO:

FROM: Dee Cole

DATE: April 25, 1994

Enclosed is your packet for participation in the dissertation study mentioned in my letter of January 10, 1994. The study is A COMPARATIVE STUDY OF ECONOMIC LITERACY OF HIGH SCHOOL STUDENTS TAKING ECONOMICS AND MARKETING EDUCATION IN TENNESSEE PUBLIC SECONDARY SCHOOLS. Your _____ period Marketing I class has been selected to participate in the study. The procedures to be followed are described below.

This packet contains a teacher/student information sheet, copies of the TEST OF ECONOMIC LITERACY, answer sheets, and testing procedures. The test is a nationally normed standardized test developed by the National Council on Economic Education. All scores and data will be reported in terms of class averages. Data related to individual schools, teachers, and students will not be reported. The test should be administered at your convenience any time before May 15. The test should take approximately one class period. Upon completion of the test, all materials should be returned in the pre-posted packing folder. A parental consent form is included in the event that you need to obtain parental permission.

Thank you for participating in this project. The reliability of the test results would not be as strong without your help. The information obtained from this study will be used to determine the effectiveness of economic education in Tennessee.



committed to the improvement of marketing

Janice "Dee" Cole
Teacher Coordinator

Harriman High School
600 Georgia Street
Harriman, TN 37748
(423) 882-1821

January 3, 1995

Ms. _____
Marketing Education
_____ High School
_____
_____, TN _____

Dear _____,

This is a follow up letter concerning my dissertation study. I have enclosed two sets of the detailed answer sheet to the Test of Economic Literacy and several copies of the test. This is in response to requests for this information. The second set is for the economics teacher.

Thank you for your help in this research project.

Wishing you a successful 1995 and looking forward to seeing you in Nashville

Sincerely,

Dee Cole

APPENDIX C
ECONOMICS TEACHER CORRESPONDENCE
Economics Teacher Letter



Marketing Education committed to the improvement of marketing

Janice "Dee" Cole
Teacher Coordinator

Harriman High School
600 Georgia Street
Harriman, TN 37748
(423) 882-1821

TO: Economics Education Teacher

FROM: Dee Cole

DATE: April 25, 1994

I am a doctoral student at the University of Tennessee conducting research for my dissertation. My topic is A COMPARATIVE STUDY OF ECONOMIC LITERACY OF HIGH SCHOOL STUDENTS TAKING ECONOMICS AND MARKETING EDUCATION IN TENNESSEE PUBLIC SECONDARY SCHOOLS. Your ____ period Economics class has been selected to participate in the study. The procedures to be followed are described below.

This packet contains a teacher/student information sheet, copies of the TEST OF ECONOMIC LITERACY, answer sheets, and testing procedures. The test is a nationally normed standardized test developed by the National Council on Economic Education. All scores and data will be reported in terms of class averages. Data related to individual schools, teachers, and students will not be reported. The test should be administered at your convenience any time before May 15. The test should take approximately one class period. Upon completion of the test, all materials should be returned in the pre-posted packing folder. A parental consent form is included in the event that you need to obtain parental permission.

Thank you for participating in this project. The reliability of the test results would not be as strong without your help. The information obtained from this study will be used to determine the effectiveness of economic education in Tennessee.

APPENDIX D
DATA REPORTING FORMS
Survey Instructions
Teacher/Student Survey

TEST OF ECONOMIC LITERACY
DISSERTATION RESEARCH

Teacher/Student Information Sheet

TEACHER DATA

1. Indicate the total number of economics courses you have taken (number of courses not number of hours) in the space provided on the survey sheet.

2. Complete the attitude survey.

STUDENT DATA

1. Please indicate the grade point average for each student taking the test with the corresponding year in school. The grade point average should be the average at the beginning of the 1993-94 school year.

OTHER DATA

1. If you would like a copy of the test and answer key, keep one test copy and indicate the need for a test key at the bottom of the survey. I will send you one during the summer.

TEACHER/STUDENT INFORMATION SHEET

High School _____ Program (Econ. or Marketing) _____

TEACHER DATA

Please indicate the total number of college economics courses you have taken (number of courses not number of hours).

_____

Indicate your response to the following statements:

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Economics is an interesting field of Study	_____	_____	_____	_____	_____
I enjoy teaching economic concepts	_____	_____	_____	_____	_____
I would continue to study economic trends even if I did not teach Economics or Marketing	_____	_____	_____	_____	_____

STUDENT DATA

For each student taking the test please indicate his or her year in school (9th, 10th, 11th, 12th) and official cumulative grade point average at the beginning of this school year (3.46, 2.1, etc.).

STUDENT NUMBER	GRADE POINT AVERAGE	YEAR IN SCHOOL	STUDENT NUMBER	GRADE POINT AVERAGE	YEAR IN SCHOOL
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16			32		

APPENDIX E

TEST OF ECONOMIC LITERACY

Administration of Exam

Exam Questions

Answer Sheet - Blank

Answer Sheet - Completed

TEST OF ECONOMIC LITERACY
DISSERTATION RESEARCH

Administration of Exams

1. Exams are to be administered to one Marketing I class or one Economics class.

2. Exams are to be administered during one class period at the teacher's convenience between the time of receiving the exam packet and May 15, 1994.

3. Use only pencils on the scan card. students should print the name of the high school in the space market NAME and Marketing or economics in the space marked SUBJECT.

4. When the exam has been completed, return the test booklets and scan cards in the pre-stamped envelope.

If you have questions, please call Dee Cole at (615) 882-1821.

Thank you for helping me in this project.

Form A

TEST OF ECONOMIC LITERACY

SECOND EDITION

Directions

1. Please fill out the information requested on the answer sheet before beginning your test.
2. Do not write in this booklet or make other marks in it unless your teacher tells you to do so.
3. When marking your answer sheet, use *only* a regular No. 2 pencil. DO NOT USE A BALLPOINT PEN. Do not make any stray marks on the answer sheet. If you make a mistake, erase the answer you wish to change *completely*.
4. This test is designed to measure your understanding of economics. Not all students will have taken a formal course in economics, but most have learned something about the subject in their regular courses or through reading, listening to the radio, or watching television. These questions will measure how well you understand the principles of economics and the way our economy operates. It is probable that you will not know the answers to some questions. However, you should answer *every* question by marking what you think is the best choice, using the information you *do* have to select your answer. Work at a comfortable speed, but do not spend too much time on any one item. The test consists of forty-six questions or incomplete statements for each of which you are to choose the **one best answer**. Even though in some instances more than one answer may appear to be correct, your task is to choose the *best* answer.

Sample Question 1

In our economy, income is usually received in the form of

A. basic necessities.
B. services.
C. money.
D. wealth.

Sample of Answer Sheet

1. Ⓐ Ⓑ ● Ⓓ

Sample Question 2

The federal government exercises the closest control over

A. banking and money.
B. high school education.
C. food distribution.
D. oil companies.

2. ● Ⓑ Ⓒ Ⓓ

DO NOT TURN THE PAGE AND BEGIN THE TEST UNTIL YOU ARE TOLD TO DO SO.

This test was developed for the Joint Council on Economic Education
by John C. Soper and William B. Walstad.

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TEST OF ECONOMIC LITERACY, Form A

1. When the United States trades wheat to Saudi Arabia in exchange for oil

   A. both countries gain.
   B. both countries lose.
   C. the United States gains. Saudi Arabia loses.
   D. Saudi Arabia gains. the United States loses.

2. The opportunity cost of a new public high school is the

   A. money cost of hiring teachers for the new school.
   B. cost of constructing the new school at a later date.
   C. change in the annual tax rate to pay for the new school.
   D. other goods and services that must be given up to build the new school.

3. Which of the following choices do all economic systems face? How to

   A. balance imports and exports.
   B. balance the government's budget.
   C. make the best use of scarce resources.
   D. save money to reduce the national debt.

4. When a nation's human and material resources are fully employed. more of any one product

   A. can be produced only if private enterprise does so rather than the government
   B. can be produced only if there is less production of other products.
   C. can be produced only if there is a general decrease in prices.
   D. cannot be produced.

5. Sandy Smith can take a job paying $10,000 a year when she graduates from high school. or she can go to college and pay $5,000 a year for tuition. Measured in dollars. what is her opportunity cost of going to college next year?

   A. $0.
   B. $5,000.
   C. $10,000.
   D. $15,000.

6. The specialization of labor results in

   A. increased price inflation.
   B. less output per hour worked.
   C. greater economic interdependence.
   D. more equal distribution of income.

7. Which of the following is the most essential for a market economy?

   A. Effective labor unions.
   B. Good government regulation.
   C. Responsible action by business leaders.
   D. Active competition in the marketplace.

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8. Suppose you wanted to increase the productivity of labor. Which of the following policies would help do this?

   A. Discourage the use of labor-saving technology.
   B. Increase pollution control requirements.
   C. Encourage capital investment.
   D. Spend less on education.

9. Profits are equal to

   A. sales minus taxes and depreciation.
   B. sales minus wages and salaries.
   C. assets minus liabilities.
   D. revenues minus costs.

10. In a market economy, the public interest is likely to be served even when individuals pursue their own private economic goals because of

   A. the operation of competitive markets.
   B. the social responsibility of business leaders.
   C. careful planning and coordination of market activity.
   D. individuals' understanding of what is in the public interest.

11. Labor unions in the United States have

   A. improved the bargaining position of unionized workers with their employers.
   B. greatly increased wages of union workers compared to nonunion workers.
   C. organized a majority of the American labor force.
   D. increased competition in the labor market.

12. The functions of money are to serve as a

   A. unit of account, a medium of exchange, and a store of value.
   B. determinant of investment, consumption, and aggregate demand.
   C. determinant of capital spending, aggregate supply, and exchange.
   D. system for accounting, a means of income redistribution, and a resource allocator.

13. If your annual money income rises by 50% while prices of the things you buy rise by 100%, then your

   A. real income has risen.
   B. real income has fallen.
   C. money income has fallen
   D. real income is not affected.

14. "Economic demand" for a product refers to how much of the product

   A. is available for purchase from business at each price.
   B. people are willing and able to buy at each price.
   C. people want, whether they can buy it or not.
   D. consumers can afford.

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15. Suppose that Teen Power, a teenage organization, proposed that the minimum wage for teens should be increased. What effect would this increase most likely have on teen wages and employment in a market economy?

A. Wage rates would go up and teen employment would go up.
B. Wage rates would go up and teen employment would go down.
C. Wage rates would go down and teen employment would go up.
D. Wage rates would go up and teen employment would stay the same.

16. The price of shoes is likely to be increased by

A. new machines reducing the cost of shoe production.
B. more capital investment by producers.
C. a decrease in the demand for shoes.
D. a decrease in the supply of shoes.

17. "Americans are a mixed-up people. Everyone knows that baseball is far less necessary than food and steel. Yet they pay ball players a lot more than farmers and steelworkers." Why?

A. The employers of the ball players are monopolists.
B. Ball players are really entertainers rather than producers.
C. There are fewer professional ball players than farmers or steelworkers.
D. Good ball players are more scarce, given the demand for their services.

18. Business firms wish to sell their products at high prices. Households wish to buy products at low prices. In a market economy this conflict of interests usually is resolved by

A. competition
B. government.
C. businesses.
D. voters.

19. A newspaper reports, "COFFEE GROWERS' MONOPOLY BROKEN INTO SEVERAL COMPETING FIRMS." If this is true, we would expect the coffee-growing industry to

A. increase output and decrease prices.
B. decrease output and increase prices.
C. use more capital goods and hire fewer workers.
D. use fewer capital goods and hire fewer workers.

20. Of the following which is *the most general* cause of low individual incomes in the United States?

A. Lack of valuable productive services to sell.
B. Discrimination against nonunion workers.
C. Unwillingness to work.
D. Progressive tax rates.

21. In a market economy high wages depend mostly on

A. minimum wage laws.
B. actions of government.
C. high output per worker.
D. socially responsible business leaders.

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22. "ANOTHER SHIP WRECKED—For the fourth time in six years, Rocky Point claims more victims. Millions of dollars in ships and cargo have been lost. Ships heading into the nearby port must come dangerously close to this well-known hazard. Citizens are concerned that no lighthouse protects shipping into our port." Private businesses are **NOT** likely to build a lighthouse because

A. ship owners won't pay for lighthouses because they buy insurance policies to protect themselves from losses.
B. the light from the lighthouse can be used even by ships that do not pay a fee for the service.
C. it would cost a private business more than it would cost the government to build a lighthouse.
D. the cost of building the lighthouse is too high.

23. From an economic point of view, which of the following approaches to pollution control is most efficient?

A. Abolish the use of toxic chemicals.
B. Use resources to reduce all pollution damage.
C. Control pollution as long as the extra benefits exceed the extra costs.
D. Prohibit economic activities that cause pollution or harm the environment.

24. Those who believe that people should be taxed according to their ability to pay would most likely favor

A. an excise tax
B. a general sales tax.
C. a progressive income tax.
D. a residential property tax.

25. Three major factors of production are natural, human, and capital resources. Which of the following groups best illustrates these three factors?

A. Rent, workers, and money.
B. Oil, taxi drivers, and bonds.
C. Iron ore, teachers, and trucks.
D. Farmers, investors, and manufacturers.

26. Gross National Product is a measure of

A. the price level of goods and services sold.
B. total spending by federal, state, and local governments.
C. the quantity of goods and services produced by private businesses.
D. the market value of the nation's output of final goods and services.

27. The limit of an economy's potential output at any time is set by

A. the quantity and quality of labor, capital, and natural resources.
B. business demand for final goods and services.
C. government regulations and spending.
D. the amount of money in circulation.

28. An economy will face periods of high unemployment whenever

A. competition is intense.
B. exports exceed imports.
C. total spending is inadequate.
D. there is a shortage of unskilled labor.

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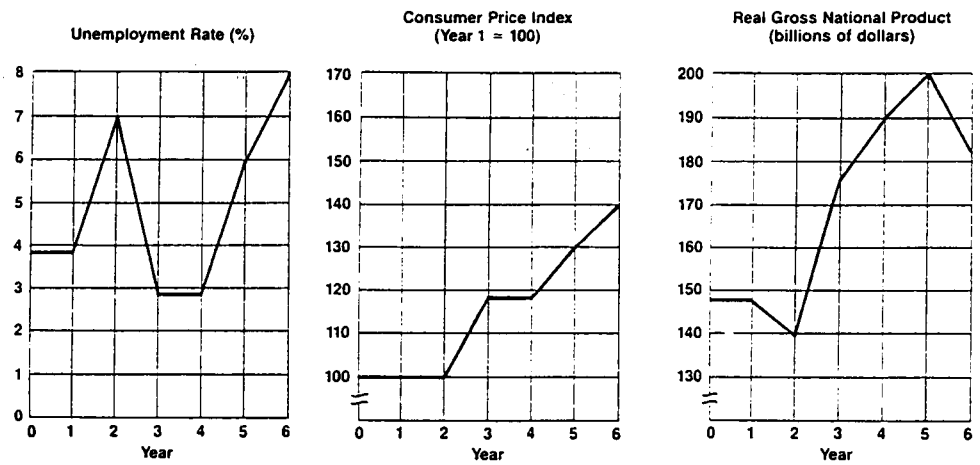
29. If from time to time total spending declines relative to productive capacity, the growth rate of the economy over a long period will be

A. lower because some productive resources will not be fully employed.
B. lower because of a heavier reliance on the raw materials of foreign countries.
C. higher because inefficient plants, equipment, and labor no longer need be employed.
D. higher because production will be concentrated on necessary goods rather than luxuries.

Questions **30** and **31** are based on the following graphs.

ECONOMIC CONDITIONS IN PARKLAND



30. Parkland had both rising unemployment and a high rate of inflation during which period?

A. Years 1 to 2.
B. Years 2 to 3.
C. Years 3 to 4.
D. Years 4 to 5.

31. Parkland had an increase in output with a relatively low inflation rate during which period?

A. Years 1 to 2.
B. Years 2 to 3.
C. Years 3 to 4.
D. Years 4 to 5.

32. Which one of the following groups typically is hurt the most by unexpected inflation?

A. Manufacturers.
B. Bondholders.
C. Borrowers.
D. Farmers.

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33. Increased taxation is a preferred method of financing government spending when

A. the interest rate is low.
B. corporate profits are low.
C. the economy is experiencing inflation.
D. the economy is experiencing a recession.

34. When commercial banks increase their loans to businesses and consumers, this usually results in

A. a decrease in the spending power of consumers and businesses.
B. an increase in government control over the economy.
C. an increase in the banks' excess reserves.
D. an increase in the nation's money supply.

35. Which of the following monetary policies would be most likely to increase aggregate demand?

A. Raising reserve requirements at commercial banks.
B. Raising margin requirements on stock purchases.
C. Buying government bonds on the open market.
D. Raising the discount rate.

36. A government budget deficit exists when

A. government spending exceeds tax revenues.
B. government spending is increased.
C. the national debt is decreasing.
D. taxes are reduced.

37. One reason the federal government might reduce taxes is to

A. slow down the rate of inflation.
B. slow down a rapid rise in interest rates.
C. decrease business spending on plant and equipment.
D. increase consumer spending and stimulate the economy.

38. The economy is at full employment, but has a high inflation rate. Which combination of government policies is most likely to reduce the inflation rate?

A. Increase government spending and sell government bonds in the open market.
B. Decrease government spending and sell government bonds in the open market.
C. Decrease taxes and buy government bonds in the open market.
D. Increase taxes and buy government bonds in the open market.

39. Specialization and division of labor by nations followed by increasing international trade probably would

A. increase the likelihood of worldwide unemployment.
B. increase total world production of goods and services.
C. lower living standards in the poor nations of the world.
D. eliminate differences in standards of living among nations.

40. If Britain has a comparative advantage over France in the production of cars, then

A. there are no gains from specialization and trade in cars between Britain and France.
B. the opportunity cost of producing cars in Britain is higher than in France.
C. the opportunity cost of producing cars in Britain is lower than in France.
D. Britain will benefit from a decline in the demand for cars.

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41. Which of the following statements about tariffs is true?

A. Tariffs increase the market for exports.
B. Tariffs decrease employment in protected industries.
C. Tariffs benefit some groups at the expense of others.
D. Tariffs encourage the growth of the most efficient industries.

42. A nation has a deficit in its international balance of trade when

A. it sells goods of greater value to other countries than it buys from them.
B. it buys goods of greater value from other countries than it sells to them.
C. it invests more in other countries than it receives from them.
D. government expenditures exceed tax revenues.

43. To correct a balance of trade deficit, many members of Congress want to increase import tariffs. If this occurs, then we should also expect

A. increased U.S. imports and exports.
B. decreased U.S. imports and exports.
C. increased U.S. imports and decreased U.S. exports.
D. decreased U.S. imports and increased U.S. exports.

Question **44** is based on the following table:

PRICES OF FOREIGN CURRENCIES IN U.S. DOLLARS

	Year 1	Year 2	Year 3	Year 4
German mark	.40	.30	.50	.45
Canadian dollar	1.00	.80	.70	.90
British pound	2.20	2.40	1.30	1.60

44. The change in the value of the British pound from Year 1 to Year 2 could be explained by a market for pounds that had experienced

A. increased supply and decreased demand.
B. decreased supply and stable demand.
C. stable supply and decreased demand.
D. stable supply and stable demand.

45. Which of the following best measures a nation's standard of living over time?

A. Money income per capita.
B. Real income per capita.
C. Rate of unemployment.
D. Rate of inflation.

46. To promote economic growth, a developing country must

A. increase investment.
B. increase consumption.
C. use the market system.
D. use central economic planning.

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TEST OF ECONOMIC LITERACY

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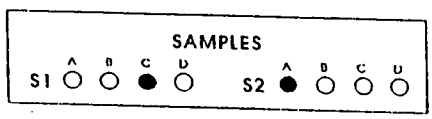

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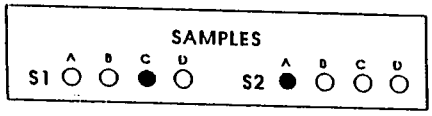

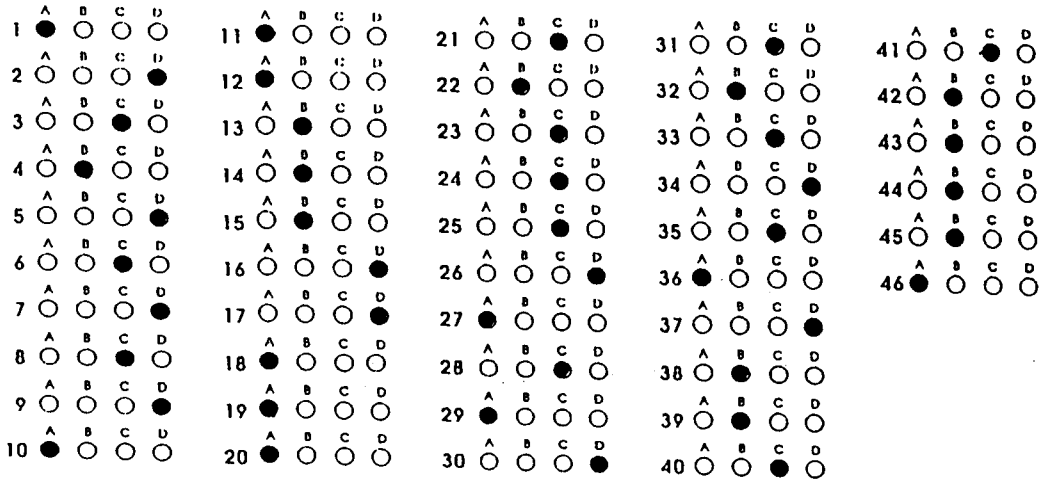

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VITA

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Janice Demarest Staley Cole was born on Christmas Eve, 1943, in Indianapolis, Indiana. She grew up in Tampa, Florida graduating from H. B. Plant High School in 1962. She attended Queens College in Charlotte, North Carolina, and the University of Tennessee in Knoxville. She returned to the Knoxville Campus in 1975 receiving her BS in Marketing from the College of Business in 1976. She earned her MS in Marketing Education in 1982 from the University of Tennessee.

Ms. Cole has taught Marketing Education at Harriman High School since 1976. She is a member of various professional organizations including the Harriman, Tennessee, and National Education Associations, Marketing Education Teachers of Tennessee, Tennessee and American Vocational Associations, Delta Pi Epsilon, and DECA. She has served these organizations in a variety of leadership positions. Ms. Cole has been the recipient of several teaching awards including the Wendy's Medal of Honor, Outstanding Vocational Education Teacher, Outstanding Marketing Education Teacher, and the 1994 Roane County Chamber of Commerce Golden Apple Award for secondary education. She has served on the Board of Directors for Surface Transportation, Inc., C & C Management Company, and Hooray for Harriman, Inc. She is also an active member of her church and community.

Ms. Cole has co-authored five state curriculum guides for Tennessee Marketing Education. Curriculum topics include Economics,

Human Resource Development, Management, Marketing Information Management, and Hospitality and Tourism.

Ms. Cole is married to William "Cliff" Cole and is the mother of twin sons, Joseph Barclay Cole and William Clifford Cole, II.