

AN ABSTRACT OF THE THESIS OF

Margaret Frances Stamps for the degree of Doctor of Philosophy
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Title: AN ANALYSIS OF THE ACCEPTANCE AND THE CONCEPTUAL CLUSTERING
OF PERSONAL FINANCE COMPETENCIES AS IDENTIFIED BY THE BUSINESS
COMMUNITY AND PERSONAL FINANCE TEACHERS

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This study was designed to determine the common personal finance competencies needed by graduating high school students in Oregon as perceived by personal finance teachers from the subject matter areas of business education, home economics, mathematics, and social studies and the business community. Two other purposes were to (1) determine if differences existed among five groups on the acceptance of the proposed content of 70 personal finance competencies and on the level of learning at which the content should be taught, and (2) determine the major clusters of the 70 competencies for both the acceptance of content and the level of learning.

Methods and Procedures

A list of competencies was developed by reviewing the Oregon Personal Finance Education Guide (1974) and the tentative revisions for the Guide which had been prepared by the Oregon Department of Education. A questionnaire was developed, validated by a jury of experts, and

field tested with members of the business community and teachers of personal finance. The final questionnaire contained 70 competencies with two scales, one with a five-point Likert-type scale to determine acceptance of content and one with a six-point scale to determine the level of learning. Instruments were mailed to a random sample of personal finance teachers and members of the business community from Oregon. Five hundred and forty-three usable responses were received. Data were analyzed statistically using (1) the one-way analysis of variance, (2) the Student-Newman-Keuls test where appropriate, and (3) factor analysis consisting of the R-mode and the Q-mode.

Findings and Conclusions

The following major findings were noted: For the acceptance of content, 49 of the competencies were selected as desirable and 21 were considered to be of moderate value. For the level of learning needed for acquisition of the content, 7 competencies were rated at the synthesis level, 44 at the application level, and 19 at the comprehension level. Competencies identified as needing the most emphasis for content and level of learning related to the concepts of financial planning. The two highest ranked competencies for both acceptance of content and level of learning were Steps in Financial Planning (Budgeting) and Responsibilities for Using Credit. The lowest ranked competency for both acceptance of content and level of learning was Financial Implications of Future Travel and Recreation. Significant differences were found among the five groups on 59 of the competencies for acceptance of content and on 48 of the competencies for

level of learning. Most agreement for acceptance of content occurred in the concept area of economics. Agreements for the level of learning occurred on competencies related to finance and saving. More differences existed between personal finance teachers and the business community than existed among the teachers from the four subject matter areas. The R-mode of factor analysis identified clusters of personal finance competencies. A six-factor solution for acceptance of content extracted 50 competencies with factor loadings of +.45 or higher and were identified for curriculum planning as follows: I - Consumer Protection and Regulation, II - Long Term Expenditures and Benefits, III - Financial Planning, IV - Credit and Contracts, V - Consumer Choices, and VI - Investments in Society and the Individual. A six-factor solution for the level of learning extracted 59 competencies with factor loadings of +.45 or higher and were identified for curriculum planning as follows: I - Consumer Choices, II - Credit and Contracts, III - Long Term Expenditures, IV - Finance and Savings, V - Economics and the Individual, and VI - Consumer Regulation and Protection.

Recommendations

Based on the findings of the study, it was recommended that all competencies in the study be included in Oregon's personal finance curriculum, that instruction be provided at the specified levels of learning, and that the clusters of competencies be used in developing curriculum.

An Analysis of the Acceptance and the Conceptual Clustering
of Personal Finance Competencies as Identified
by the Business Community and Personal Finance Teachers

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An Analysis of the Acceptance and the Conceptual Clustering
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by the Business Community and Personal Finance Teachers

I. INTRODUCTION

Background Statement

The passage of the Federal Vocational Education Amendment, Part F, in 1968, gave the impetus for a new emphasis on consumer education. This endeavor was preceded by a surge in consumer education in the 1930s and another early in the 1900s. The common element of each of these periods is that they occurred during serious changes in the economy and society. In the 1900s, groups with fixed incomes were having financial difficulties and resented the burgeoning trusts and the union movements. In the mid-1930s, prices moved upward after people had adjusted to declining incomes. The 1960s pressures again occurred on real income. The rise in prices in 1966 has been the major contributor to continuing consumer unrest and concerns (Herrmann, 1973, p. 22).

The passage of the Sherman Anti-trust Act against monopolies at the end of the 19th century indicated the first concern for the consumer by the government. This was followed by the passage of the Pure Food and Drug Act in 1906. This Act provided a rationale for further government action such as the Wheeler-Lea Amendment to the Federal Trade Commission Act (Murray, 1973, p. xi). While legislation in these areas was meant to regulate marketing and business, it also provided some protection for the consumer.

The concepts of consumer education began appearing in school curricula as early as 1920, and in formal course offerings in the early

1930s. The Depression created further interest in consumer education as money was scarce and the consumer needed money management skills to cope with day to day needs.

After the frenzied years of the Depression, the curriculum orientation in consumer education was minimal, with practical and science-oriented curriculum taking priority in the 1940s and 1950s (Langrehr and Mason, 1977, p. 68).

Due to another inflationary trend in the 1960s, the focus in the nation turned once again to consumer concerns and consumer education. McNeal asserts that the consumer movement of the 1960s has been considered the "most overt catalyst for consumer education" (McNeal, 1978, p. 50).

President John F. Kennedy, on March 15, 1962, sent a consumer message to Congress listing four rights of consumers: the right of health and safety, the right to be informed, the right to choose, and the right to be heard. In his message, he stressed the importance of the consumer in the American economy and the problems facing them. In October of that same year, the President's Consumer Advisory Council asked that leadership be provided by the executive departments and government agencies to develop and to improve consumer education programs (Executive Office of the President, 1963, p. 5).

While consumer education focused on money management and buying skills in the 1930s, the resurgence in the 1960s focused on the quality of life and the ethical issue of fairness (Herrmann, 1978, p. 28). With this type of concern taking the forefront, concepts and teaching strategies in curriculum must necessarily address these issues and concerns.

Seitz and Scherf assert that a life-centered, value-orientation approach for consumer education is more valid than attaining efficient skills for market performance (Seitz, 1972, p. 198; Scherf, 1974, p. 71).

Studies indicated, however, that money management skills are still needed. A national survey conducted in 1972-73 by the National Assessment of Education Progress (NAEP) found that 99 percent of the 17-year olds and 84 percent of young adults, ages 26 to 35 in the United States, could not balance a checkbook. Other deficiencies detected were in computational skills. Many of them were unable to do comparative shopping, compute take-home pay, or calculate the amount of money needed for parking (Branscombe, 1975, pp. 21-24).

The Alpha Mu study, 1977, concluded that between 65 percent and 93 percent of the seniors in eight selected schools were deficient in basic business survival skills (Whitney, 1977, p. 5).

It has been found that students show deficiencies in their knowledge of insurance, banking, consumer rights, and grievance resolution. Additionally, they have difficulty handling their money. While consumer education has increased substantially in the last decade, students still do not know how to protect themselves in the marketplace or manage their financial and consumer affairs (Nader, 1975, p. 37).

The lack of adequate knowledge for effective consumer performance will continue to spur consumer education programs. However, the inconsistency of consumer education programs to prepare students for adequate functioning in the marketplace has been of concern to educators. Before educators are able to effectively prepare young people for competent and effective roles as consumers, the content must be relevant to the

problems and needs the consumer faces in today's society.

Goals and objectives, organized into conceptual clusters, must be aligned with societal issues and consumer needs to allow for effective curriculum planning. Sylvia Porter stated in a news conference in February, 1977, that the United States is a "nation of economic illiterates and our illiteracy is a threat to the survival of the free enterprise system we profess to love so much" (Economic Education Called ...", 1977, p. 1).

The addressing of this issue has been a focus of concern for citizens, for the business sector, and for education over the past decade. The State of Oregon has also been confronted with a deficiency of economic literacy.

The Oregon Program

In the late 1960s the Bureau of Business and Economics Research of the University of Oregon conducted studies on consumer debt and found that Oregon had a very high occurrence of consumer bankruptcies (Reed, 1967, p. 111).

Recognition that high school graduates in Oregon were unable to obtain gainful employment, manage their income and expenses and understand their responsibilities and rights in the marketplace was determined by a study done in 1969 with funding from the Title VIII of the Elementary and Secondary Education Act of 1965. The Oregon Board of Education in cooperation with Bardsley and Haslacher (a marketing and research consulting firm, Portland, Oregon) conducted an assessment of educational needs of Oregon graduates. Seven critical areas of need

were defined, one of which was consumer literacy (Personal Finance in Oregon Development, 1976, p. 1).

Based on the identified need, the Superintendent of Public Instruction, Dr. Dale Parnell, held discussion sessions with business and industry leaders and credit union executives on the problem of student literacy in consumer education (Personal Finance in Oregon Development, 1976, p. 1). As a result of these discussions, the Board of Education, in June 1969, appointed a Statewide Advisory Committee, the membership consisting of representatives from the business community and the educational community. The committee was directed to make recommendations for correcting the consumer literacy deficiency based on their study and determination of the status of consumer education in Oregon.

The following year, 1970, a survey made of grades seven through twelve indicated that consumer education classes enrolled only ten percent of the student population and the primary discipline areas offering the consumer education classes consisted of business education, home economics, social studies, and mathematics.

Based on the Statewide Advisory Committee's findings of student needs, current programs, and available curriculum manuals, the committee identified and developed concepts to be included in the curriculum. The term "Personal Finance" emerged as the definitive term; the goal was to "assure that all graduates in Oregon has minimum competencies as a consumer of goods and services and has responsibility for personal finances" (Personal Finance in Oregon Development, 1976).

The Personal Finance Advisory Committee developed a draft of the

Personal Finance Education Guide, which was approved by the State Board of Education for pilot testing with authorization for funding of \$20,000 from Part F (Consumer and Homemaking, Vocational Education). The Guide was tested during the 1971-72 school year which included 11 schools, 6,227 students and 89 administrators. Representatives from the 11 schools met at the end of the year for review of content, minimum competencies, and models of implementation. Consensus existed on the content and minimum competencies, while the model of implementation varied (Kienzle, 1977, pp. 3-5).

The Personal Finance Education Guide was edited and presented to the State Board of Education for approval in October 1972, and was printed and distributed in December 1972.

Concurrently with the development of the Guide, the Oregon Board of Education conducted extensive hearings for three years for the review of the Education Needs Assessment. On September 22, 1972, the Board adopted the Revised Minimum Standards for School Graduation (O.A.R. 58:22-226 2H) which includes a mandate of one unit (130 clock hours) of credit and minimum competency for personal finance education. The Oregon Board of Education mandated that all Oregon high school graduates beginning with the class of 1978 shall have instruction in Consumer Education/Economics/Personal Finance (CE/E/PF) which is generally referred to as "personal finance." The Board further mandated [O.A.R. 58:22-231 1 (i)] that "Student transcripts shall record demonstration of minimum competencies necessary to: (i) Be an informed consumer of goods and services" (Elementary-Secondary Guide I, 1976, p. 9).

It is further mandated [O.A.R. 581-22-231 (2)]:

The local board shall by 9-10-76 adopt and make available to the community minimum competencies it is willing to accept as evidence students are equipped to function in the society in which they live. Students need not develop all competencies within the formal school process. Schools shall provide necessary instruction for those who need it. The local district shall identify performance indicators used for competency verification. (Elementary-Secondary Guide, I, 1976, p. 9)

The Elementary-Secondary Guide for Oregon Schools, Part II, (Suggestions) defined the focus of CE/E/PF:

Consumer Education/Economics/Personal Finance embodies study of all facets commonly called consumer education, with emphasis on the personal financial needs of students as young adults and on marketplace economics. It includes focus not only on personal factors in economic decisions, but also on those affecting society. It helps students develop skills necessary to spend all our resources wisely. (Elementary-Secondary Guide, Part II, 1976, pp. 49-50)

The Guide suggests five goals for CE/E/PF:

1. Students will be able to function responsibly in the interrelated roles of wage-earner and wage-spender in the marketplace.
2. Students will be able to make financial decisions which contribute to family stability and personal satisfaction.
3. Students will be able to plan for using credit in terms of present and future needs and income.
4. Students will be able to make wise decisions on utilizing resources when purchasing goods and services.
5. Students will understand common economic problems and be able to function as responsible consumers in the marketplace. (Elementary-Secondary Guide, Part II, 1976, pp. 49-50)

To further determine students' abilities to handle personal finance problems and to determine concept areas needing to be taught, a criterion-referenced test was administered to 2,877 eleventh graders

in 39 high schools in the Spring of 1973. This study indicated that students taking the test had some degree of deficiency in use of credit, legal rights and responsibilities, management of money and judging the quality of goods and services they buy (Keast, 1978, p. 2; Wolnut, 1975, pp. 3, 20). This instrument has not been revised since the initial testing.

The Report of the Joint Interim Task Force on Minimum Competencies/Graduation, December 1977, recommended that if substantial evidence was provided that the graduating class of 1978 had benefited from the competency graduation requirement, that continuation of basic skills competencies was justified (Trow, 1977, p. 6). No follow-up has been conducted to date. The task force also made several recommendations including the recommendation that further research and evaluation be conducted on the range, quantity, and quality of minimum competencies (Trow, 1977, p. 7).

A descriptive study on program content for personal finance was conducted in 1977. Teachers of personal finance were asked to suggest additional "need" concepts to identify whether the concepts of sub-concepts were needed or not needed. This study indicated that additional concepts should be included in the personal finance curriculum along with those already in the Guide (Breuner, 1978, p. 5).

A revision of the Personal Finance Education Guide by the State Department of Education was scheduled for the school year 1978-79. In the advent of this revision, and in compliance with the previously mandated review of state minimum standards, Dr. Verne A. Duncan, State Superintendent for Public Instruction, made a preliminary recommendation

that the personal finance requirement be changed from one unit (130 hours of instruction) to a one-half unit requirement, and that the demonstrated competence as a "consumer of goods and services" mandated by the state be deleted (Duncan, 1978; Duncan, Draft, 1978, pp. 23, 28, 29).

The formal recommendation was to have gone before the State Board of Education in February, 1979, followed by formal hearings through April, 1979, and adoption by June, 1979. Consumer interest groups, however, wrote Dr. Duncan and members of the State Board of Education in an effort to avert such an action. Currently, no recommendation has been submitted to the State Board of Education. The formal review of State Minimum Standards has been delayed until September, 1979 (Kienzle, 1979).

Thus, it would appear that the future of the personal finance requirements for graduation is in question and the need for competencies in the State of Oregon is a controversial issue.

In an effort to provide empirical evidence for decision making which will ultimately affect the entire student population in the State of Oregon, this study was designed to identify and validate those competencies needing to be emphasized in the curriculum for preparation of graduating high school students in personal finance/consumer education.

The Problem

The central problem of this study was concerned with the identification and validation of selected competencies in personal finance

needed for preparing high school students for graduation. From these competencies, a base for consumer education programs can be established.

The problem involved the determination of the answer to six questions:

1. What content do teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and members of the business community find to be essential or desirable for adequate skills and performance of students in secondary consumer education?
2. What cognitive level of learning do teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and members of the business community find appropriate for the acquisition of content?
3. What differences exist in the way teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and members of the business community judge the acceptance of content?
4. What differences exist in the way teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and members of the business community judge the level of learning necessary for the acquisition of the content?
5. What clusters or underlying unities can be identified within the data for content acceptance?
6. What cluster or underlying unities can be identified within the data on level of learning?

Steps in the Solution of the Problem

The steps taken to solve the problem were:

1. Development of a basic list of competencies from the Personal Finance Education Guide and the recommended revisions and additions suggested by Marian Kienzle, State Specialist in Consumer Education and Personal Finance, Bruener's study, and consumer education teachers.
2. Construction of a survey instrument to determine the acceptance of content and level of learning for emphasis in curriculum development.
 - a. Using the list of competencies, an instrument was developed to measure their content acceptance and the learning level at which the competency should be achieved.
 - b. The list was presented to a jury of experts, the Personal Finance Advisory Committee, for evaluation of content, coverage, clarity, and format.
 - c. A pilot study was conducted to test the instrument.
 - d. The final instrument was revised based on the results of the pilot study.
3. Administration of the final instrument to a random sample of teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and members of the business community.
4. Factor analysis of the data to determine the underlying pattern of relationships by condensing a large number of competencies into a smaller set of factors for simple interpretation.

5. Analysis of the data by mean score comparison and ranking, and a one-way analysis of variance.
6. Formulation of recommendations and implications to be considered in the development of curriculum for consumer education/economics/personal finance.

Purpose of the Study

The purposes of this study were threefold:

The first objective of the study was to determine major concepts and underlying patterns of relationship from the data gathered from the teachers of personal finance and the business community on 70 competency statements to establish a curriculum design from the content and from the hierarchical structure based on the level of learning. These curriculum outlines were developed for consideration in the revision of the Personal Finance Education Guide by the Oregon Department of Education which will be the official guide for use by personal finance teachers throughout the State of Oregon.

The second objective was to determine the mean scores for acceptance of content and level of learning for each competency to determine acceptance common by personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and members of the business community. This analysis was conducted to determine emphasis of competencies in curriculum planning for the Personal Finance Education Guide, which is to be revised by the Oregon Department of Education. This is the official guide used by teachers of personal finance throughout the State of Oregon.

The third objective was to determine where differences exist among five populations, the four groups of personal finance teachers and the business sector, for the purpose of identifying competencies needing further consideration in curriculum decision making in personal finance which are relevant to students' and communities' needs.

Need of the Study

Indications are that consumerism pressure will maintain its position as an important force in society due to the rise in urbanization and education, which correlates with consumer legislation ("Research Spotlight," 1978, pp. 49-50). If this assessment is correct, then educators must recognize that demands for valid educational programs will continue.

Consumer problems become more complex and numerous as the marketplace becomes more sophisticated and technologically advanced. Consumer education is vital and must become an integral part of the total educational system. Consumer education provides people with the opportunity to achieve competence so that they may function adequately in the increasingly complex consumer roles.

There is constant demand that educational programs be relevant in order to prepare young people to cope with the problems and complexity of society today. It, therefore, is essential that educators conduct periodic reviews and evaluation of curriculum content, and on the basis of empirical evidence as well as judgmental conclusions, develop and implement curriculum which will address the issues, problems, and concerns facing today's consumer (Glick, 1975, p. 17; Olson, 1975, p. 7).

Studies have been conducted which include students, teachers and administrators. No studies have been conducted to test the response and reaction of the business community. This study provided the acceptability level of the 70 competencies being proposed for curriculum and for the revised Personal Finance Education Guide by personal finance teachers and the business community in Oregon who are eventually and vitally affected by the potential consumer, the student graduate of Oregon.

1. The Personal Finance Education Guide is the basic resource for determination of curriculum at the local level and, thus, is important in determining the major concepts and subconcepts which will be stressed by each local school district.

2. Since the concepts used in the 1972-74 Guide are being revised, the new guidelines were tested prior to publication for content and level of acceptance as perceived by personal finance teachers and the business community.

3. The development of curriculum is necessarily constrained by the time element of 130 clock hours of instruction. The most important concepts need to be identified and recommended as necessary for inclusion in all local districts' curriculum. Thus, common competencies should be encouraged statewide. This study provided data for recommending competencies by priority of acceptance level.

- a. Schools vary in their selection of competencies. In standards visits, it is possible to find a school which stresses one or two major concepts with the exclusion of the remaining concepts. The Guide was developed to assist teachers in meeting

students' needs in personal finance education. The Guide states that "teachers should consider those performance indicators printed in italics as necessary achievements for all students." (Personal Finance Education Guide, 1974, p. ix)

Yet local planning does not always include these recommended areas of emphasis. In a paper presented at the annual meeting of the American Educational Research Association, Olson (1975) stated the following:

...there is the question whether it is possible to achieve consensus within a community and among a professional staff on the specific survival competencies. Given the pluralism of our society, I think this is a very real question. It may well be that different groups will have different sets of expectations. If this does, indeed, reveal itself through the goal and objective-setting process, there will be significant implications for an even greater range of alternatives in curriculum design and instructional practices. (p. 7)

- b. As a result of the variety of curriculum patterns developed at the local level, students transferring from one school to another may have different competency requirements for meeting graduation rules.
 - c. Under local control, program goals and competencies are developed according to district goals, which in turn affect course goals and student competencies. The local control creates a lack of standardization throughout Oregon. By validating the importance of personal finance competencies, a potential exists for the acceptance of essential, common competencies.
4. In Breuner's study (1977), it was recommended that personal

finance teachers with varied preparation and certification be researched to ascertain differing areas of emphasis related to personal finance. The present study provided data for determining if significant differences exist in areas of emphasis by teachers who have had different educational preparation.

5. No recommendations have been made for the inclusion of competencies in the area of economics in the personal finance curriculum. However, it is proposed to include economic competencies in personal finance curriculum revision. This study provided information as to the acceptability of economic competencies from personal finance teachers and the business community.

6. In Breuner's study, it was recommended to include competencies in the area of taxation. This study provided information as to the acceptability of competencies in taxation for inclusion in the personal finance curriculum.

7. In Breuner's study, three concepts were considered to be incorrectly classified. The present study clustered these subconcepts. This provided information for developing course outlines.

In a personal interview, Marian Kienzle, Consumer Education Specialist, indicated that the present study would provide validation for the revised concepts and subconcepts and would provide their department with information in developing recommendations for the State Board of Education on the need for the requirement of personal finance competencies in the State of Oregon (Kienzle, 1978).

Assumptions

The sampling was restricted to personal finance teachers from the subject matter areas of business education, home economics, mathematics, and social studies, and members of the business community. The members of the business community included those allied with the Credit Bureau Inc. (which represents banks, savings and loan associations, credit agencies, finance agencies, financial services and retail agencies), realty agencies, and insurance agencies in the State of Oregon.

The conclusions of this study are based on the assumptions that:

1. The respondents were a representative sample of the population of which they were a part, and that the sample was adequate to justify wide applications of the findings.
2. The responses given were valid so far as the total group was concerned.
3. Teachers and business persons who responded were no different than those who failed to respond.

Definitions of Terms

The following definitions are included for purposes of standardizing the use of terms in the study. Other terms or phrases used in the report are considered to be self-explanatory.

Business community - the designation of business community for this study consists of members of the realty field, insurance field, banks, savings and loans, financial services, credit agencies, retail firms and finance agencies.

Consumer Education - a broad term which encompasses many consumer educational efforts to prepare people for participation in the marketplace by imparting the understandings, attitudes, and skills which will enable them to make rational and intelligent decisions in light of their personal values, their recognition of marketplace alternatives, and social, economic, and ecological considerations.

Competency - a statement of desired student performance representing demonstrable ability to apply knowledge, understanding, and/or skills assumed to contribute to success in life-role functions.

Consumer Education/Economics/Personal Finance - a designation currently being used by the Oregon Department of Education to reflect the instructional activities which help students cope with consumer concerns in our economic system, including money management, credit, purchasing goods and services, and rights and responsibilities in the marketplace. The terms consumer education and personal finance are used interchangeably.

Goals - statements of desired learner outcomes at various instructional levels.

Economics - that aspect of consumer education which is concerned with the study of the economy as it relates to the earning and use of personal resources.

Objective - a quantifiable and/or observable achievement accomplished under specifiable conditions (Plowman, 1971 p. xxii).

Personal Finance - defined the same as Consumer Education.

Subject matter area - a specialized field or area of knowledge that has its own field of acquired information and a specialized method of inquiry. In this study, subject matter areas were business education, home economics, mathematics, and social studies.

II. REVIEW OF THE RELATED LITERATURE

The selected literature is presented in three major sections. The first part reviews literature related to curriculum decision making and provides a rationale and theoretical base for the analysis of curriculum content and the level of learning. The theoreticians' perception of learning, curriculum structure, and curriculum validation and decision making provides a conceptual framework for supporting the assumptions in this study. The second major section reviews studies related to design and statistical methods currently being used which were similar to this study. Studies utilizing factor analysis and analysis of variance were reviewed. Instrument design and hierarchical studies were also analyzed in relation to this study. The conclusion of this chapter presents empirical studies and general literature about consumer education. Specific topics relate to student achievement in personal finance/consumer education skills, content generally included in consumer education courses, and the relationship of consumer education, business, and today's society. This section provides an overview of the current status of consumer education.

Curriculum Decision Making

Educators have long sought ways to enhance the educational process. As early as the 1930s, Ralph W. Tyler was relating curriculum development in behavioral terms. Although Tyler's framework did not differentiate between aims and objectives, the questions he posed were definitive in relationship to curriculum development and decision making

(Goodlad, 1966a, p. 5).

1. What educational purposes should the school seek to attain?
2. What educational experiences can be provided that are likely to attain these purposes?
3. How can these educational experiences be effectively organized?
4. How can we determine whether these purposes are being attained?

Goodlad summarized that Tyler had established within this framework a rationale for examining problems, a definition for the term curriculum and the development of a curriculum which could be developed from the answering of the questions.

Taba reiterates Tyler's framework in defining curriculum. She states that curriculum includes a

statement of aims and of specific objectives ... indicates some selection and organization of content ... implies or manifests a pattern of learning and teaching ... (and includes) program of evaluation of the outcome. (Taba, 1962, p. 10)

American schools have many aims, goals or objectives (Goodlad, 1964, p. 54). Taba indicated that decision making, regarding concepts and ideas for curriculum which would be basic, significant, and valid, is difficult to make with the multiplicity of aims and goals, and the expansion of available knowledge (Taba, 1962, p. 271).

Decision making for curriculum development, however, is enhanced by the statement of goals which aids in linking values, assumptions and hopes into a coherent framework which serves as a standard and guide for the present and future actions. In Tyler's framework, the first criterion defines an initial value position. It is an "ought" question which differentiates between what is and what should be; thus, becoming a limiting factor in the decision-making process (Goodlad, 1966a, p. 5).

Additionally, the defining of goals which direct behavior has been found to lead more quickly to desired terminal performance than non-directed or incidental activity; therefore, goal setting is an essential element at the onset for determining curriculum (Tuckman, 1969, p. 16). Tyler stated

the formulation and definition of valid educational objectives is necessary to provide a guide for the further development of the curriculum and also to assure that the school is focusing its major attention upon important and significant ends rather than frittering away its time upon less imperative objectives. (Tyler, 1977, p. 47)

The process of behavior analysis was adapted from the military and industrial training and utilized by educators to aid the instructional process. Behavioral analysis, which was applied to educational techniques, started in the early 1900s. Time and motion studies analyzed the "activities of students into a hierarchy of prerequisite capabilities" (Kirst-Walker, 1977, p. 545).

In 1948, a classification and thrust for a theoretical framework of learning levels was needed to facilitate communication among college examiners. This need resulted in a classification of goals of the educational process (Bloom, 1956, p. 4). Out of a series of informal meetings, a taxonomy of educational objectives resulted (Bloom, 1956, p. 5).

Bloom defines educational objectives as "explicit formulation of the ways in which students are expected to be changed by the educational process." (Bloom, 1956, p. 26) However, Gagne defines an objective as "... a verbal statement that communicates reliably to any individual ... the set of circumstances that identifies a class of human

performances." (Gagne, 1965, p. 243) As Gagne, Tyler's view of a useful objective indicates that both the desired behavior and content or area need to be delineated. Similar to Gagne's definition, Krathwohl indicates that the educational taxonomy provides a means to "permit greater precision of communication with respect to educational objectives." (Krathwohl, 1973, p. 248) Thus, it may be concluded that an educational objective may be considered to contain all of the defined elements. Bloom focuses on the "explicit formulation" of a method to promote change. Similarly, Gagne and Krathwohl focus on the specificity of communication and classification. From the explication of human performances, a hierarchical classification may be developed.

Bloom's hierarchical classification is arranged from the lowest learning level to the highest level, simple to complex or concrete to more abstract, with each category involving the more complex and abstract behavior than the previous category (Krathwohl, 1973, p. 249). The hierarchical taxonomical scheme of behavioral objectives is intended to be descriptive and inclusive for all educational goals. Since it does not indicate value or quality comparatively, it is impartial (Krathwohl, 1973, p. 249).

The cognitive taxonomy becomes a "... concise model for the analysis of educational outcomes in the cognitive area of remembering, thinking, and problem solving." (Bloom, 1956, p. 2) This taxonomy is classified under the major headings as follows: (1) Knowledge, (2) Comprehension, (3) Application, (4) Analysis, (5) Synthesis, and (6) Evaluation.

Gagne's learning theory has a similar construction. He views the

hierarchy as subordinate knowledges, which grow increasingly simple and general as the process of defining takes place from the most complex level (Gagne, 1965, p. 62). The basic model includes the following:

1. Stimulative response which is a prerequisite to
2. Chaining which is a prerequisite to
3. Verbal sequences (association) which is a prerequisite to
4. Multiple discrimination which is a prerequisite to
5. Concepts which is a prerequisite to
6. Principles which depends on
7. Problem solving, the highest order principle (Gagne, 1965, pp. 58, 59, 202, 247, 254; Davies, 1973, p. 92).

Gagne cautions that the principles of design must be independently applied to each learning act and should not be applied generally to the totality of a topic (Gagne, 1965, p. 255).

In a study of high school boys' performance, Gagne and Brown (1961) applied the knowledge category by beginning with the final task and working from this end product, the most complex performance, to the beginning, or the most simple and general performance. He defined this procedure as "an entity of 'subordinate knowledge' which is essential to the performance of the more specific final task" (Gagne, 1962, p. 356). Gagne asserted that the mastery of some sets of knowledge relied on the learning of subordinate or prior knowledges, ranging from the simplest to the more complex principles. When learning builds on the simpler forms, sequencing of learning is manifested through more complex forms (Gagne, 1965, p. 175). This hierarchy answers the question, "What competencies are to be covered and in what order?" Thus, the

hierarchy dictates the design of instructional materials (Tuckman, 1969, p. 15).

Krathwohl stated that if the analysis of the cognitive hierarchy is correct a relationship exists between the objectives in the hierarchy, linking the lower to the higher objectives in concepts from the same subject matter with a readiness relationship (Krathwohl, 1973, p. 264). Thus, a contingency exists in the hierarchical structure.

While Tuckman and Krathwohl agree that regular attention must be given to "... sequential relations for objectives in the cognitive domain" (Krathwohl, 1973, p. 264), Tuckman believes in a structural approach to curriculum development. He believes that

... ultimate curriculum objectives, stated in behavioral terms, are sequentially analyzed to identify and specify each of the competencies which students must acquire if the terminal objectives are to be achieved.... Structural analysis leads to the identification of not only the competencies, themselves, but the arrangement or sequence in which the competencies must be arranged to make progress possible. (Tuckman, 1969, p. 1)

He views the hierarchical structure as the identification of competencies that students achieve as they move toward some performance. Every competency displayed in the hierarchy through the structural analysis must be mastered by students (Tuckman, 1969, p. 12). This view reiterates Gagne's premise that the successful attainment of any competency is contingent upon the successful attainment of all competencies that are subordinate to it (Gagne, 1962, p. 357). Thus, the determination of the terminal hierarchy level for each competency statement in the present study provides a basis for structural analysis by which students may attain the expected level of achievement in the personal finance curriculum.

It may be concluded that if educational objectives, as defined with content, performance, hierarchy, and sequencing, promote learning, then it follows that they are an essential element in curriculum planning. The question may be posed then, "How are educational objectives with all of its manifestations validated?"

Variations occur as to appropriate methods of selection and validation of content for objectives and curriculum decision making. Taba asserts that, with the multiplicity and complexity of decisions by a variety of educational participants, a valid basis and a degree of consistency needs to be established and that a theory of curriculum development is highly important in order to make competent decisions (Taba, 1962, p. 7).

Decisions in curriculum content and development are influenced and carried out by many levels: state legislatures (Kirst and Walker, 1977, p. 539; Taba, 1962, p. 7; Goodlad, 1964, pp. 55, 56; Stake, 1977, p. 376), state and local boards and agencies of education (Kirst and Walker; Taba; Goodlad; Hostrap, 1973, p. 23), teachers (Kirst and Walker; Stake; Bloom, 1956, p. 2), parents (Stake), and students (Stake; Kirst and Walker; Hostrap). Curriculum may be formulated outside the political structure. Yet, the curriculum filters through federal, state and local governments and their agencies for acceptance or rejection and is often the determination of the means and ends of education (Goodlad, 1964, p. 10; Hostrap, 1973, p. 23).

Various factions have differing philosophies and views on the sources for validating educational objectives and selecting curriculum. One philosophy is that curriculum decisions should be significantly

related to the understanding of an organized field of study (Johnson, 1977, p. 9; Tyler, 1977, p. 46; Kliebard, 1977, p. 57; Taba, 1962, p. 267). Another faction believes that the selection of curriculum and validation of objectives should be learner oriented (Johnson, 1977, p. 9; Tyler, 1977, p. 46; Taba, 1962, p. 7). The third popular position is that choices for curriculum should be made on the basis of the societal or cultural demands and circumstances and the persistent problems of living (Johnson, 1977, p. 9; Kliebard, 1977, p. 57; Smith, Stanley, Shores, 1957, p. 108; Taba, 1962, pp. 10, 272). While Tyler accepts the third mode of validation for educational objectives, the study of contemporary life, he contends that educational objectives, to be valid, should be made consistent with an educational philosophy; thus, decisions should be "filtered" through philosophical and psychological "screens" (Kliebard, 1977, p. 57).

Taba asserts that all three views are essential in the development of valid curriculum; however, she also includes the learning process as a factor constituting a rational basis for curriculum decisions (Taba, 1962, p. 10).

Smith, Stanley and Shores (1957) developed criteria for the evaluation of educational objectives which stress society's and the individual's needs as well as the learning structure. Educational objectives should be evaluated on the following criteria:

1. be conceived in terms of the demand of the social circumstances
2. lead toward the fulfillment of basic human needs
3. be consistent with democratic ideals
4. be either consistent or noncontradictory in their relationships with one another
5. be capable of reduction to behavioristic terms (p. 108)

Two broad types of evaluation of objectives are the logical analysis and the empirical analysis. The logical analysis concentrates on "the cogency of arguments for setting the goals, the consequences of achieving the objectives, and the congruency of the objectives with existing, higher order values." (Krathwohl, 1973, p. 267)

Smith, Stanley and Shores (1957) set out two basic methods of logical selection of subject matter: judgmental and experimental. In defining the methods for judgmental selection, the following questions need to be asked and answered by the decision maker:

1. What social and educational objectives should be accepted?
2. What is the existing state of affairs in which these objectives are considered desirable and appropriate and in which they must be realized?
3. What subject matter best satisfies these objectives under the existing conditions? (p. 153)

Although the experimental procedure is not used as often, it is an accepted method of trying out a subject matter, under prescribed conditions. This method avoids outside prejudices, judgments, and conditions which reduces the influences on the results (Smith, Stanley and Shores, 1957, p. 156).

The second broad type of evaluation of objectives, empirical analysis, may be used to determine the validity of objectives. These may be considered value positions. Studies of this type include information collected from various groups (Stake, 1970, p. 181). Empirical data may be analyzed in several ways. The analytical procedure in its general form is the analysis of individuals' tasks for the purpose of discovering the subject area needed for functioning in these activities (Smith, Stanley and Shores, 1957, p. 161; Davies, 1973, p. 36). The analytical procedure may be classified into three segments:

1. Activity analysis: the discovery of the general activities that people perform.
2. Job analysis: the determination of what should be taught for vocational preparation.
3. Knowledge analysis: the determination of generally used knowledges and skills.

Various procedures and techniques used in fact-finding in the analytical procedure are suggested by Smith, Stanley and Shores and Stake. Interviews, surveys, Q-sorts, questionnaires, and observations, such as analysis of the job or activity or observing the performances of people, provide empirical data. Working on the job is an acceptable and often used method of analysis. Information may also be sought through documentary analysis such as public documents, school records, interview programs and newspapers (Stake, 1970, p. 181; Smith, Stanley and Shores, 1957, p. 162).

Another procedure for empirical analysis is consensual which is a way of collecting people's opinion about what they believe the curriculum should be. Interviews, surveys and questionnaires provide valid data for analysis. The criticism of the consensual procedure is that replies are often influenced by vested interests, prejudices, occupational biases, and ethnocentric valuations and perceptions of issues (Smith, Stanley and Shores, 1957, p. 167; Taba, 1962, p. 273). Hostrap and Goodlad consider the citizenry as a whole the prime data source for tapping the aims and goals of America's schools (Hostrap, 1973, p. 24; Goodlad, 1964, pp. 55, 64).

The assessing of valid curriculum by consensus of the citizenry is

difficult as the public's view of education and its aims are not static (Goodlad, 1964, pp. 55-56; 1966, p. 92). Forman found in a study on decision making and informational processes in Indiana in 1976 that the most difficult type of information for central offices of curriculum to gain was validity of new curriculum information. Although it may be difficult to gain information, Goodlad contends that some decisions need to be influenced by citizens' beliefs, interests, wishes and the understanding of who are consumers of education or who sanction the educational system (Goodlad, 1964, p. 64).

Decisions are generally based on reason or some form of data. However, the system is not value free. Values are "basic to determination of educational ends." While the value may not relate to anything about education, it is the generalization from which educational aims are drawn. The aims of education are then realized through educational objectives which are statements of what students need to know. A situation or a learning opportunity is then "created within the context of the educational program ... for the purpose of achieving certain educational ends." (Goodlad, 1966b, pp. 16-18, 25) Thus, an attempt to meet the aims of education based on society's values is made.

In a study in Indiana in 1978, Hutson made an analysis of the relationship between community and curriculum decision making. The principal conclusion was that these two entities exist in a dialectical relationship, each reinforcing the other; there is continuous interaction which results in conservative tendencies for both. Thus, social control results.

With the multiplicity and complexity of levels and influences and

the variety of evaluative procedures affecting decision making in curriculum development, Kaufman and Goodlad call for a conceptual system for curriculum planning. Kaufman identifies an educational need as being "a measurable outcome discrepancy between 'what is' and 'what should be.'" (Kaufman, 1973, p. 49) In order to identify and determine goals and objectives, Kaufman and Harsh define three different models: inductive, deductive, and classical.

The inductive model requires the following procedure: First the current learners' behavior is identified, compiled, and classified into programs and behavior expectancies. These are then compared to the existing broad goals. The discrepancies are reconciled and detailed objectives are developed which will bring about the desired behavior. From these objectives, the educational programs are developed, implemented and evaluated against the objectives with revision following as needed (Kaufman, 1973, p. 49).

The deductive model's starting point is the educational goals rather than the students' behavior. The existing goals of education are identified and selected. From these goals, criteria are developed. These are then subjected to the change requirements as determined by educators, learners and community members. Performance data is then collected to assess the realization of the criteria. After the discrepancies are defined, detailed objectives are developed. From these objectives, the educational program is developed, implemented and evaluated against the objectives with revisions following as needed (Kaufman, 1973, pp. 33-34).

The present study utilized the beginning concepts of the deductive

model by subjecting revised content statements and hierarchical levels for validation as judged by personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and members of the business community in an effort to determine change requirements and needed competencies for defining the curriculum in personal finance.

The classic model is often used by default and is not recommended. The procedure is to develop programs from the general goals. These programs are implemented and evaluated without empirical data (Kaufman, 1973, pp. 33-34).

With the complexity of data sources, decision levels, and reasons and data, there is an apparent need for a classification and analysis of the generalities and specifics among statements which define means and ends of education so that the differentiation might be defined. Goodlad perceives that learning concepts are derived from educational aims which are set by institutions who gain their approval from controlling agencies, who gain sanction from a larger group, the society. Rational decision making does not occur if appropriate evaluation and analysis of needs are not established (Goodlad, 1966a, pp. 31-32).

In 1926, Rugg summarized similar concerns of educators. He asserted that society must be tapped as a source of information for decision making as well as utilizing human judgment, insights and attitudes. He states:

It is imperative, however, that we make use of only the most valid judgments. The forecasting of trends of social movement, the perception of the focal problems and issues, and the connections underlying them, demand erudition and maturity of reflection that eventuates only from prolonged and scientific study of society. (Rugg, 1926, p. 82).

Related Methodological Studies

Factor Analysis

The use of factor analysis is a statistical means to reduce data for scientific parsimony and summary capability. The application of factor analysis is varied and its uses are only limited by man's imagination (Kim, 1975, p. 469). Factor analysis began in psychology but it was quickly adapted for use in education and numerous other disciplines (Cattell, 1952, p. ix).

Kerlinger states that factor analysis is "a method for determining the number and nature of the underlying variables among larger numbers of measures ... a method for extracting common factor variances from sets of measures."

Kim's explanation stresses relationship and interrelations of data, but his definition primarily agrees with Kerlinger:

Given an array of correlation coefficients for a set of variables, factor-analytic techniques enable us to see whether some underlying pattern of relationship exists such that data may be "rearranged" or "reduced" to a smaller set of factors or components that may be taken as source variables accounting for the observed interrelations in the data. (Kim, 1975, p. 469)

Cattell indicates that factor analysis determines the degree of the association and selects "the essential wholes among the influences at work." (Cattell, 1952, p. 11) Cattell emphasizes the whole, as Kim does, but he states further that it is also a degree of association.

Kim lists three major uses of factor analysis: (1) exploratory uses - viewing of variable patterns for detection of new concepts and reduction of data, (2) confirmatory uses - testing of hypotheses, and

(3) measuring device uses - constructing indices for use as variables for further study and analysis (Kim, 1975, p. 469; Cattell, 1952, p. 22).

While terminology of definitions may vary slightly, the uses of factor analysis are widely accepted as valid statistical tests for application to behavioral data for research problems (Kerlinger; Cattell; Kim).

Cattell asserts that factor analysis is a more stringent statistical tool than those normally associated with the "experimental tradition." He attributed this to the fact that the choosing of important variables is not accepted arbitrarily.

Factor analysis for the purpose of clustering competencies in education are commonly applied in studies of teacher educational competency development. Another area of emphasis has been vocational education with a direct application of task analysis. Gunderson (1971), Lindahl (1971) and Miller (1971) conducted studies at Oregon State University to determine professional education competencies needed by community college vocational instructors. One dimension of their studies was the application of factor analysis to data with the purpose of extracting factors into common clusters of competencies needed by community college vocational instructors. In each of the studies the sample consisted of 40 community colleges and 160 participants in California, Colorado, Oregon and Washington. The factor analysis, R-mode, yielded five groupings in Miller's study, five groupings in Lindahl's study, and four in Gunderson's study. It was concluded that it is possible for factor analysis to "generate factors containing

clusters." Gunderson (1971), Lindahl (1971) and Miller (1971) applied the Q technique of factor analysis which determined that vocational community college instructors resembled one another in relation to education competencies. These studies were the first at Oregon State University designed to determine the needs and proficiency requirements of instructors at the community college level.

Siewart (1978) conducted a study to determine the identification and validation of competencies needed by consumer educators at the secondary school level as judged by educators in the subject matter areas of business education, home economics, and social studies in the selected professional roles of teacher educators, secondary teachers, and undergraduate teacher education students. A list of 128 competencies, divided into two questionnaire forms, was responded to by 691 of the sample group representing a 53 percent return rate. One dimension of the study was to conduct a factor analysis using the R-mode to cluster the 128 competencies; 106 competencies emerged into 13 factors: Consumer Protection and Decision Making; Consumer Information and Finance; Economic Orientations; Consumer Issues; Evaluation of Instruction; Execution of Instruction; Professional Leadership and Communication; Instructional Planning; Philosophy, Values and Ethics; Professional Improvement; Individualization of Curriculum and Instruction; Literature and Research; and Management Skills. Out of the 128 competencies, the highest goal to be ranked was "to enable students to develop values and standards of choice-making." Based on the results of the study, Siewart made the recommendation that identified clustered competencies be used for planning the conceptual structuring of a

competency based curricula in consumer teacher education programs.

Spaziani (1972) conducted a study of the hierarchical levels of common professional education competencies needed by vocational instructors at the community college and secondary schools in Oregon. The sample consisted of the 94 respondents (vocational technical instructors) from randomly selected schools. Using the cluster technique of factor analysis, the data were grouped into four primary factors and one undeterminable factor. The analysis by cognitive domain level made possible specific recommendations for curriculum planning.

Mays (1975) did a study of factors relating to the adoption of consumer and homemaking curriculum. A sample of 180 teachers were included in the study. A factor analysis resulted in identifying three factors for both sets of statements. Canonical correlations and bivariate correlation coefficients were computed to determine relationships between factors scores and the demographic variables. Based on the findings, it was recommended that the Curriculum Guide be reevaluated and the factors be considered for curriculum development.

Instrument Design

Many studies have been conducted in an effort to validate competencies for a variety of educational programs. The methods most commonly reported in research studies are the analysis of documents for the purpose of identifying and developing competencies; review by a jury of experts for the purpose of modifying and validating competencies; and development and dissemination of a questionnaire,

utilizing an ordinal or continuum scale (Likert-type), for the purpose of gathering data from a sample of a population for statistical analysis.

In the study conducted by Siewert (1978), several steps were used to validate competencies. First, two groups of educators, university and secondary schools, were quizzed about their perception of necessary competencies and a review of the related literature was done. Based on these sources, a list of 174 competencies was developed. The researcher categorized these into nine major functions. These were then submitted to a jury of representatives of business education, home economics and social studies teachers. The competencies were revised to a listing of 128 and submitted to a random sample in a mail survey questionnaire. The questionnaire utilized two scales. One showed the importance of competencies. It was measured on a Likert-type scale from one to five. The second scale showed the educational level where the competencies should be achieved, and it used a six-point scale. The data was subjected to a two-way analysis of variance and the Scheffé procedure was used where appropriate. The F statistic at the .05 level was used for significant decisions.

It was found that 62 of the competencies were considered essential and 49 very important. Responses to 75 of the competencies were significantly different due to subject matter background. The only area of consensus was on the consumer subject matter content competencies. It was recommended that each discipline should be involved in preprofessional and professional preparation of teachers of secondary education, and that it was essential that teachers demonstrate

competence in consumer subject matter.

Hales (1975) also developed and validated a list of 211 cognitive and psychomotor competency statements for teachers of traffic safety education from document analysis. The competencies provided a guideline for curriculum development for teacher training at higher education institutions. These data were validated by a jury and a panel of raters for validation. Competencies were accepted for inclusion in the guide if they had a mean of 4.0 or greater. The competencies were tested independently and then clustered into six categories for inclusion in the traffic safety education guide.

The validation of competencies in some studies are not reviewed by a jury prior to submitting them to the sample of the population.

Stewart (1976) examined the perception of four categories of educators (secondary social studies teachers, secondary principals, superintendents, college methods course teachers) as to the importance of teaching competencies in social studies. These established competencies were organized into clusters by "arbitrary choice" as defined by Cattell (1952, p. 9). The researcher did not employ the technique of a jury. The sample consisted of 40 respondents from each group. The 80 competencies were submitted to the sample in seven clusters with a five-point scale designated as follows: 5, very important; 4, important; 3, slightly important; 2, neutral; and 1, not important. The five-point scale with a "2" as a neutral position is appropriate as the researcher treated it as ordinal data using the nonparametric statistic. The competencies were ranked according to percentiles based on the median scores to identify those of greater or lesser importance

as perceived by respondents. Kruskal-Wallis one-way analysis of variance by ranks determined that a significant difference existed among the groups on three of the seven clusters.

In a study of 76 mathematical competencies as perceived by retail firms, McAnelly (1978) sent questionnaires to 591 large retail firms which resulted in a 23.7 percent response or 140 questionnaires returned. The questionnaire used a four-point rating scale of Very Important, Somewhat Important, Not Important, or Not Sure. A chi-square analysis and Kendall's Coefficient of Concordance was applied to the data which resulted in the determination of competencies that business teachers need to emphasize in preparing students for entry-level positions in retailing.

Morris (1976) developed a questionnaire on needed content for a consumer oriented business law course by document analysis. Rank ordering the items proposed by high school seniors was prioritized and analyzed by a chi-square test of significance at the .05 level of confidence. Little differences were found among high school groups as to their perception of what content should be included in a personal-use consumer-oriented business law course. The content indicated as being needed or desired was recommended for inclusion in the current law courses.

Analysis of Variance

In three studies of professional education competencies needed by vocational instructors at the community college level, Gunderson (1971), Lindahl (1971), and Miller (1971) developed 95 competency items through

a review of the literature using an instrument already developed through a research procedure by Halfin and Courtney (1970) as the foundation. These competencies were subjected to a seven-member (Gunderson), ten-member (Miller), and five-member (Lindahl) jury of experts for evaluation. A questionnaire containing 99 competencies was field tested on 21 community college instructors. After minor revision, the instrument was sent to 160 participants from 40 community colleges in California, Colorado, Oregon and Washington. In addition to the factor analysis discussed earlier in this section, the data was subjected to a one-way analysis of variance using the F statistic. It was applied to each of the hypotheses, one for each competency. Out of the 99 tests, only one null hypothesis was rejected in Gunderson's, three in Miller's and three in Lindahl's study. The investigators recommended the following: further study of domains and taxonomic levels for each competency be done prior to the final transformation of the data in the research to objective statements; instructional strategies be developed and evaluated; and experiments be conducted on the instructional design.

Spaziani's study follows a similar procedure. He used Gunderson's (1971), Lindahl's (1971) and Miller's (1971) instrument with slight modifications and used a six-point ordinal scale corresponding to the major heading as developed in the cognitive domain by Bloom. The purpose of the study was to determine the hierarchical structure of the 99 professional education competencies needed by vocational instructors at the community college level. Since the competencies had been subjected to a jury in the Gunderson, Lindahl and Miller studies, this step was not necessary. The questionnaire was given to a pilot group

of ten members. After minor revisions, the instrument was sent to 94 vocational-technical instructors at both the community college level and the secondary school level. The data were factor analyzed which was discussed earlier in this section. In addition, a median test was applied to determine whether the two groups differed. It was determined that there was no significant difference between medians of the two groups. It was further indicated that professional development does not necessarily extend beyond the two lower levels of the hierarchy, knowledge, or comprehension.

Tesch (1977) studied competency expectation of employers in data processing. A sample of 180 graduates from the graduating classes of 1973, 1974 and 1975 from nine degree-granting institutions in Wisconsin and 21 data processing instructors were sent two mailings which resulted in an 83 percent return for students and a 71 percent return for faculty. A one-way analysis of variance indicated significant differences in the rating of performance level between the groups but none in the rating of importance. Twenty-seven competencies were recommended for emphasis in the curriculum.

In addition to the general techniques applied in research for validation of competencies, consumer education studies reflect a definitive population of study. Due to the interdisciplinary nature of consumer education, studies often include the response of the most common areas responsible for teaching the concepts. Those areas are business education, home economics and social studies. Siewert's study (1978), discussed earlier in this section, is one example of this.

In addition, the inclusion of inquiry into hierarchical nature of

competencies is apparent in consumer education studies. Similar to the studies by Spaziani and Tesch, studies by Waices (1976) and Mayer (1977) assessed the content and level of learning as did Royer (1972).

Hierarchical Studies

In order to obtain data for relative emphasis on consumer education in federally funded programs and non-funded programs, Waices (1976) developed 172 instructional objectives including both knowledge and process from the Suggested Guidelines for Consumer Education, Grades K-12 (President's Committee, 1970).

Bloom's (1956) taxonomy was used for the level of objectives. A jury was given a rating scale of a 1 to 5 continuum with "5" being most important and "1" being least important. Mean scores ranged from 1.7 to 4.6. Sixty objectives, selected for the questionnaire, had a mean of 3.7 or higher. It was concluded that emphasis on consumer education was essentially the same in both programs.

Mayer (1977) conducted a study to determine and validate consumer tasks and then to assess the importance and standards of those tasks for inclusion in a secondary consumer education program. Tasks were listed from a survey and from an analysis of documents in consumer education including related literature, content tests, curriculum guides, and research studies. The list of tasks was submitted to a jury, utilizing a modified Delphi technique. A questionnaire of 39 consumer tasks, categorized into 18 concepts, was sent to 78 suburban and 36 urban consumer education teachers in business education, home economics and social studies, and to 21 consumers. Respondents were

asked to rate the importance on a five-point scale, Essential to Not Important and to rate a minimum task standard on a three-point scale, Application, Comprehension, or Awareness. Again the scaling was treated as ordinal data.

Kruskal-Wallis One-Way Analysis of Variance by ranks was applied on both categories to determine significant differences. Dunn's multiple comparison was selected to identify location and direction of differences at the .05 level. It was found that teachers differ on the degree of importance and task standard for high school graduates to some categories of consumer tasks. More agreement existed than disagreement. When differences existed, they were more often between teachers and consumers than teacher subgroups.

Royer (1972) formulated cognitive objectives for use in developing and evaluating the areas of credit and automobiles in consumer education programs. Teachers of business education, home economics, social studies and other related subjects at the college, secondary and junior high level evaluated the objectives through a modified Delphi technique. Of the 115 objectives, 88 were rated at the two top levels, highly desirable and essential, by a majority of the teachers. These cognitive objectives were recommended for inclusion in the secondary school curriculum.

Consumer Education Studies

Student Achievement

In a 1977 national survey conducted by Harris and Associates, it was found that 92 percent of the public supports a proposal for compulsory courses in consumer affairs for all high school students. This large percentage ranged from 96 to 98 percent across all other groups surveyed with the exception of senior business managers whose response was 79 percent in support of mandatory courses.

This correlated to the majority of the public's view that students were not very well prepared consumers when leaving high school. Only a small percentage of the groups surveyed felt that they were even fairly well prepared for the consumer role: public, 21 percent; consumer activities, 3 percent; government consumer affairs, 12 percent; non-insurance regulators, 9 percent; insurance regulators, 6 percent; senior business managers, 18 percent; and business consumer affairs executives, 11 percent (Harris, 1977, p. 75).

Further studies have confirmed that students are not prepared for the consumer role. The National Assessment of Education Progress survey of 34,000 17-year-olds in 1975 revealed that 99 percent had deficiencies in mathematical computation skills and reasoned purchasing decisions. Of the 4,200 adults surveyed, 84 percent were unable to apply basic mathematical principles or arrive at logical decisions in comparative shopping (Branscombe, 1975, pp. 21-24; Mohr, 1977, pp. 38, 41).

Stanley developed and validated a test to measure students'

achievement in consumer education in Illinois. There were 14 areas under study: Clothing; Consumer Credit; Consumer in the Marketplace; Consumer in Society; Food; Furnishings and Appliances; Health Service, Drugs, and Cosmetics; Housing; Insurance; Money Management; Recreation; Savings and Investments; Taxes; and Transportation (Stanley, 1978, p. 27).

The test was administered to 3,857 students on Form A and 3,826 on Form B. Only 1,575 of the total group had completed courses in consumer education.

Mean scores revealed that students who had had consumer education courses scored slightly higher than those who had not had consumer education. The data clearly indicated, however, that the key concepts contained in the Illinois Guidelines for Consumer Education had not been mastered by those having had classes in consumer education (Stanley, 1976, 1977, 1978). The greatest gain shown was in money management, a gain of 13 percent improvement from pre-test to post-test scores. Correct responses to insurance and taxes increased only 3 percent. The students' correct responses ranged from 50 to 57 percent in seven of the 14 areas and less than 50 percent for the remaining seven areas (Stanley, 1978, p. 28).

In a study by Seymour (1975), the 1,332 Colorado students enrolled in consumer education oriented courses were compared with students who were not enrolled in consumer education, business and office education, distributive education, or home economics courses. The test instrument contained six major concepts with nine items for each. An analysis of variance resulted in the conclusion that Colorado students who complete

consumer education courses had significantly greater knowledge of the six concepts being measured than students who had no consumer education oriented classes.

Another test constructed for the purpose of evaluation of consumer education achievement was done by Graf (1975). The final form of the test contained 100 items covering five questions for each of the following ten concept areas: Consumer and the Law; Shopping for Food; Management and Family Income; Role of the Consumer in the Economic System/ Rights and Responsibilities; Credit; Product Differences and Guarantees, Advertising and Promotion; Shopping for and Use of Services; Legal Aspects of Housing and Shelter; Consumer Information; and Shopping for and Purchasing Medical Services, Medicine and Drugs. Students knew less about government agencies than any other of the areas surveyed. They also displayed a low level of understanding in the area of credit with only 28 percent responding correctly to the safe debt ceiling. Additionally, students were low in the understanding of credit bureaus (Graf, 1975).

Moschis (1977) sampled 806 adolescents from 13 schools in Wisconsin. While the test was self-administered, it was found that older students possess consumer skills to a greater degree than younger students, and that consumer-related courses taken at high school did not correlate to the skill development.

The Alpha Mu Study in New York tested consumer-economic competencies on 50 percent of the senior body from eight selected schools. It was learned that between 65 and 93 percent of the students were deficient in basic business survival skills (Whitney, 1977, p. 5).

Studies have also been conducted to assess the effect consumer education programs have had on students' behavior after leaving school. Hawkins' (1975) study of selected 1972 Kansas high school graduating classes was conducted to determine whether the students had been significantly affected by consumer education classes two years after graduation when compared with those who had not had formal courses in consumer education. The areas of instruction considered were Money Management, Use of Credit, Borrowing, and General Purchasing Habits. The study was conducted on 272 returns selected from the ten schools with 146 responses in Group I who had had consumer courses, and 126 in Group II who had not had consumer education courses. Out of the total of 18 questions submitted to the groups, all but one topic was found to have little or no significant effect upon the graduates two years after graduation (Hawkins, 1977).

Sawaia (1978) conducted a follow-up study to determine the economics problems encountered by unmarried persons four years after graduation from high school. The study was made of students from three different populations in Arizona. The survey concluded that students did not indicate any severe consumer education problems. Major problems were identified in finding a job, deciding on further education, and money management. Sawaia recommended that curriculum patterns and syllabi should be revised so that objectives are congruent with the consumer skills needed in society (Sawaia, 1978).

A "Needs Assessment Study" was conducted in Oregon in 1969 by the State Department of Education in response to the Elementary and Secondary Education Act of 1965. A questionnaire was completed by a

random sample of the general public: 469 students, 204 educators and 52 high school dropouts. Seven critical areas of needs were identified, one of which was that students needed to "become intelligent and economically literate consumers." (Oliver, 1974, p. 18).

In 1973, a criterion referenced test, based on the Personal Finance Education Guide was administered to 2,877 eleventh grade students in 39 high schools in Oregon. The results of the test revealed that students were most knowledgeable about Employment and Income and were least knowledgeable about Credit and Its Use, Legal Rights and Responsibilities, and Money Management. Students also had some deficiencies in the ability to judge the quality of goods and services they purchased.

The above studies reveal a deficiency in consumer skills among high school graduates in the United States. Consumer education programs and revisions should be closely scrutinized for content, relevance and timeliness. Educators should undertake a systematic review of the concepts taught, required competencies, and level of learning expected of students in consumer education programs.

Content

Numerous studies have been conducted to determine the content of consumer education/personal finance courses and the goals or objectives of the course.

In 1970, the President's Committee on Consumer Interest recommended four major areas for an interrelated Consumer Education Program: The Consumer as an Individual, The Consumer as a Member of Society, The

Consumer's Alternatives in the Marketplace, and The Consumer's Rights and Responsibilities (President's Committee on Consumer Interest, 1970, p. 19). These guidelines have provided a basis for instruction and for the development of consumer education guides for required programs and for recommended programs throughout the United States.

A national study conducted by InterAmerica Research Associates in 1977 revealed that 13 states have some legal requirements for public school curriculum which pertain to economics and 27 states have legislative mandates or resolutions which encourage the implementation of consumer education. Currently, there are 38 Consumer Education Curriculum Guides in the United States.

The most comprehensive model contains 13 major concept areas with 95 subconcepts. The major concepts are: Resources; Determinants of Financial Resources; Consumer Decision Making Process; Production; Labor; Consumer Resource Management; International Trade; Markets; Economic History; Government and Control; Comparative Economic System; Contemporary Social Issues; and Consumer Interests (Trujillo, 1977, pp. 13-14). However, several studies have been conducted for the purpose of determining which concepts need to be emphasized.

Swope's (1976) study of Kentucky teachers of business education and home economics consumer education classes found that there was no significant difference in the concepts rated as "most important" by business education teachers and home economics teachers. Each group taught Legal Information, Consumer Mathematics, Housing, Money Management, Insurance, Obtaining Goods and Services, Money and Bank Services, and Advertising in their consumer education classes.

Roberts (1974) found in a Kansas survey of all consumer education teachers (subject matter areas of social studies, home economics, and business education) that teachers spend the highest percentage of their class time in teaching the topics of Credit, Management and Family Income, and The Consumer in the Economy. The goals and objectives most often stated were Decision Making, Wise Spending, Understanding the Individual Role in the Economy, Practical Knowledge, and Consumer Skills. It was concluded from this study that emphasis was placed on the practical application of knowledge and skills.

In a study conducted by Sie in New York, a set of tested, validated prototype consumer education materials were developed in five steps. One step in the procedure included the identification of broad areas of competencies from which specific performance objectives could be developed. The competencies were developed through a consortium of high school teachers in home economics, social studies, business and distributive education and university faculty in home economics, vocational and applied arts education, business and distributive education, and educational evaluation and research (Sie, 1977, p. 5). As a result of the consortium's effort, the following six broad areas were proposed for consumer education for high school students in New York: The Consumer's Role in the Economy, Money Management, Securing Goods and Services, Consumer Protection, Rights and Responsibilities, Insurance Protection, and Savings and Investments.

Uhl's nationwide 1970 study of secondary schools found that the most popular topics in consumer education were Consumer in the Economy, Family and Income Management, and Consumers in the Market. More than

50 percent of the schools surveyed taught these topics in some manner (Uhl, 1970, p. 94).

Glick (1975) suggested that continual review of content and programs be undertaken by review boards. He contends that external evaluation is needed to avoid the entrenchment of previously established concepts and that there is a lag between the needs of society and the content of consumer education courses (Glick, 1975, pp. 17-20).

Olson (1975) stated that the setting of goals and objectives needs to be more than an exercise or an effort to protect "turf":

Procedures for goal and objective setting which free those involved in that process from the past have not been developed. But ... if Oregon is to be successful in implementing the graduation requirements and developing in students those competencies necessary for survival in the world of the future, goal and objective setting procedures which are future oriented must be developed. (Olson, 1975, p. 30)

Business and Consumer Education

The business community's responsibility in today's society demands social interaction and concern for consumer education. While profit making is a primary aim, Coman contends that it will be less expensive for business to confront the issues of education and economy now than to let the issue rage out of proportion (Coman, 1978, p. 21).

While there appears to be more of a need for business involvement, business and trade groups have provided support for consumer education in various ways. Information publications are more abundant from business than any other agency. Corporate consumer affairs departments assist consumers in resolutions of problems and provide materials with specific information for consumer education (National Foundation for

Consumer Education, 1977, pp. 52-53). David Schoenfeld views the marketplace as the ultimate teacher--the workshop--of consumer education (Schoenfeld, 1967, p. 27).

It was noted in a survey conducted by the Purdue Research Foundation in 1969 that 73 business firms and 133 trade associations were actively engaged in some way with consumer education (Mohr, 1976, p. 36). However, the public's view of business creates an adversarial climate. In a Harris poll, it was concluded that 80 percent of the American people view big business as primarily self-serving and greedy (Coman, 1978, p. 22). Bloom states that teachers and consumer advocates view business as scheming, mercenary, deliberately deceptive, and injurious to the consumer (Bloom, 1976, p. 91).

In 1976, the Opinion Research Corporation revealed that one out of five households stated that they had been cheated in the marketplace. Those having experienced some form of deception tend to support increased government legislation (Mohr, 1976, p. 56). Studies indicate that a majority of Americans (56 percent) believe that more government regulation is needed (Coman, 1978, p. 22; Tafe, 1976). However, legislation for consumer protection becomes useful only when consumers are knowledgeable of the laws and can use the provisions for maximizing their resources (Beecher, 1974, p. 500).

The public (59 percent) and consumer advocates (63) percent felt that companies were only concerned with profit, not quality. This view, however, was overwhelmingly rejected by senior businessmen, business consumer affairs executives, insurance regulators, government consumer affairs executives, and non-insurance regulators (Harris, 1977,

p. 5). In addition, 65 percent of the public felt dissatisfaction with business as a result of problems and complaints not being resolved (Harris, 1977, p. 35). This view was also held by business consumer affairs executives (53 percent to 41 percent) and senior business executives (43 percent to 38 percent) (Harris, 1977, p. 35).

Consumer education is needed to prepare potential consumers for an understanding of business and the economic system. Research conducted by Compton Advertising Inc. revealed that only two percent of the population understood the major factors--business, labor, consumer, investor--and the interrelationship in the economic system (Coman, 1978, p. 22).

In a study by Tafe (1976), three groups (consumers, consumer education teachers, and consumer affairs professionals) agree that many of the problems in which consumers are involved are a result of ignorance and carelessness. The Proposal for a National Foundation for Consumer Education poses the question: "Is the lack of appreciation of the workings of a free enterprise system more a reflection of the inability of consumers to cope with the marketplace than with the deficiencies of the market system?" (Mohr, 1976, p. 59).

People becoming more proficient in management of their personal resources and efficient in the marketplace may make a meaningful difference in their attitudes toward the free enterprise system and business. Bloom (1976), Kaye (1970), and Harris (1977) assert that business has a role in education: to assist in educating the consumer which in turn will create a vast market yet unrealized for business.

The recent research by Harris and Associates stated: "The

business community is sharply out of step with the American people on consumer issues." Three needed changes were concluded from the study:

- (1) changes in attitudes and perceptions of business and management,
- (2) better quality products, service, guarantees, and warranties, and
- (3) better communications with the public (Harris, 1977, p. v).

The 1970s may well be known as the decade of consumer dissatisfaction with business. Clow (1975) believes that education, communication and action are the means to improving business-consumer relationships (Clow, 1975, pp. 169-170).

The President's Committee on Consumer Interest (1970) addressed the issue of the business community:

The objectives of the consumer and producer or seller are not always identical, but they are interdependent and can only survive together. These two segments of our economy cannot afford continual confrontation for neither will benefit from such a climate. Each should be willing to recognize this interdependency and the advantage to both of cooperation in improving the marketplace and society at large. (President's Committee, 1970, p. 41)

Prior to this study, no empirical studies have been conducted which survey the business community on their perception of needs for consumer education. Since the business community is an integral part of the consumer's world, a vital and valid source of information for decision making has been overlooked by educators. This study, therefore, surveyed the business community and teachers of consumer education/personal finance for the purpose of validating the content and the level of learning expected of Oregon's high school youth.

Summary

The philosophical views of educators impact the school's curriculum. Educational processes of the 1970s include task analysis, competencies, behavioral objectives, structuring the curriculum, teaching strategies, controlled interaction, and appropriate instruments which culminate in validation and evaluation. These processes are manifested in current educational studies. Research revealed that statistics have been applied to define competencies which are relevant in various subject areas and in consumer education. Populations who are knowledgeable of the subject matter were used to analyze and to recommend suggested competencies for curriculum decision making. Additionally, factor analysis has proven to be a useful and effective tool in determining curriculum structure for content organization and hierarchical levels of learning. The use of various statistical tools to analyze achievement in consumer education curriculum has made it apparent that student achievement in consumer education is minimal and further inquiry needs to be made into curriculum decision making. It may be concluded that the content in consumer education generally focuses on the practical application of knowledge and skills. It is evident that the emphasis on content varies from program to program. Thus, the inconsistency of educational program content and student achievement affects business and society. Empirical studies need to be conducted regularly for the purpose of creating an effective consumer education curriculum. This should be a primary concern for educators in personal finance/consumer education.

III. DESIGN OF THE STUDY

The study was an empirical investigation of personal finance competencies to provide information for designing and developing curriculum for implementation in the Personal Finance Education Guide for the State of Oregon. The procedures that were followed in conducting the investigation are presented in this section under five major divisions: (1) Preparation of the Instrument, (2) The Dependent Variable, (3) Selection of the Sample, (4) The Statistical Design, and (5) Collection of the Data.

Preparation of the Instrument

The instrument used in this study was a mail survey questionnaire containing 70 personal finance competencies in combination with two scales, a five-point Likert scale which enabled the respondent to judgmentally score the acceptance of the content, and a five-point ordinal scale relating to the major headings of Bloom's (1956) cognitive taxonomy. The five-point cognitive scale allowed each respondent to judgmentally score the taxonomic level considered necessary for adequate skills and behavior required of high school graduates in Oregon. Recent studies utilizing the mail survey technique in consumer education/personal finance have been conducted by Siewert (1978), Waicis (1976), Mayer (1977) and Royer (1972).

The development of the questionnaire was accomplished by a review of the Personal Finance Education Guide (1974) and the tentative revisions for the Guide which had been prepared by Marian Kienzle,

State Specialist for Consumer Education and Personal Finance. The formulation of the concepts included in the Guide were developed by the Statewide Personal Finance Advisory Committee on the basis of the 1970 survey of students' needs, current programs, and a review of curriculum manuals. The Guide was pilot tested in 11 schools, revised, and approved by the Oregon Board of Education in 1972 as the basic curriculum source for personal finance education in Oregon. In addition, a review of consumer education studies by Breuner (1978), Siewert (1978), Lofgrehn (1978) and studies on surveys relating to competency content and hierarchical levels by Gunderson (1971), Lindahl (1971), Miller (1971) and Spaziani (1974) were made.

The instrument developed by Siewert, Miller, Lindahl and Gunderson provided the base for the personal finance questionnaire. The format was revised to include the content from the approved Guide and the suggested revision for personal finance, a five-point Likert scale for content acceptance, and a six-point ordinal scale for taxonomic level. An initial questionnaire containing 82 items was developed.

The questionnaire was presented to a jury of experts for the purpose of establishing validity of the instrument. The 15 members (Appendix A) were composed of the State Personal Finance Advisory Committee which included representatives from the State Department, secondary schools, colleges and universities, businesses, students and the lay community.

The project was initially presented to members of the jury at a Personal Finance Advisory Committee meeting. Then the instrument, revision form, and a cover letter were forwarded to each member of the

jury for their reaction. Each member was asked to review the questionnaire and to list any recommendations or suggestions needed for revision. The "Jury of Experts Revision Form" used by the members of the jury is found in Appendix B.

After the jury of experts evaluated the questionnaire, suggestions and recommendations were compiled and reviewed with the State Specialist in Consumer Education and Personal Finance and with a consumer education specialist who was employed by the State Department to assist with the revision of the Personal Finance Education Guide. Several items were revised for clarity; 12 items were deleted relating to the concepts of Employment and Income. The changes resulted in a questionnaire containing 70 competencies.

The third step was to field test the revised questionnaire. Eight secondary school teachers representing the four discipline areas of business, home economics, mathematics, and social studies were selected from the State Personal Finance Cadre; eight members of the business community were selected from the Oregon Council on Economic Education (December 1977 mailing list) representing banks, savings and loan associations, financial and investor services, and industry; and four members of the business community representing the insurance and real estate agencies were selected.

Field-test participants were asked to complete the questionnaire and to identify any competencies which were not clear or which were difficult to understand. Following the field-testing phase, revisions were made in the scaling. The "0" values meaning "No Learning Needed" under the scale for level of learning was added and the major headings

from Bloom's (1956) cognitive taxonomy of analysis and synthesis were combined under the heading "synthesis." The definition included in the instrument for this heading was also modified. The assigned heading of "knowledge" was changed to the term "awareness" and the assigned heading of "comprehension" was changed to the term "understanding." The original definitions of these terms were retained.

The Dependent Variable

The dependent variable in the study was the score assigned by the respondents to each competency item indicating the acceptance of content and the level of learning. Respondents, representing personal finance teachers from four subject matter areas of business education, home economics, mathematics, and social studies, and members of the business community were asked their judgment of each competency based on their own experience. Each of the 70 competencies was assigned a score for acceptance of content based upon the following Likert-type scale: 1. Non-essential, 2. Doubtful Value, 3. Moderate, 4. Desirable, and 5. Essential. In addition, each of the 70 competencies was assigned a score for the hierarchical level of learning. The major heading designations relate to those presented in Bloom's taxonomy and are assigned values based upon the following ordinal scale: 0. No Learning Needed, 1. Awareness, 2. Understanding, 3. Application, 4. Synthesis, and 5. Evaluation.

Selection of the Sample

The population from which the sample was drawn consisted of all persons employed as teachers of consumer education/economics/personal finance in Oregon's public schools and whose subject matter backgrounds were known as of January, 1979; all business agencies listed with Credit Bureau Inc.; real estate agencies in Oregon; and insurance agencies in Oregon.

Identification of personal finance teachers was made using the official roster, Personal Finance Teachers in Oregon Public Schools, provided by the Oregon Department of Education. Ninety-five percent of the personal finance teachers were identified in the subject matter fields of business education, home economics, mathematics, and social studies; thus, the sample was drawn from these four groups. A random selection was conducted using a table of random numbers (Downie and Heath, 1974) in order to obtain 80 respondents for each of the four major subject area cells.

Identification of the participants of the business community was made by using the mailing files of the Credit Bureau Inc., Portland, Oregon, the Membership Directory 1978-79 Oregon Association of Realtors; Oregon Life Underwriters Association Membership Directory 1977-78, Oregon Professional Insurance Agents Membership Roster 1978, and Independent Insurance Agents of Oregon Membership Roster 1977-78. A random selection procedure was applied using the table of random numbers to obtain the initial participants and then applying the skip interval method as described by Backstrom (1963) to randomly select 320 respondents from the business community.

The Statistical Design

The major focus of this study was to determine the needed competencies for personal finance and structure of common personal finance competencies by both the acceptance of content and by the level of learning for developing curriculum patterns to be implemented in the Personal Finance Education Guide for use in the secondary schools. This section describes the statistical procedures used to test the hypothesis of the study which deals with differences of opinion among respondents about the acceptance of content for each competency and the level of learning for each competency statement. It also describes the procedure for determining the clusters of underlying unities for the acceptance of content and the level of learning which may be used to determine curriculum patterns.. Research by Siewert (1978), Spaziani (1972), Gunderson (1971), Lindahl (1971), and Miller (1971) provided the foundations for the general design of this study.

1. The population for the study consisted of representatives of the personal finance teachers and of the business community in Oregon. A randomized sample of 543 personal finance teachers and members of the business community was used to represent the populations. The sample drawn from each of the five populations (i.e., personal finance teachers from the subject matter areas of business education, home economics, mathematics, and social studies, and the business community) were verified a posteriori for optimal size using the procedure initiated by Gonor and Kemp (1978). Data relating to the adequacy of sample for each of the five groups are detailed in Appendix I.

2. There was an interest in learning the competency mean scores for acceptance of content and for level of learning for recommending emphasis in curriculum development.

- a. Means for acceptance of content were computed by assigning a weight of 5 to Essential, 4 to Desirable, 3 to Moderate, 2 to Doubtful Value, and 1 to Non-essential. Competencies were placed in rank order by means with those rated essential first. Since the scale was a five-point Likert-type with limited scale values, it was tested with parametric statistics using the F test but was not compared in relationship to an overall mean.* If significant differences among groups were found in one-way analysis of variance test on the means, those mean scores being significantly different were identified.
- b. Means for the level of learning were computed by assigning a weight of 5 to Evaluation, 4 to Synthesis, 3 to Application, 2 to Understanding, 1 to Awareness, and 0 to No Learning Needed. Competencies were placed in rank order by the means with the ones rated Essential listed first. Since the scale was a five-point Likert-type with limited scale values, it was tested with parametric statistics using the F test but was not compared in relationship to an overall mean.* If significant differences among groups were found in the one-way analysis of variance test on the means, those mean scores being significantly different were identified.

*Phone conversation with Dr. Donald Pierce, Department of Statistics, Oregon State University, March 7, 1979; Snedecor and Cochran, pp. 132-133.

3. There was an interest in learning if differences existed among groups on the competency mean scores for acceptance of content and the level of learning. The first hypothesis tested in this study was that there is no significant difference in acceptance of content of personal finance competencies among the personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies and the business community.

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$$

The second hypothesis tested in this study was that there is no significant difference in the level of learning of personal finance competencies among the personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies and the business community.

$$H_0 = \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$$

The one-way analysis of variance was applied to each of the 70 competencies for both the acceptance of content and the level of learning. For testing both hypotheses, the one factor, fixed effects design utilized the mathematical component model suggested by Gaito.*

$$Y_{iu} = \mu + \alpha_i + E_{ij}$$

where

μ = a fixed constant

α_i = a differential effect associated with factor one

E_{ij} = a random variable with NID $(0, \sigma^2)$.

Table 1 is the analysis of variance arrangement (fixed model) used for this study.

*Dr. Wayne Courtney, Ed 515, Quantitative Applications, March 1978; citing Gaito, 1973, pp. 30-33.

Table 1. Analysis of variance layout (fixed model).

Source of variation	df	SS	MS	F
Groups	4	A	A/4	MS_{BET}/MS_{ERROR}
Error	539	B	B/539	
TOTAL	543	C	C/543	

The F statistic was utilized to test for significance among means. The .05 level of significance was selected as the basis for acceptance or rejection of the null hypothesis.

When the F test indicated significance at the .05 level, the Student-Newman-Keuls test was used to ascertain individual mean differences. The Student-Newman-Keuls as a comparison test for confidence intervals has the advantage of simplicity and applicability.

4. Data were factor analyzed through the use of both the R-mode and the Q-mode.

a. The R-mode (the most frequently used type, according to Kim and Cattell) was used to condense the large number of competencies into a few interpretable factors for both content acceptance and level of learning. Based on the responses to the acceptance of content and for the level of learning, the factor matrix was computed in three major steps:

(1) Correlation coefficients - computation of the correlation coefficients for all possible pairs.

(2) Principal components - extraction of the initial factors.

(3) Varimax rotation - rotation to a terminal solution.

This form of analysis examined the relationship of every competency with every other competency and provided for a clustering of the common personal finance competencies. One R-type factor analysis generated a 70-competency intercorrelation matrix based upon data collected from 431 respondents for content acceptance. A second R-type factor analysis generated a 70-competency intercorrelation matrix based upon data collected from 382 respondents for level of learning. The number of respondents varied due to missing data. Thus, the 70 competencies were clustered in a manner that best accounted for all the variability represented by the respondents' ratings on all competencies for acceptance of content and level of learning.

- b. The Q-technique involved the correlating of respondents according to the competencies which were included for the study. A 200-respondent intercorrelation matrix based upon data furnished by 70 competencies was generated.

The 200 respondents included in the Q-technique were randomly selected by using a table of random numbers to define the starting point and then by applying the skip interval procedure for randomness as discussed by Backstrom (1963). A random selection from the sample group for purposes of using the Q-technique is considered statistically satisfactory.*

*Telephone conversation with Suzie Maresh, Department of Statistics, Oregon State University, March 5, 1979.

The analysis provided a measure of commonality among respondents and indicated the extent to which personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies and members of the business community resemble each other with regard to the 70 competencies in the study.

- c. Competencies with rotated factor loadings of $+ .45$ or higher were recorded as being clustered with a factor.

Collection of Data

Several steps were involved in the collection of data. Because of the implications this study could have for recommendations of curriculum design and content for the Personal Finance Education Guide, the Oregon Department of Education provided support and assistance in the collection of the data. They provided support in the form of printing the instrument and letters, supplying envelopes and providing endorsements for the study. In addition to the statement contained in the cover letter referring to the State Department's support, Dr. Verne Duncan, Superintendent of Public Instruction, wrote a letter of endorsement. A copy of the letter appears in Appendix C.

The instrument described in the previous section appears in Appendix D. The instrument, together with the cover letter and business return envelopes, were mailed to the sample groups. The cover letters, shown in Appendix E, explained the purpose of the request, the use to be made of the data collected, and the need for participation of the sample group. It also explained the procedure for completing and

returning the questionnaire. It directed the respondents to the instructions for completing the questionnaire and the definitions of terms for level of learning. The definitions appear in Appendix F.

The instruments were coded for the follow-up of unanswered questionnaires. Respondents were assured that all responses would be held in confidence and that the responses would be recorded and analyzed as a group.

To increase the response rate, a follow-up postcard reminder, shown in Appendix G, was mailed two weeks following the initial mailing to those who had not responded. After another week's time lapse, a duplicate instrument, together with the cover letter shown in Appendix H and the letter by Dr. Verne Duncan, was mailed to those who had still not responded.

The final step in the collection of the data was to check each questionnaire for completeness and clarity of markings and to modify the coding for the protection of the participants on each questionnaire before the data was key punched. The data from each questionnaire were key punched and verified by the staff at Oregon State University Computer Center.

IV. PRESENTATION OF FINDINGS

The analyses of data collected for the study have been presented in three major sections, each section has two subsections of "Acceptance of Content" and "Level of Learning." The determination of optimal sample size is presented before the first major section. The first section presents the mean-ranking competencies. The second section describes the results of the analysis of variance which tested for significant differences among the competency mean scores of personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community. This section also contains a description of where the significant difference lies. The last section describes the results of the factor analysis techniques, the Q-mode analysis of 200 respondents and the R-mode analysis of 70 competencies.

Sample Size

The sample size of the population for the study was subjected to the test by Gonor and Kemp (1978) to determine the optimal size needed for this study. The random sample of 543 personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community was found to be acceptable for both the acceptance of content and level of learning. A sample of the formula applied to the data appears in Appendix I.

Results of the Mean-Ranking

Each of the 70 competencies was ranked for both acceptance of content and level of learning. Rankings were based on the mean score of each of the personal finance competencies. For the study of competencies in acceptance of content, the 70 competencies in rank order as determined by all five groups are contained in Table 2. These mean score ranks of all competencies are also included in Tables 9 through 14. For the study of competencies in level of learning, the 70 competencies in rank order as determined by all five groups are contained in Table 4. These mean score ranks of all competencies are also included in Tables 16 through 21.

The acceptance of content and level of learning contained nine of the same competencies from the ten highest mean-ranked competencies. Although one competency was different in each study, the concept of credit in the competency was the same. The results indicated that both acceptance of content and level of learning listed four competencies relating to financial planning, one competency pertaining to automobile insurance and one pertaining to contracts in the ten highest mean-ranked competencies.

The acceptance of content and level of learning contained eight of the same competencies from the ten lowest mean-ranked competencies. The two competencies which were different in acceptance of content related to advertising and transportation. Both competencies in the level of learning that were different pertained to consumer legislation and assistance. The results indicated that the acceptance of content

listed four competencies pertaining to advertising, two to transportation and travel, two to economics, one to consumer legislation and one to the selection of clothing in the ten lowest mean-ranked competencies. The results of the level of learning indicated that three competencies relating to advertising, three to consumer legislation, two to economics, one to travel and one to selection of clothing were listed in the ten lowest mean-ranked competencies.

Acceptance of Content

This section presents data related to the acceptance of content for determining which of the 70 personal finance competencies should be emphasized in Oregon's high school personal finance classrooms. Respondents designated the acceptance of content for each competency as follows: 1, Non-essential; 2, Doubtful Value; 3, Moderate; 4, Desirable; and 5, Essential. Table 2 shows the order of importance of the 70 personal finance competencies as defined by personal finance teachers and the business community.

Of the 70 personal finance competencies ranked by all five groups, 18 had means of 4.0 or above, 31 had means between 3.5 and 4.0, 19 had means between 3.0 and 3.5, and 2 had means below 3.0. As exhibited in Table 2, item 12, Steps in Financial Planning (Budgeting), was considered the most important personal finance competency by all five groups.

In determining those competencies related to acceptance of content which might be emphasized in the personal finance curriculum, the means of the business community were rank ordered for the 70 personal finance

Table 2. Order of importance of personal finance competencies for acceptance of content: total sample population.

Mean ranking	Item number	Title of competency	Factor loading	Mean	Standard deviation
1	12	Steps in financial planning (budgeting)	.548	4.502	.723
2	18	Responsibilities for using credit	.609	4.487	.749
3	46	Consumer responsibilities in contractual agreements	.477	4.399	.868
4	6	Guidelines for correct use of banking service and financial records	.439	4.394	.742
5	52	Advantages and disadvantages of credit	.586	4.376	.749
6	4	Ways to plan for saving	.580	4.362	.749
7	1	Sources of assistance in resolving credit problems and financial crises	.304	4.340	.772
8	10	Personal factors affecting credit worthiness	.495	4.330	.785
9	3	Selection of automobile insurance	.537	4.303	.848
10	19	Reasons for financial planning	.538	4.223	.815
11	69	Elements of contractual agreements	.637	4.113	.897
12	28	Guidelines for reporting taxes	.408	4.110	.885
13	48	Computing costs of credit	.510	4.092	.926
14	63	Types of credit	.608	4.054	.869

Table 2. Continued

Mean ranking	Item number	Title of competency	Factor loading	Mean	Standard deviation
15	53	Selection of housing	.426	4.037	.941
16	67	Effects of debtor problems	.645	4.035	.874
17	27	Financial implications of income and benefits from employment	.366	4.020	.921
18	51	Importance of records and banking services as financial aids	.511	4.006	.868
19	11	Types of credit problems	.402	3.991	.861
20	29	Types of payroll check deductions and employee benefits	.366	3.989	.934
21	21	Planning for insurance needs	.607	3.990	.863
22	8	Purposes of taxes	.400	3.978	.889
23	68	Factors affecting cost of credit	.615	3.976	.904
24	45	Types of banking services	.437	3.959	.893
25	70	Factors affecting credit selection	.701	3.937	.878
26	41	Selection of life insurance	.708	3.926	.948
27	14	Methods of protecting consumers against fraud and deception	.561	3.911	.943
28	38	Financial considerations of further education	.384	3.900	.900

Table 2. Continued

Mean ranking	Item number	Title of competency	Factor loading	Mean	Standard deviation
29	39	Selection of health insurance	.729	3.878	.955
30	61	Types of taxes	.370	3.864	.898
31	58	Types of credit granting institutions	.510	3.837	.922
32	35	Selection of home insurance	.779	3.832	.956
33	47	Significant types of fraudulent practices	.461	3.795	.923
34	49	Common types of legal documents	.475	3.795	.877
35	34	Implications of credit reporting	.507	3.768	.925
36	31	Techniques for shopping effectively	.610	3.757	.954
37	60	Guidelines for planning purchases	.483	3.756	.915
38	44	Economic factors and lender considerations affecting availability of credit	.464	3.754	.959
39	36	Types of investment opportunities	.495	3.719	.931
40	23	Factors affecting saving decisions	.439	3.690	.893
41	17	Types of finance records	.330	3.662	.912
42	2	Federal laws related to credit	.566	3.639	.930
43	9	Marketing practices affecting consumer purchases	.430	3.630	.873

Table 2. Continued

Mean ranking	Item number	Title of competency	Factor loading	Mean	Standard deviation
44	55	State laws related to credit	.564	3.626	.940
45	40	Factors affecting investment decisions	.503	3.587	.954
46	13	Selection of saving institutions	.384	3.576	.925
47	24	Financial considerations at different ages	.394	3.533	.911
48	16	Selection of durable goods (i.e., appliances, furniture)	.549	3.530	.976
49	66	Responsibilities of consumers in the marketplace	.418	3.510	1.051
50	54	Responsibilities of sellers in the marketplace	.338	3.493	.916
51	25	Personal factors affecting consumer purchases	.382	3.474	.917
52	5	Factors affecting choice of retail outlets	.480	3.414	.945
53	15	Factors affecting choice of services	.452	3.399	.865
54	20	Selected nongovernmental agencies as sources for consumer assistance and information	.580	3.398	.978
55	56	Selection of food items	.732	3.395	1.180
56	32	Significant state consumer protection legislation	.712	3.335	.974
57	7	Types of economic systems	.557	3.312	1.005

Table 2. Continued

Mean ranking	Item number	Title of competency	Factor loading	Mean	Standard deviation
58	26	Selected governmental agencies as sources of consumer assistance and information	.662	3.287	.940
59	65	Significant federal consumer protection legislation	.650	3.281	.999
60	30	Our mixed economy	.630	3.234	1.001
61	22	Criteria for evaluation of advertising techniques	.544	3.196	1.039
62	59	Advantages and disadvantages of advertising	.545	3.182	1.042
63	50	Selection of transportation	.582	3.148	1.067
64	57	Economic and societal factors affecting consumer purchases	.471	3.095	.995
65	43	Factors affecting advertising practices	.509	3.078	1.056
66	62	Development of consumer legislation	.631	3.030	.992
67	64	Guidelines for consumer behavior in relation to advertising	.494	3.030	1.021
68	33	Conditions necessary for a consumer-directed economy	.522	3.019	.976
69	42	Selection of clothing items	.684	2.972	1.135
70	37	Financial implications of future travel and recreation	.439	2.943	.998

competencies as shown in Table 3. Of these competencies, 12 had means of 4.0 or above, 30 had means between 3.5 and 4.0, 17 had means between 3.0 and 3.5, and 11 had means below 3.0. As indicated in Table 2, Item 18, Responsibilities for Using Credit, was considered the most important personal finance competency by the business community.

In comparing the rank orders of the overall group and the business community, those items changing rank positions of five or more were analyzed by comparing individual group means.

In comparing the rank order of the means for the business community with means of 4.0 or higher and the overall means, it was found that rank order positions for the 11 highest mean ranks for both groups varied only slightly. The ranks changed no more than four positions, but all remained in the top 11. Item 27, the 12th rank position for the business community, changed five ranks when compared with the overall mean. Further analysis of individual group means indicated that it remained in the range of 3.5 to 4.99. Of those ranking between the means of 4.0 and 3.5 for the business community, it was found that 13 competencies changed rank positions by five or more. The means of the business community and the means of the four other groups were compared. All means fell within the range of 3.5 to 4.49 which revealed the level of emphasis for acceptance of content at this range.

Of those ranking between the means of 3.5 and 3.0 for the business community means, it was found that rank order positions changed for four competencies by five or more ranks. Upon further analysis, it was learned that two competencies, Items 7 and 8, fell within the range of 2.5 to 3.499 which denoted that the groups accepted the content in this

Table 3. Order of importance of personal finance competencies for acceptance of content: business community.

Mean ranking	Item number	Title of competency	Mean	Standard deviation
1	18	Responsibilities for using credit	4.508	.756
2	12	Steps in financial planning (budgeting)	4.470	.745
3	4	Ways to plan for saving	4.384	.756
4	46	Consumer responsibilities in contractual agreements	4.340	.828
5	10	Personal factors affecting credit worthiness	4.334	.789
6	6	Guidelines for correct use of banking service and financial records	4.307	.785
7	52	Advantages and disadvantages of credit	4.291	.771
8	19	Reasons for financial planning	4.262	.802
9	1	Sources of assistance in resolving credit problems and financial crises	4.251	.793
10	69	Elements of contractual agreements	4.076	.904
11	3	Selection of automobile insurance	4.050	.922
12	27	Financial implications of income and benefits from employment	4.019	.887
13	67	Effects of debtor problems	3.991	.884

Table 3. Continued

Mean ranking	Item number	Title of competency	Mean	Standard deviation
14	38	Financial considerations of further education	3.987	.879
15	48	Computing costs of credit	3.972	.946
16.5	53	Selection of housing	3.931	.972
16.5	51	Importance of records and banking services as financial aids	3.931	.901
18	8	Purposes of taxes	3.927	.898
19	28	Guidelines for reporting taxes	3.905	.882
20	11	Types of credit problems	3.896	.879
21	21	Planning for insurance needs	3.874	.872
22	63	Types of credit	3.861	.893
23	70	Factors affecting credit selection	3.820	.899
24.5	68	Factors affecting cost of credit	3.815	.910
24.5	41	Selection of life insurance	3.815	.979
26	39	Selection of health insurance	3.796	.990
27	45	Types of banking services	3.780	.879
28	49	Common types of legal documents	3.774	.895

Table 3. Continued

Mean ranking	Item number	Title of competency	Mean	Standard deviation
29	44	Economic factors and lender considerations affecting availability of credit	3.752	.994
30	36	Types of investment opportunities	3.734	.929
31	61	Types of taxes	3.725	.882
32	35	Selection of home insurance	3.722	.990
33.5	34	Implications of credit reporting	3.699	.954
33.5	29	Types of payroll check deductions and employee benefits	3.699	.909
35	17	Types of finance records	3.687	.919
36	58	Types of credit granting institutions	3.641	.914
37	40	Factors affecting investment decisions	3.628	.978
38	14	Methods of protecting consumers against fraud and deception	3.620	.968
39	23	Factors affecting saving decisions	3.607	.950
40	47	Significant types of fraudulent practices	3.571	.934
41.5	24	Financial considerations at different ages	3.554	.944
41.5	60	Guidelines for planning purchases	3.554	.946

Table 3. Continued

Mean ranking	Item number	Title of competency	Mean	Standard deviation
43	55	State laws related to credit	3.475	.941
44	2	Federal laws related to credit	3.464	.967
45	31	Techniques for shopping effectively	3.456	.970
46	9	Marketing practices affecting consumer purchases	3.406	.857
47	7	Types of economic systems	3.403	1.015
48	13	Selection of saving institutions	3.385	.905
49	54	Responsibilities of sellers in the marketplace	3.354	.932
50	16	Selection of durable goods (i.e., appliances, furniture)	3.304	.999
51	25	Personal factors affecting consumer purchases	3.304	.921
52	30	Our mixed economy	3.260	.996
53	15	Factors affecting choice of services	3.233	.882
54	66	Responsibilities of consumers in the marketplace	3.229	1.064
55	5	Factors affecting choice of retail outlets	3.210	.961
56	20	Selected nongovernmental agencies as sources for consumer assistance and information	3.151	.977

Table 3. Continued

Mean ranking	Item number	Title of competency	Mean	Standard deviation
57	56	Selection of food items	3.092	1.198
58	32	Significant state consumer protection legislation	3.082	1.001
59	65	Significant federal consumer protection legislation	3.070	1.047
60	26	Selected governmental agencies as sources of consumer assistance and information	2.997	.905
61	33	Conditions necessary for a consumer-directed economy	2.895	1.010
62	57	Economic and societal factors affecting consumer purchases	2.883	.992
63	50	Selection of transportation	2.874	1.052
64	62	Development of consumer legislation	2.869	1.014
65	37	Financial implication of future travel and recreation	2.827	1.015
66	22	Criteria for evaluation of advertising techniques	2.788	.977
67	59	Advantages and disadvantages of advertising	2.768	.927
68	64	Guidelines for consumer behavior in relation to advertising	2.687	.946
69	43	Factors affecting advertising practices	2.664	.955
70	42	Selection of clothing items	2.623	1.078

general range. Two competencies, however, had group means higher than the designated range. Competency 31, Techniques for Shopping Effectively, was considered by personal finance teachers as being desirable with ratings of 4.0 or higher for all subject matter areas.

The application of the F test produced a computed F of 22.64. The Student-Newman-Keuls procedure resulted in identifying that personal finance teachers had indicated significantly higher levels of acceptance than did the business community. The business community ranking for this competency was 45 and the overall ranking was 36. Competency 66, Responsibilities of Consumers in the Marketplace, was found to be desirable by the home economics teachers with a mean of 4.24. The application of the F test resulted in a computed F of 18.66. It was found with the Student-Newman-Keuls procedure that all personal finance teachers had assigned significantly higher acceptance than did the business community, and that the area of home economics had significantly higher acceptance of content than the mathematics teachers. The ranking for the business community was 54 and the overall ranking was 49.

For those ranking between the means of 2.5 and 3.0 for the business community, it was found that three competencies changed rank positions by five or more. These competencies were compared to the individual group means, and it was learned that all three of the competencies fell in the range of 2.5 to 3.499 which indicated acceptance of content in this range.

Seventy competencies for personal finance which related to content were submitted to five groups to determine which of these needed

emphasis in Oregon's high schools. Sixty-eight were agreed upon by the five groups within two ranges: 3.5 to 4.999 and 2.5 to 3.499.

In rank order, 12 competencies had a mean of 4.0 or above as determined by the business community. A comparative analysis showed that all other group means fell within the range of 3.5 to 4.99 for these 12 competencies. The next 30 competencies had a mean between 4.0 and 3.5 as determined by the business community. It was found in comparative analysis that all other group means fell within the range of 3.5 to 4.99 on these competencies. The next 17 competencies had a mean of 3.0 to 3.49 as determined by the business community. A comparative analysis showed that 15 of the competencies were acceptable within the range of 2.5 to 3.49 for all other groups. However, all personal finance teachers felt that competency 31, Techniques for Shopping Effectively, needed more emphasis, and the home economics teachers as well as all other personal finance teachers felt that competency 66, Responsibilities of the Consumer in the Marketplace, required more emphasis. The next 11 competencies having a mean of 2.5 to 2.99, as determined by the business community, was found in a comparative analysis that all group means fell within the identified range of 2.5 to 3.499. These competencies were considered as being acceptable for emphasis of content within this range.

Out of these 70 competencies, two, 31, Techniques for Shopping Effectively, and 66, Responsibilities of the Consumer in the Marketplace, are incongruent with the ranking of the business community.

Level of Learning

This section presents data related to the level of learning for determining the appropriate emphasis that should be given on the 70 personal finance competencies in Oregon's high schools. Respondents designated the level of learning for each competency as follows: 0, No Learning Needed; 1, Awareness; 2, Understanding; 3, Application; 4, Synthesis; and 5, Evaluation. Table 4 shows the rank order of level of learning of the 70 personal finance competencies as identified by personal finance teachers and the business community.

Of the 70 personal finance competencies, 7 had means of 3.5 or above, 20 had means between 3.0 and 3.49, 24 had means between 2.5 and 2.99, 18 had means between 2.0 and 2.49, and 1 had a mean between 1.5 and 1.9. As indicated in Table 4, the competency identified as needing the highest level of learning was competency 12, Steps in Financial Planning (Budgeting).

In determining those competencies related to the hierarchical level of learning at which each competency should be attained by students, the means of the business community were rank ordered. Of the 70 personal finance competencies for the business community, 8 had means of 3.5 or above, 18 had means between 3.0 and 3.49, 20 had means between 2.5 and 2.99, 13 had means between 2.0 and 2.49, and 11 had means between 1.5 and 1.9. As indicated in Table 5, the competency suggested as needing the highest level of learning was competency 12, Steps in Financial Planning (Budgeting).

By comparing the rank order of the business community with means

Table 4. Order of importance of personal finance competencies for level of learning: total sample population.

Mean ranking	Item number	Title of competency	Factor loading	Mean	Standard deviation
1	12	Steps in financial planning (budgeting)	.510	3.970	1.131
2	18	Responsibilities for using credit	.464	3.809	1.249
3	46	Consumer responsibilities in contractual agreements	.587	3.797	1.235
4	6	Guidelines for correct use of banking service and financial records	.504	3.656	1.206
5	52	Advantages and disadvantages of credit	.575	3.623	1.288
6	4	Ways to plan for saving	.571	3.605	1.246
7	3	Selection of automobile insurance	.461	3.559	1.357
8	10	Personal factors affecting credit worthiness	.593	3.480	1.313
9	48	Computing costs of credit	.483	3.475	1.349
10	19	Reasons for financial planning	.548	3.428	1.293
11	28	Guidelines for reporting taxes	.390	3.392	1.242
12	69	Elements of contractual agreements	.633	3.357	1.309
13	53	Selection of housing	.496	3.333	1.368
14	21	Planning for insurance needs	.638	3.322	1.287

Table 4. Continued

Mean ranking	Item number	Title of competency	Factor loading	Mean	Standard deviation
15	63	Types of credit	.604	3.251	1.349
16	27	Financial implications of income and benefits from employment	.398	3.236	1.399
17	41	Selection of life insurance	.698	3.234	1.389
18	70	Factors affecting credit selection	.633	3.230	1.280
19	67	Effects of debtor problems	.631	3.217	1.322
20	39	Selection of health insurance	.776	3.206	1.373
21	68	Factors affecting cost of credit	.586	3.197	1.349
22	51	Importance of records and banking services as financial aids	.502	3.177	1.279
23	45	Types of banking services	.492	3.121	1.308
24	11	Types of credit problems	.531	3.110	1.328
25	38	Financial considerations of further education	.312	3.099	1.389
26	35	Selection of home insurance	.774	3.087	1.404
27	29	Types of payroll check deductions and employee benefits	.347	3.035	1.348
28	31	Techniques for shopping effectively	.639	2.991	1.371

Table 4. Continued

Mean ranking	Item number	Title of competency	Factor loadings	Mean	Standard deviation
29	14	Methods of protecting consumers against fraud and deception	.457	2.983	1.365
30	36	Types of investment opportunities	.488	2.974	1.394
31	60	Guidelines for planning purchases	.432	2.957	1.296
32	44	Economic factors and lender considerations affecting availability of credit	.437	2.950	1.341
33	61	Types of taxes	.365	2.944	1.270
34	8	Purposes of taxes	.359	2.935	1.336
35	1	Sources of assistance in resolving credit problems and financial crises	.387	2.920	1.413
36	49	Common types of legal documents	.484	2.917	1.335
37	23	Factors affecting saving decisions	.391	2.911	1.250
38	58	Types of credit granting institutions	.563	2.890	1.420
39	40	Factors affecting investment decisions	.527	2.881	1.393
40	13	Selection of saving institutions	.420	2.873	1.350
41	47	Significant types of fraudulent practices	.501	2.819	1.340
42	16	Selection of durable goods (i.e., appliances, furniture)	.571	2.805	1.407

Table 4. Continued

Mean ranking	Item number	Title of competency	Factor loading	Mean	Standard deviation
43	17	Types of finance records	.348	2.793	1.320
44	34	Implications of credit reporting	.534	2.752	1.329
45	9	Marketing practices affecting consumer purchases	.482	2.713	1.305
46	24	Financial considerations at different ages	.390	2.673	1.299
47	25	Personal factors affecting consumer purchases	.515	2.661	1.291
48	66	Responsibilities of consumers in the marketplace	.540	2.639	1.376
49	55	State laws related to credit	.470	2.543	1.291
50	56	Selection of food items	.708	2.525	1.515
51	15	Factors affecting choice of services	.568	2.514	1.234
52	54	Responsibilities of sellers in the marketplace	.453	2.471	1.228
53	5	Factors affecting choice of retail outlets	.531	2.440	1.350
54	22	Criteria for evaluation of advertising techniques	.693	2.398	1.461
55	7	Types of economic systems	.618	2.342	1.370
56	50	Selection of transportation	.623	2.320	1.439
57	20	Selected nongovernmental agencies as sources for consumer assistance and information	.444	2.308	1.300

Table 4. Continued

Mean ranking	Item number	Title of competency	Factor loading	Mean	Standard deviation
58	2	Federal laws related to credit	.536	2.289	1.256
59	30	Our mixed economy	.649	2.252	1.376
60	32	Significant state consumer protection legislation	.585	2.246	1.288
61	59	Advantages and disadvantages of advertising	.607	2.232	1.369
62	65	Significant federal consumer protection legislation	.478	2.197	1.250
63	57	Economic and societal factors affecting consumer purchases	.557	2.126	1.261
64	43	Factors affecting advertising practices	.705	2.115	1.365
65	42	Selection of clothing items	.651	2.089	1.452
66	64	Guidelines for consumer behavior in relation to advertising	.704	2.061	1.304
67	33	Conditions necessary for a consumer-directed economy	.579	2.049	1.256
68	26	Selected governmental agencies as sources of consumer assistance and information	.518	2.039	1.253
69	62	Development of consumer legislation	.469	2.019	1.252
70	37	Financial implication of future travel and recreation	.472	1.981	1.311

Table 5. Order of importance of personal finance competencies for level of learning: business community.

Mean ranking	Item number	Title of competency	Mean	Standard deviation
1	12	Steps in financial planning (budgeting)	3.962	1.137
2	18	Responsibilities for using credit	3.890	1.198
3	46	Consumer responsibilities in contractual agreements	3.760	1.258
4	4	Ways to plan for saving	3.696	1.281
5	6	Guidelines for correct use of banking service and financial records	3.618	1.259
6	10	Personal factors affecting credit worthiness	3.558	1.334
7	19	Reasons for financial planning	3.554	1.264
8	52	Advantages and disadvantages of credit	3.548	1.276
9	69	Elements of contractual agreements	3.389	1.328
10	48	Computing costs of credit	3.360	1.413
11	27	Financial implications of income and benefits from employment	3.284	1.376
12	67	Effects of debtor problems	3.272	1.344
13	21	Planning for insurance needs	3.225	1.264
14	38	Financial considerations of further education	3.223	1.350

Table 5. Continued

Mean ranking	Item number	Title of competency	Mean	Standard deviation
15	3	Selection of automobile insurance	3.215	1.393
16	53	Selection of housing	3.190	1.417
17	28	Guidelines for reporting taxes	3.164	1.229
18	41	Selection of life insurance	3.160	1.379
19	51	Importance of records and banking services as financial aids	3.145	1.278
20	39	Selection of health insurance	3.139	1.385
21	70	Factors affecting credit selection	3.114	1.321
22	63	Types of credit	3.076	1.320
23	68	Factors affecting cost of credit	3.067	1.363
24	11	Types of credit problems	3.048	1.333
25	36	Types of investment opportunities	3.016	1.370
26	40	Factors affecting investment decisions	3.013	1.407
27	35	Selection of home insurance	2.994	1.405
28	44	Economic factors and lender considerations affecting availability of credit	2.991	1.386

Table 5. Continued

Mean ranking	Item number	Title of competency	Mean	Standard deviation
29	45	Types of banking services	2.949	1.286
30	8	Purposes of taxes	2.937	1.362
31	49	Common types of legal documents	2.928	1.357
32	1	Sources of assistance in resolving credit problems and financial crises	2.899	1.388
33	17	Types of finance records	2.875	1.335
34	61	Types of taxes	2.842	1.270
35	23	Factors affecting saving decisions	2.837	1.297
36	24	Financial considerations at different ages	2.773	1.314
37	60	Guidelines for planning purchases	2.745	1.306
38	29	Types of payroll check deductions and employee benefits	2.737	1.296
39	58	Types of credit granting institutions	2.727	1.381
40	34	Implications of credit reporting	2.712	1.339
41	14	Methods of protecting consumers against fraud	2.695	1.338
42	13	Selection of saving institutions	2.645	1.340

Table 5. Continued

Mean ranking	Item number	Title of competency	Mean	Standard deviation
43	31	Techniques for shopping effectively	2.603	1.340
44	47	Significant types of fraudulent practices	2.590	1.298
45	9	Marketing practices affecting consumer purchases	2.509	1.263
46	7	Types of economic systems	2.500	1.435
47	16	Selection of durable goods (i.e., appliances, furniture)	2.480	1.402
48	25	Personal factors affecting consumer purchases	2.461	1.235
49	55	State laws related to credit	2.455	1.271
50	15	Factors affecting choice of services	2.362	1.214
51	54	Responsibilities of sellers in the marketplace	2.339	1.217
52	30	Our mixed economy	2.309	1.400
53	66	Responsibilities of consumers in the marketplace	2.301	1.355
54	2	Federal laws related to credit	2.255	1.271
55	5	Factors affecting choice of retail outlets	2.199	1.320
56	20	Selected nongovernmental agencies as sources for consumer assistance and information	2.123	1.283

Table 5. Continued

Mean ranking	Item number	Title of competency	Mean	Standard deviation
57	56	Selection of food items	2.096	1.492
58	65	Significant federal consumer protection legislation	2.051	1.281
59	32	Significant state consumer protection legislation	2.038	1.282
60	33	Conditions necessary for a consumer-directed economy	1.971	1.303
61	50	Selection of transportation	1.953	1.372
62	57	Economic and societal factors affecting consumer purchases	1.918	1.223
63	62	Development of consumer legislation	1.897	1.269
64	37	Financial implication of future travel and recreation	1.861	1.270
65	22	Criteria for evaluation of advertising techniques	1.849	1.282
66	59	Advantages and disadvantages of advertising	1.791	1.179
67	26	Selected governmental agencies as sources of consumer assistance and information	1.770	1.137
68	43	Factors affecting advertising practices	1.666	1.167
69	64	Guidelines for consumer behavior in relation to advertising	1.644	1.143
70	42	Selection of clothing items	1.633	1.306

of 3.5 or higher and the overall means, it was found that rank order positions for the eight highest mean ranks for both groups were very much the same with ranks changing no more than three positions.

Of those ranking between the means of 3.0 and 3.49 for the business community, it was found that eight competencies changed place in rank by five or more positions. The means of the business community and the means of the four groups of personal finance teachers were compared for range. Five of the eight had means which fell within the range of 2.5 to 3.499, which indicated that the level of learning was accepted within this range. Three of the eight competencies had group means which had higher levels of learning than the range indicated. Competency 27, Financial Implications of Income and Benefits from Employment, was found to have a higher level of learning assigned by business education teachers than any other group. The test for significant difference produced a computed F of 2.78 which was significant at the .05 level. The results of the Student-Newman-Keuls procedure disclosed that business education teachers and the business community suggested significantly higher levels of learning than did the mathematics teachers for achieving the intended behavior outcome.

Competency 3, Selection of Automobile Insurance, was found to have higher level of learning scores assigned by all groups of personal finance teachers and were out of the designated range. The significance test generated a computed F of 14.65 and the Student-Newman-Keuls procedure indicated that all personal finance teachers had indicated significantly higher levels of learning than the business community for this competency.

Competency 63, Types of Credit, was found to have a higher level of learning assigned by the business education teachers which was out of the designated range. The test for significant difference produced a computed F of 6.76 which was significant at the .05 level. The Student-Newman-Keuls procedure found that business education teachers' means had indicated a significantly higher level of learning than all other groups for this competency.

Of those ranking between the means of 2.5 and 2.99 for the business community, it was found that seven competencies changed by five or more rank positions. The means of the business community and the means of the four groups of personal finance teachers were compared for range. Three of the seven competencies judged by all five groups had means for levels of learning which fell within the range of 2.5 and 3.4999 which indicated that the level of learning was acceptable within this range. Two of the seven competencies had group means which were lower than the range indicated.

Competency 29, Types of Payroll Check Deductions and Employee Benefits, was rated with a higher level of learning by the business education teachers. The significant test resulted in a computed F of 10.81 which is significant at the .05 level, and the Student-Newman-Keuls procedure found that all personal finance teachers indicated higher levels of learning than were suggested by the business community.

Competency 31, Techniques for Shopping Effectively, was found to have a higher assigned level of learning by all four groups of personal finance teachers, and the means extended beyond the designated range. The significant test generated a computed F of 17.08, significant at

the .05 level; and the Student-Newman-Keuls test found that all personal finance teachers had indicated higher levels of learning than did the business community.

Competency 24, Financial Considerations at Different Ages, was found to have a lower level of learning assigned by the mathematics teachers which extended beyond the designated range. The significance test resulted in a computed F of 2.46 which was significant at the .05 level. No differences were calculated by the Student-Newman-Keuls procedure.

Competency 7, Types of Economic Systems, was found to have lower levels of learning assigned by the business education teachers, the home economics teachers, and the mathematics teachers. These means extended beyond the range. The significance test produced a computed F of 6.56 which was significant at the .05 level. The Student-Newman-Keuls test disclosed that the business education teachers, the social studies teachers and the business community had significantly higher levels of learning designated than did the home economics or the mathematics teachers.

Of the ranking between the means of 2.0 and 2.49 for the business community, it was found that four competencies changed rank positions by five or more. The means of the business community and the means of the four groups of personal finance teachers were compared for range. All of the personal finance teachers, which were compared to the business community group, had indicated a higher level of learning. These assigned means extended beyond the range of 1.5 to 2.499.

Competency 16, Selection of Durable Goods (i.e., Appliances and

Furniture), was found to have higher assigned levels of learning means by all four groups of personal finance teachers. The significance test generated a computed F of 11.38 and the Student-Newman-Keuls procedure evidenced that all personal finance teachers designated significantly higher levels of learning than did the business community.

Competency 30, Our Mixed Economy, was indicated by the social studies group as needing a higher level of learning than did the other groups and the mean extended beyond the indicated range. The significance test generated a computed F of 5.93 which was significant at the .05 level. The Student-Newman-Keuls test found that the business education teachers, the social studies teachers, and the business community had assigned higher levels of learning than did the home economics or the mathematics teachers.

Competency 66, Responsibilities of Consumers in the Marketplace, was noted at higher levels of learning by all personal finance teachers and the means extended beyond the designated range. The significant difference test generated a computed F of 14.87 which is significant at the .05 level. The Student-Newman-Keuls procedure revealed that the home economics teachers and the social studies teachers assigned higher levels than did the mathematics teachers and the business community. It also disclosed that the business education teachers assigned a higher level of learning than did the business community.

Competency 56, Selection of Food Items, was designated at a level by all personal finance teachers which extended beyond the identified range. The significance test computed an F of 20.18 which is significant at the .05 level. The Student-Newman-Keuls test found that all

personal finance teachers had assigned significantly higher levels of learning than did the business community. In addition, the home economics teachers had assigned significantly higher levels than did the mathematics or social studies teachers.

Of those ranking between the means of 1.5 and 1.99 for the business community, it was found that seven competencies changed rank position by five or more. The means of the business community and the means of the four groups of personal finance teachers were compared for range. Three of the five groups had means which fell within the range of 1.5 to 2.499 which suggested that the level of learning was acceptable within this range. The remaining four competencies had been assigned higher levels of learning by all personal finance teachers which extended beyond the designated range.

Competency 50, Selection of Transportation, had a computed F of 14.09 which was significant at the .05 level. The Student-Newman-Keuls test indicated that all personal finance teachers had assigned a significantly higher level of learning than did the business community.

Competency 22, Criteria for Evaluation of Advertising Techniques, had a computed F of 35.88 which is significant at the .05 level. The Student-Newman-Keuls procedure found that all personal finance teachers had assigned significantly higher levels of learning than the business community.

Competency 59, Advantages and Disadvantages of Advertising, had a computed F of 23.70 which is significant at the .05 level. The Student-Newman-Keuls test revealed that all personal finance teachers had assigned significantly higher levels of learning than did the business community.

Competency 42, Selection of Clothing Items, had a computed F of 22.99 which is significant at the .05 level. The Student-Newman-Keuls test evidenced that all personal finance teachers had assigned significantly higher levels of learning than did the business community.

Seventy personal finance competencies which relate to the level of learning were submitted to five groups for determining the level of learning needed to acquire the designated content for the personal finance curriculum in Oregon's high schools. Fifty-five competencies were agreed upon by the five groups as to the appropriate level of learning within three ranges: 3.5 to 4.999, 2.5 to 3.499, and 1.5 to 2.49.

In rank order, eight competencies had a mean of 3.5 or above as determined by the business community. It was found in the comparative analysis that all other group means fell within the range of 3.5 to 4.99 for these eight competencies.

Of the next 18 competencies appearing in the rank order as determined by the business community and having a mean between 3.0 and 3.49, it was found in comparative analysis that 15 competencies were acceptable to the four groups of personal finance teachers since the means fell within the range of 2.5 to 3.49. Three competencies did not have acceptance by all five groups. Competency 3, Selection of Automobile Insurance; competency 63, Types of Credit; and competency 27, Financial Implications of Income and Benefits from Employment, were found to have higher levels of learning assigned by various groups.

Of the next 20 competencies having a mean of 2.5 to 2.99 as determined by the business community, it was found in comparative analysis

that 16 of the competencies were acceptable within the range of 2.5 to 3.49 for all other groups. However, two competencies, 31, Techniques for Shopping Effectively; and 29, Types of Payroll Check Deductions and Employee Benefits, were considered as needing more emphasis by all personal finance teachers. Two other competencies, 24, Financial Considerations at Different Ages, and 7, Types of Economic Systems, were considered as needing less emphasis by various groups of personal finance teachers.

Of the next 13 competencies having means between 2.0 and 2.49, as determined by the business community, it was found in comparative analysis that nine of the competencies were acceptable within the range of 1.5 to 2.49. Four competencies--16, Selection of Durable Goods (i.e., Appliances and Furniture); 30, Our Mixed Economy; 66, Responsibilities of Consumers in the Marketplace; and 56, Selection of Food Items--were considered by various groups of personal finance teachers as needing a higher level of learning for acquisition of content.

Of the next 11 competencies having a mean of 1.5 to 1.99 as determined by the business community, it was found that seven of the competencies were acceptable by all groups within the range of 1.5 to 2.49. Four competencies were considered as needing more emphasis by all four groups of personal finance teachers. These competencies were the following: 50, Selection of Transportation; 22, Criteria for Evaluation of Advertising Techniques; 59, Advantages and Disadvantages of Advertising; and 42, Selection of Clothing Items.

Out of the 70 personal finance competencies, 55 competencies were accepted by all five groups as ranked by the business community, and

15 were considered as incongruent with the ranking by the business community.

Analysis of Variance Techniques

Acceptance of Content

A major purpose of this study was to measure differences in judgments of the respondents about the acceptance of content needed for the 70 personal finance competencies. The null hypothesis that there was no significant difference in mean scores of the acceptance on 70 personal finance competencies among personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community was tested. The one-way analysis of variance using the F statistic tested the null hypothesis for each competency. In all, 70 individual hypotheses were tested, one for each competency.

The computed F value was less than the critical value of 2.39 at the .05 level for 11 competencies and equal to or greater than the critical value of 2.39 at the .05 level for 59 competencies. The null hypothesis was retained for 11 competencies and rejected for 59 competencies. The results of the analysis tests of variance are shown in Appendix J. Appendix K shows the 59 rejected competencies, the mean rank, computed F, the mean for each group, and the differences among groups as determined by the Student-Newman-Keuls procedure. The Student-Newman-Keuls test was used to compare the mean of each group with the mean of every other group.

In order to determine differences in judgments, the following hypothesis was tested: There are no significant differences among personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and members of the business community on the acceptance of content of 70 personal finance competencies. Table 6 presents mean ranks, F ratios, group means, and significant results for competencies which have overall means of 4.0 or above. Of the 18 competencies, 15 were significantly different and 11 had significant comparisons among means.

Respondents in the subject matter area of home economics tended to rate the acceptance of content for the competencies highest while the mathematics teachers rated them lowest. Competency 3, Selection of Automobile Insurance, had the largest difference in means between home economics teachers and the business community. All personal finance teachers and the business community considered the competency desirable but the degree of desirability differed.

All groups of personal finance teachers rated the following competencies significantly higher than did the business community: 4, Ways to Plan for Saving; 3, Selection of Automobile Insurance; 28, Guidelines for Reporting Taxes; 48, Computing Costs of Credit; and 63, Types of Credit. Home economic teachers and business education teachers rated 52, Advantages and Disadvantages of Credit; and 6, Guidelines for Correct Use of Banking Services and Financial Records, higher than did the business community. Home economic teachers also ranked 53, Selection of Housing, significantly higher than the business community, and they ranked 1, Sources of Assistance in Resolving Credit

Table 6. Results of the tests for significant differences for acceptance of content.

Ranking	Item number	Title of competency	Computed F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathematics n=44	Social Studies n=59	Business Community n=319	
1	12	Steps in financial planning (budgeting)	2.84*	4.64	4.73	4.37	4.40	4.47	*--
2	18	Responsibilities for using credit	4.19*	4.66	4.63	4.25	4.24	4.51	1, 2, 5 > 3, 4
3	46	Consumer responsibilities in contractual agreements	2.48*	4.58	4.61	4.30	4.40	4.34	*--
4	6	Guidelines for correct use of banking services and financial records	4.47*	4.66	4.62	4.39	4.37	4.31	1, 2 > 5
5	52	Advantages and disadvantages of credit	4.52*	4.59	4.65	4.41	4.31	4.29	1, 2 > 5
6	4	Ways to plan for saving	2.43*	4.41	4.52	4.16	4.19	4.38	*--
7	1	Sources of assistance in resolving credit problems and financial crises	6.18*	4.43	4.76	4.26	4.36	4.25	2 > 1, 3, 4, 5
8	10	Personal factors affecting credit worthiness	1.60	4.43	4.44	4.34	4.12	4.33	
9	3	Selection of automobile insurance	20.82*	4.76	4.77	4.50	4.58	4.05	1, 2, 3, 4 > 5
10	19	Reasons for financial planning	4.63*	4.36	4.37	3.86	3.98	4.26	1, 2, 5 > 3, 4
11	69	Elements of contractual agreements	2.52*	4.37	4.27	3.93	4.02	4.08	*--
12	28	Guidelines for reporting taxes	11.18*	4.37	4.40	4.34	4.47	3.91	1, 2, 3, 4 > 5
13	48	Computing costs of credit	5.03*	4.51	4.26	4.09	4.15	3.97	1 > 5
14	63	Types of credit	11.54*	4.51	4.38	4.18	4.20	3.86	1, 2, 3, 4 > 5
15	53	Selection of housing	3.89*	4.22	4.39	4.09	4.02	3.93	2 > 5
16	67	Effects of debtor problems	2.13	4.24	4.23	4.00	3.90	3.99	
17	27	Financial implications of income and benefits from employment	1.74	4.14	4.20	3.79	3.90	4.02	

Table 6. Continued

Ranking	Item number	Title of competency	Computed F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathematics n=44	Social Studies n=59	Business Community n=319	
18	51	Importance of records and banking services as financial aids	3.57*	4.32	4.19	4.00	3.90	3.93	*--
19	11	Types of credit problems	3.72*	4.19	4.29	4.02	3.97	3.90	2 > 5
20	29	Types of payroll check deductions and employee benefits	24.68*	4.61	4.55	4.27	4.12	3.70	1, 2, 3, 4 > 5; 1, 2 > 4
21	21	Planning for insurance needs	3.61*	4.22	4.10	4.05	4.19	3.87	1 > 5
22	8	Purposes of taxes	1.42	4.19	3.95	3.93	4.10	3.93	
23	68	Factors affecting cost of credit	9.29*	4.42	4.34	4.07	3.93	3.82	1, 2 > 4, 5
24	45	Types of banking services	10.49*	4.49	4.20	4.07	4.05	3.78	1 > 3, 4, 5; 2 > 5
25	70	Factors affecting credit selection	4.87*	4.24	4.19	4.07	3.90	3.82	1, 2 > 5
26	41	Selection of life insurance	2.79*	4.03	4.11	4.07	4.12	3.81	*--
27	14	Methods of protecting consumers against fraud and deception	22.31*	4.31	4.48	4.16	4.31	3.62	1, 2, 3, 4 > 5
28	38	Financial considerations of further education	4.13*	4.07	3.74	3.64	3.63	4.00	*--
29	39	Selection of health insurance	2.41*	3.98	4.18	3.95	3.84	3.80	2 > 5
30	61	Types of taxes	5.45*	4.21	4.02	3.93	4.07	3.72	1, 2, 4 > 5
31	58	Types of credit granting institutions	10.30*	4.31	4.13	4.02	3.97	3.64	1, 2, 3, 4 > 5
32	35	Selection of home insurance	2.84*	3.88	3.98	4.07	4.03	3.72	*--
33.5	47	Significant types of fraudulent practices	13.07*	4.12	4.26	3.95	4.07	3.57	1, 2, 3, 4 > 5
33.5	49	Common types of legal documents	1.30	3.93	3.94	3.61	3.76	3.77	

Table 6. Continued

Ranking	Item number	Title of competency	Computed F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathematics n=44	Social Studies n=59	Business Community n=319	
35	34	Implications of credit reporting	2.04	3.85	4.02	3.66	3.88	3.70	
36	31	Techniques for shopping effectively	22.64*	4.22	4.29	4.07	4.12	3.47	1, 2, 3, 4 > 5
37	60	Guidelines for planning purchases	11.01*	4.03	4.23	3.93	3.93	3.55	1, 2, 3, 4 > 5
38	44	Economic factors and lender considerations affecting availability of credit	1.27	3.90	3.89	3.75	3.61	3.75	
39	36	Types of investment opportunities	1.00	3.73	3.57	3.91	3.64	3.73	
40	23	Factors affecting saving decisions	3.05*	3.86	3.98	3.60	3.73	3.61	*--
41	17	Types of finance records	2.01	3.83	3.73	3.48	3.43	3.69	
42	2	Federal laws related to credit	8.23*	3.91	4.03	3.68	3.88	3.46	1, 2, 4 > 5
43	9	Marketing practices affecting consumer purchases	16.41*	4.02	4.13	3.67	3.92	3.41	1, 2, 4 > 5; 2 > 3
44	55	State laws related to credit	7.49*	3.93	4.06	3.57	3.71	3.47	1, 2 > 5; 2 > 3
45	40	Factors affecting investment decisions	1.66	3.54	3.37	3.80	3.49	3.63	
46	13	Selection of saving institutions	11.60*	4.05	4.02	3.64	3.64	3.38	1, 2 > 5
47	24	Financial considerations at different ages	.953	3.67	3.50	3.34	3.46	3.55	
48	16	Selection of durable goods (i.e., appliances, furniture)	11.86*	3.86	3.98	3.68	3.83	3.30	1, 2, 3, 4 > 5
49	66	Responsibilities of consumers in the marketplace	18.66*	3.86	4.24	3.56	3.86	3.23	1, 2, 3, 4 > 5; 2 > 3
50	54	Responsibilities of sellers in the marketplace	4.93*	3.69	3.81	3.61	3.61	3.35	1, 2 > 5

Table 6. Continued

Ranking	Item number	Title of competency	Computed F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathematics n=44	Social Studies n=59	Business Community n=319	
51	25	Personal factors affecting consumer purchases	9.77*	3.79	3.97	3.45	3.58	3.30	2 > 3, 4, 5; 1 > 5
52	5	Factors affecting choice of retail outlets	10.12*	3.71	3.82	3.55	3.71	3.21	1, 2, 3, 4 > 5
53	15	Factors affecting choice of services	10.69*	3.56	3.95	3.49	3.50	3.23	2 > 1, 3, 4, 5; 1 > 5
54	20	Selected nongovernmental agencies as sources for consumer assistance and information	18.03*	3.84	4.06	3.37	3.61	3.15	2 > 3, 4, 5; 1 > 3, 5; 4 > 5
55	56	Selection of food items	19.92*	3.84	4.34	3.46	3.54	3.09	1, 2, 3, 4 > 5; 2 > 3, 4, 5
56	32	Significant state consumer protection legislation	16.39*	3.69	3.90	3.40	3.69	3.08	2, 3 > 5; 2 > 3
57	7	Types of economic systems	3.75*	3.41	3.10	2.86	3.27	3.40	1, 5 > 3
58	26	Selected governmental agencies as sources of consumer assistance and information	22.88*	3.73	3.87	3.43	3.69	3.00	1, 2, 3, 4 > 5
59	65	Significant federal consumer protection legislation	10.74*	3.56	3.77	3.25	3.62	3.07	1, 2, 4 > 5; 2 > 3
60	30	Our mixed economy	4.62*	3.41	3.05	2.75	3.48	3.26	1, 4, 5 > 3
61	22	Criteria for evaluation of advertising techniques	39.30*	3.81	3.93	3.52	3.78	2.79	1, 2, 3, 4 > 5
62	59	Advantages and disadvantages of advertising	39.38*	3.83	3.90	3.57	3.69	2.77	1, 2, 3, 4 > 5
63	50	Selection of transportation	14.25*	3.58	3.63	3.52	3.41	2.87	1, 2, 3, 4 > 5
64	57	Economic and societal factors affecting consumer purchases	11.69*	3.53	3.52	3.00	3.42	2.88	1, 2, 4 > 5, 3

Table 6. Continued

Ranking	Item number	Title of competency	Computed F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathematics n=44	Social Studies n=59	Business Community n=319	
65	43	Factors affecting advertising practices	38.65*	3.71	3.76	3.45	3.69	2.66	1, 2, 3, 4 > 5
66.5	62	Development of consumer legislation	7.15*	3.25	3.51	2.98	3.20	2.87	1, 2, 4 > 5; 2 > 3
66.5	64	Guidelines for consumer behavior in relation to advertising	29.30*	3.58	3.74	3.09	3.53	2.69	1, 2, 3, 4 > 5; 1, 2, 4 > 3
68	33	Conditions necessary for a consumer-directed economy	4.13*	3.29	3.26	2.93	3.22	2.89	1, 2, 4 > 5
69	42	Selection of clothing items	23.93*	3.41	3.84	3.30	3.25	2.62	2 > 1, 3, 4, 5; 1, 2, 3, 4 > 5
70	37	Financial implication of future travel and recreation	4.27*	3.31	3.21	2.89	2.97	2.83	1, 2 > 5

* The level of significance for the critical value was set at the .05 level; the critical region with four degrees of freedom for numerator mean squares and 539 degrees of freedom for the denominator mean squares was $F \geq 2.39$.

*-- While the F test determined a significant difference among groups, the Student-Newman-Keuls procedure did not define where the differences existed.

Problems and Financial Crises, significantly higher than all other groups.

Business education teachers, home economics teachers, and the business community perceived competencies 18, Responsibilities for Using Credit and 19, Reasons for Financial Planning, as being important and ranked the competencies significantly higher than did the mathematics or the social studies teachers. All groups assigned like or similar acceptance of content for the following competencies: 10, Personal Factors Affecting Credit Worthiness; 67, Effects of Debtor Problems; and 27, Financial Implications of Income and Benefits from Employment.

Competencies which had significant differences indicated by the F test but not verified by the Student-Newman-Keuls were the following: 12, Steps in Financial Planning (Budgeting); 46, Consumer Responsibilities in Contractual Agreements; 69, Elements of Contractual Agreements; and 51, Importance of Records and Banking Services as Financial Aids.

The hypothesis that there was no significant difference of content acceptance scores due to the judgment of respondents from the personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community was rejected for 15 of the competencies having an overall mean of 4.0 or above. The hypothesis of no significant difference was accepted for the three competencies 10, 67, and 27.

Table 6 presents rank, competency statements, F ratios, group means, and significant difference results for competencies which had overall means between 3.5 to 3.9. Of the 31 competencies, 23 were significantly different and 19 of these had significant comparisons among means.

Respondents in the subject matter area of business education tended to rate the acceptance of content for the competencies highest and the business community the lowest. Competency 29, Types of Payroll Check Deductions and Employee Benefits, had the largest difference in means between business education teachers and the business community. All personal finance teachers had means which were significantly higher than the business community on this competency.

All personal finance teachers judged the following competencies significantly higher than did the business community: 2, Federal Laws Related to Credit; 14, Methods of Protecting Consumers Against Fraud and Deception; 16, Selection of Durable Goods; 31, Techniques for Shopping Effectively; 47, Significant Types of Fraudulent Practices; 58, Types of Credit Granting Institutions; 60, Guidelines for Planning Purchases; and 66, Responsibilities of Consumers in the Marketplace.

Business education and home economic teachers evaluated the following competencies as needing more emphasis than the business community: 12, Selection of Saving Institutions; 55, State Laws Related to Credit; and 70, Factors Affecting Credit Selection. These two groups of personal finance teachers also rated competency 29, Types of Payroll Check Deductions and Employee Benefits, higher than the social studies teachers. These two groups also rated competency 68, Factors Affecting Cost of Credit, higher than the social studies teachers and the business community.

The business education teachers, the home economics teachers, and the social studies teachers perceived and rated the following competencies as needing more emphasis than the business community: 9, Marketing

Practices Affecting Consumer Purchases; 2, Federal Laws Related to Credit; and 61, Types of Taxes.

The business education teachers rated competency 21, Planning for Insurance Needs, higher than the business community did; they also evaluated competency 45, Types of Banking Services, higher than mathematics teachers, social studies teachers, and the business community.

The home economics teachers judged competency 11, Types of Credit Problems; competency 39, Selection of Health Insurance; and competency 45, Types of Banking Services, higher than the business community. The home economics teachers also rated competency 9, Marketing Practices Affecting Consumer Purchases; competency 55, State Laws Related to Credit; and competency 66, Responsibilities of Consumers in the Marketplace, as needing more emphasis than did the mathematics teachers.

Competencies which had significant differences indicated by the F test but not verified by the Student-Newman-Keuls test were the following: 41, Selection of Life Insurance; 38, Financial Considerations of Further Education; 35, Selection of Home Insurance; and 23, Factors Affecting Saving Decisions.

The hypothesis that there was no significant difference of content acceptance scores due to the judgment of respondents of the personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community was rejected for 23 of the competencies having an overall mean of 3.5 to 3.9. The hypothesis of no significant difference was accepted for eight competencies: 8, 24, 44, 36, 7, 40, 49, and 34.

Table 6 presents the rank, competency statements, F ratios, group

means, and significant difference results for competencies which had overall means between 3.0 to 3.49. Of these 19 competencies, all were significantly different and had significant comparisons among means.

Respondents in the subject matter area of home economics tended to rate the acceptance of content for the competencies highest and the business community the lowest. Competency 59, Advantages and Disadvantages of Advertising, had the largest difference in means between home economics teachers and the business community. All personal finance teachers had means which were significantly higher than the business community.

All personal finance teachers evaluated the following competencies significantly higher than did the business community: 5, Factors Affecting Choice of Retail Outlets; 15, Factors Affecting Choice of Services; 22, Criteria for Evaluation of Advertising Techniques; 26, Selected Governmental Agencies as Sources of Consumer Assistance and Information; 43, Factors Affecting Advertising Practices; 50, Selection of Transportation; 59, Advantages and Disadvantages of Advertising; and 64, Guidelines for Consumer Behavior in Relation to Advertising.

Business education teachers and home economics teachers judged competency 54, Responsibilities of Sellers in the Marketplace, higher than the business community. Business education, home economics, and social studies teachers rated the following competencies higher than the business community: 33, Conditions Necessary for a Consumer-Directed Economy; 57, Economic and Societal Factors Affecting Consumer Purchases; 62, Development of Consumer Legislation; and 65, Significant Federal Consumer Protection Legislation. These three groups of personal

finance teachers also considered competency 57, Economic and Societal Factors Affecting Consumer Purchases, and competency 64, Guidelines for Consumer Behavior in Relation to Advertising, as needing more emphasis than the mathematics teachers.

Business education teachers and the business community rated competency 7, Types of Economic Systems, higher than the mathematics teachers. The business education and the social studies teachers and the business community indicated that competency 30, Our Mixed Economy, needed more emphasis than the mathematics teachers indicated.

The business education teachers valued competency 15, Factors Affecting Choice of Services, and competency 25, Personal Factors Affecting Consumer Purchases, higher than the business community. They also rated competency 20, Selected Nongovernmental Agencies as Sources for Consumer Assistance and Information, higher than the mathematics teachers.

Home economics teachers perceived competency 15, Factors Affecting Choice of Services, as more important than the business education teachers, the mathematics teachers, the social studies teachers, and the business community. They also evaluated competency 20, Selected Nongovernmental Agencies as Sources for Consumer Assistance and Information; 25, Personal Factors Affecting Consumer Purchases; and 56, Selection of Food Items, higher than the mathematics teachers, the social studies teachers, and the business community. The home economics teachers also perceived the following competencies as needing more emphasis than the mathematics teachers did: 32, Significant State Consumer Protection Legislation; 62, Development of Consumer

Legislation; and 65, Significant Federal Consumer Protection Legislation.

Home economics teachers and mathematics teachers rated competency 32, Significant State Consumer Protection Legislation, higher than the business community.

The hypothesis that there was no significant difference of content acceptance scores due to the judgment of respondent of the personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community was rejected for the 19 competencies having an overall mean of 3.0 to 3.49.

Table 6 presents the ranks, the competency statements, F ratios, group means, and significant differences for competencies which had an overall mean between 2.5 to 2.99. The last two competencies displayed in Table 6 were significantly different and had significant comparisons.

Competency 42, Selection of Clothing Items, was rated highest by the home economics teachers and lowest by the business community. The largest differences in means occurred on this competency between the home economics teachers and the business community. All personal finance teachers had significantly higher means than the business community on this competency, and the home economics teachers had significantly higher means than the business education, mathematics, and social studies teachers, and the business community for the competency, Selection of Clothing Items.

Competency 37, Financial Implications of Future Travel and Recreation, was rated the highest by the business education group and the

lowest by the business community. The business education and the home economics teachers had significantly higher means than the business community.

The hypothesis that there was no significant difference of content acceptance scores due to the judgment of respondents, the personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community was rejected for the two competencies having an overall mean of 2.5 to 2.99.

In summary, the null hypotheses that there was no significant difference of content acceptance due to the judgment of the respondents from the four subject matter areas and the business community were retained for 11 competencies and were rejected for 59 competencies.

Level of Learning

Another purpose of this study was to measure differences in the judgments of the respondents about the level of learning needed for the 70 competencies for personal finance.

The hypothesis that there was no significant difference in the mean scores of the level of learning on 70 personal finance competencies among personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community was tested. The one-way analysis of variance tested the null hypothesis for each competency. In all, 70 individual hypotheses were tested, one for each competency.

The computed F value was less than the critical value of 2.39 at

the .05 level for 22 competencies and equal to or greater than the critical value of 2.39 at the .05 level for 48 competencies. The null hypothesis was, therefore, retained for 22 competencies and rejected for 48 competencies. The results of the analysis of variance are shown in Appendix L. The Student-Newman-Keuls procedure was used to compare the mean of each group with the mean of every other group. Appendix M shows the 48 rejected competencies, the mean-rank, the mean for each group, computed F, and the differences among groups as determined by the Student-Newman-Keuls procedure.

In order to determine differences in judgments, the following null hypothesis was tested: There was no significant difference among personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and members of the business community on the level of learning needed for the 70 personal finance competencies. Table 7 presents mean ranks, the competency statements, F ratios, group means, and significant results for competencies which had an overall mean of 3.5 or above. Of these seven competencies, two were significantly different and had significant comparisons among means.

Respondents in the subject matter areas of business education tended to rate the level of learning for the competencies the highest and mathematics rated them the lowest. Competency 3, Selection of Automobile Insurance, had the largest difference in means between business education teachers and the business community. All personal finance teachers had means which were significantly higher than the business community on this competency. Business education teachers and the

business community rated competency 18, Responsibilities for Using Credit, higher than the mathematics teachers rated it.

The hypothesis that there was no significant difference of the level of learning scores due to the judgment of respondents from the personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community was rejected for the two competencies having an overall mean of 3.5 or higher. The null hypothesis of no significant difference was accepted for the five competencies: 12, 46, 6, 52, and 4.

Table 7 presents rank, competency statements, F ratios, group means, and significant differences for competencies which had an overall mean between 3.0 and 3.49. Of the 20 competencies, 12 were significantly different and 9 of these had significant comparisons among means.

Respondents in the subject matter area of business education tended to rate the level of learning for the competencies highest and the business community the lowest. Competency 29, Types of Payroll Check Deductions and Employee Benefits, had the largest difference in means between business education teachers and the business community. All personal finance groups had means which were significantly higher than the business community for this competency.

Business education teachers judged the level of learning higher than the business community for the following competencies: 45, Types of Banking Services; 68, Factors Affecting Cost of Credit; and 70, Factors Affecting Credit Selection. The business education teachers also rated competency 63, Types of Credit and 48, Computing Costs of Credit, significantly higher than all other groups in the study.

Table 7. Results of the tests for significant differences for level of learning.

Ranking	Item number	Title of competency	Computed F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathematics n=44	Social Studies n=59	Business Community n=319	
1	12	Steps in financial planning (budgeting)	.788	4.10	4.08	3.75	3.93	3.96	
2	18	Responsibilities for using credit	3.57*	4.05	3.80	3.30	3.53	3.89	1, 5 > 3
3	46	Consumer responsibilities in contractual agreements	1.24	4.10	3.80	3.61	3.83	3.76	
4	6	Guidelines for correct use of banking service and financial records	.959	3.91	3.72	3.67	3.53	3.62	
5	52	Advantages and disadvantages of credit	1.54	3.95	3.77	3.50	3.63	3.55	
6	4	Ways to plan for saving	1.37	3.55	3.57	3.32	3.42	3.70	
7	3	Selection of automobile insurance	14.64*	4.33	4.03	3.89	3.92	3.21	1, 2, 3, 4 > 5
8	10	Personal factors affecting credit worthiness	1.34	3.43	3.55	3.21	3.24	3.56	
9	48	Computing costs of credit	4.10*	4.10	3.56	3.30	3.51	3.56	1 > 2, 3, 4, 5
10	19	Reasons for financial planning	2.74*	3.46	3.23	2.98	3.26	3.55	5 > 3
11	28	Guidelines for reporting taxes	8.25*	3.85	3.45	3.65	3.93	3.16	1, 3, 4 > 5
12	69	Elements of contractual agreements	2.16	3.68	3.23	2.96	3.31	3.39	
13	53	Selection of housing	2.53*	3.69	3.54	3.53	3.37	3.19	*--
14	21	Planning for insurance needs	3.07*	3.67	3.08	3.53	3.59	3.22	*--
15	63	Types of credit	6.76*	4.02	3.41	3.11	3.39	3.08	1 > 2, 3, 4, 5
16	27	Financial implications of income and benefits from employment	2.78*	3.56	3.11	2.67	3.19	3.28	1, 5 > 3
17	17	Selection of life insurance	1.27	3.36	3.10	3.48	3.48	3.16	

Table 7. Continued

Ranking	Item number	Title of competency	Computed F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathematics n=44	Social Studies n=59	Business Community n=319	
18	70	Factors affecting credit selection	2.61*	3.68	3.34	3.27	3.25	3.11	1 > 5
19	67	Effects of debtor problems	1.27	3.31	3.08	2.84	3.25	3.27	
20	39	Selection of health insurance	.839	3.31	3.15	3.48	3.33	3.14	
21	68	Factors affecting cost of credit	2.57*	3.64	3.29	3.25	3.31	3.07	1 > 5
22	51	Importance of records and banking services as financial aids	2.17	3.59	3.02	3.32	3.02	3.15	
23	45	Types of banking services	5.80*	3.81	3.20	3.16	3.25	2.95	1 > 5
24	11	Types of credit problems	.680	3.33	3.23	3.11	3.10	3.05	
25	38	Financial consideration of further education	3.07*	3.27	2.68	2.79	2.93	3.22	*--
26	35	Selection of home insurance	2.34	3.22	2.89	3.32	3.49	2.99	
27	29	Types of payroll check deductions and employee benefits	10.81*	3.69	3.48	3.33	3.31	2.74	1, 2, 3, 4 > 5
28	31	Techniques for shopping effectively	17.08*	3.51	3.58	3.51	3.55	2.60	1, 2, 3, 4 > 5
29	14	Methods of protecting consumers against fraud and deception	9.39*	3.42	3.44	3.25	3.45	2.70	1, 2, 3, 4 > 5
30	36	Types of investment opportunities	3.17*	3.14	2.40	3.02	3.15	3.02	1, 4 > 2
31	60	Guidelines for planning purchases	5.48*	3.36	3.30	3.11	3.22	2.75	1, 2, 4 > 5
32	44	Economic factors and lender considerations	.620	3.02	2.85	2.68	2.97	2.99	
33	61	Types of taxes	4.21*	3.47	2.73	2.93	3.22	2.84	1 > 3, 5
34	8	Purposes of taxes	2.97*	3.22	2.61	2.60	3.22	2.94	*--

Table 7. Continued

Ranking	Item number	Title of competency	Computed F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathematics n=44	Social Studies n=59	Business Community n=319	
35	1	Sources of assistance in resolving credit problems and financial crises	1.31	3.10	3.18	2.79	2.68	2.90	
36	49	Common types of legal documents	1.40	3.10	2.79	2.56	3.07	2.93	
37	23	Factors affecting saving decisions	.908	3.07	3.10	2.88	2.98	2.84	
38	58	Types of credit granting institutions	4.31*	3.47	2.80	3.14	3.08	2.73	1 > 2, 5
39	40	Factors affecting investment decisions	3.76*	2.85	2.27	2.95	2.76	3.01	5 > 2
40	13	Selection of saving institutions	6.09*	3.36	3.16	3.09	3.19	2.64	1, 2, 3, 4 > 5
41	47	Significant types of fraudulent practices	6.53*	3.03	3.95	3.09	3.39	2.59	4 > 5
42	16	Selection of durable goods (i.e., appliances, furniture)	11.38*	3.28	3.41	3.16	3.20	2.48	1, 2, 3, 4 > 5
43	43	Types of finance records	1.31	2.88	2.66	2.61	2.53	2.88	
44	34	Implications of credit reporting	.786	2.71	2.79	2.67	3.04	2.71	
45	9	Marketing practices affecting consumer purchases	6.06*	3.03	3.17	2.64	3.09	2.51	1, 4, 2 > 5
46	24	Financial considerations at different ages	2.46*	2.82	2.28	2.49	2.52	2.77	*--
47	25	Personal factors affecting consumer purchases	5.70*	3.03	3.10	2.66	2.93	2.46	1, 2, 4 > 5
48	66	Responsibilities of consumers in the marketplace	14.87*	3.14	3.32	2.63	3.26	2.30	2, 4 > 3, 5; 1 > 5
49	55	State laws related to credit	1.90	2.86	2.62	2.36	2.74	2.46	
50	56	Selection of food items	20.18*	3.21	3.57	2.86	2.83	2.10	1, 2, 3, 4 > 5; 2 > 3, 4

Table 7. Continued

Ranking	Item number	Title of competency	Computed F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathematics n=44	Social Studies n=59	Business Community n=319	
51	15	Factors affecting choice of services	3.56*	2.82	2.87	2.60	2.61	2.36	1, 2 > 5
52	54	Responsibilities of sellers in the marketplace	2.61*	2.66	2.58	2.55	2.55	2.34	4 > 5
53	5	Factors affecting choice of retail outlets	6.54*	2.88	2.75	2.70	2.81	2.20	1, 2, 3, 4 > 5
54	22	Criteria for evaluation of advertising techniques	35.88*	3.21	3.31	2.80	3.34	1.85	1, 2, 3, 4 > 5
55	7	Types of economic systems	6.56*	2.40	1.70	1.79	2.50	2.50	1, 4, 5 > 2, 3
56	50	Selection of transportation	14.09*	2.98	2.85	2.84	2.69	1.95	1, 2, 3, 4 > 5
57	20	Selected nongovernmental agencies as sources for consumer assistance and information	5.56*	2.79	2.61	2.16	2.63	2.12	1, 2, 4 > 5
58	2	Federal laws related to credit	.521	2.40	2.41	2.14	2.36	2.26	
59	30	Our mixed economy	5.93*	2.49	1.69	1.77	2.66	2.31	1, 4, 5 > 2, 3
60	32	Significant state consumer protection legislation	5.99*	2.63	2.51	2.26	2.69	2.04	1, 2, 4 > 5
61	59	Advantages and disadvantages of advertising	23.70*	2.86	2.92	2.61	2.97	1.79	1, 2, 3, 4 > 5
62	65	Significant federal consumer protection legislation	3.80*	2.42	2.42	2.09	2.61	2.05	4 > 5
63	57	Economic and societal factors affecting consumer purchases	7.56*	1.92	2.29	2.09	2.76	1.92	4 > 3, 5; 1 > 5
64	43	Factors affecting advertising practices	26.48*	2.74	2.70	2.43	3.07	1.67	1, 2, 3, 4 > 5

Table 7. Continued

Ranking	Item number	Title of competency	Computed F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathe- matics n=44	Social Studies n=59	Business Community n=319	
65	42	Selection of clothing items	22.99*	2.63	3.02	2.75	2.53	1.63	1, 2, 3, 4 > 5
66	64	Guidelines for consumer behavior in relation to advertising	23.16*	2.73	2.75	2.34	2.69	1.64	1, 2, 3, 4 > 5
67	33	Conditions necessary for a consumer-directed economy	2.50*	2.19	1.98	1.98	2.49	1.97	*--
68	26	Selected governmental agencies as sources of consumer assistance and information	10.73*	2.39	2.40	2.16	2.68	1.77	1, 2, 3, 4 > 5
69	62	Development of consumer legislation	2.16	2.25	2.16	2.00	2.29	1.90	
70	37	Financial implication of future travel and recreation	2.82*	2.43	2.18	1.91	2.03	1.86	1 > 5

* The level of significance for the critical value was set at the .05 level; the critical region with four degrees of freedom for numerator mean squares and 539 degrees of freedom for the denominator mean squares was $F \geq 2.39$.

*-- While the F test determined a significant difference among groups, the Student-Newman-Keuls procedure did not define where the differences existed.

The business community and the business education teachers evaluated competency 27, Financial Implications of Income and Benefits from Employment, higher than the mathematics teachers.

The business education teachers, along with the mathematics and social studies teachers, rated the level of learning for competency 28, Guidelines for Reporting Taxes, higher than the business community.

The business community rated competency 19, Reasons for Financial Planning, higher than the mathematics teachers.

Competencies which had significant differences indicated by the F test but were not verified by the Student-Newman-Keuls test were the following: 38, Financial Considerations of Further Education; 53, Selection of Housing; and 21, Planning for Insurance Needs.

Table 7 presents ranks, competency statements, F ratios, group means and significant differences for competencies which had an overall mean between 2.5 and 2.99. Of the 24 competencies, 17 were significantly different and 15 of these had significant comparisons among means.

Respondents in the subject matter area of business education tended to rate the level of learning for the competencies highest, and the business community rated them the lowest. Competency 56, Selection of Food Items, had the largest difference in means between home economics teachers and the business community. All groups of personal finance teachers had means which were significantly higher than the business community on this competency.

All personal finance teachers designated the following competencies significantly higher than did the business community: 13, Selection of Saving Institutions; 14, Methods of Protecting Consumers Against

Fraud and Deception; 16, Selection of Durable Goods (i.e., Appliances and Furniture); 31, Techniques for Shopping Effectively; and 56, Selection of Food Items.

The business education teachers discerned the level of learning for competency 66, Responsibilities of Consumers in the Marketplace, higher than the business community. The business education teachers also rated competency 58, Types of Credit Granting Institutions, and competency 61, Types of Taxes, higher than the home economics teachers and the business community rated them.

The business education group and the home economics group evaluated competency 15, Factors Affecting Choice of Services, higher than the business community. The business education teachers and the social studies teachers rated competency 33, Conditions Necessary for a Consumer-Directed Economy, significantly higher than the home economics group.

The business education group, the home economics group and the social studies group rated three competencies higher than the business community. These were the following: 9, Marketing Practices Affecting Consumer Purchases; 25, Personal Factors Affecting Consumer Purchases; and 60, Guidelines for Planning Purchases.

Home economics teachers valued competency 56, Selection of Food Items, higher than mathematics and social studies teachers. The home economics teachers, along with the social studies teachers, viewed competency 66, Responsibilities of Consumers in the Marketplace, as being more important than the mathematics teachers.

The social studies teachers discerned the level of learning for

competency 47, Significant Types of Fraudulent Practices, as being higher than the business community.

The business community, however, rated competency 40, Factors Affecting Investment Decisions, higher than the home economics teachers.

Competencies which had significant differences indicated by the F test but not indicated by the Student-Newman-Keuls test were the following: 24, Financial Considerations at Different Ages; and 8, Purposes of Taxes.

The hypothesis that there was no significant difference of level of learning scores due to the judgment of respondents of the personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community was rejected for 17 of the competencies having an overall mean of 2.5 to 2.99. The null hypothesis of no significant difference was accepted for seven competencies: 1, 17, 23, 34, 44, 49, and 55.

Table 7 presents rank, competency statements, F ratios, group means, and significant differences for competencies which had an overall mean between 2.0 and 2.49 and for one mean of 1.981. Of these 19 competencies, 17 were significantly different, and 16 of these had significant comparisons among means.

Respondents in the subject matter area of social studies tended to rate the level of learning for the competencies highest and the business community, lowest. Competency 54, Responsibilities of Sellers in the Marketplace, had the largest difference in means between home economics teacher and the business community. All personal finance teachers had significantly higher mean scores on this competency than

did the business community.

All personal finance teachers judged the following competencies significantly higher than did the business community: 5, Factors Affecting Choice of Retail Outlets; 22, Criteria for Evaluation of Advertising Techniques; 26, Selected Governmental Agencies as Sources of Consumer Assistance and Information; 42, Selection of Clothing Items; 43, Factors Affecting Advertising Practices; 50, Selection of Transportation; and 64, Guidelines for Consumer Behavior in Relation to Advertising.

Business teachers valued competency 37, Financial Implications of Future Travel and Recreation, and competency 57, Economic and Societal Factors Affecting Consumer Purchases, higher than the business community. Business teachers, home economics teachers and social studies teachers judged the level of learning higher than the business community on two competencies: 20, Selected Nongovernmental Agencies as Sources for Consumer Assistance and Information, and 32, Significant State Consumer Protection Legislation.

The business education group, the social studies group, and the business community noted the level of learning higher for competency 7, Types of Economic Systems, and 30, Our Mixed Economy, than did the home economics teachers or the mathematics teachers.

The social studies group perceived the level of learning as needing to be higher than the business community on competency 54, Responsibilities of Sellers in the Marketplace, and 65, Significant Federal Consumer Protection Legislation. The social studies group also rated competency 57, Economic and Societal Factors Affecting Consumer

Purchases, higher than mathematics teachers or the business community.

Competency 33, Conditions Necessary for a Consumer-Directed Economy, was found to be significantly different by the F test but was not indicated by the Student-Newman-Keuls procedure.

The hypothesis that there was no significant difference in the level of learning scores due to the judgment of respondents of the personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community was rejected for 16 of the competencies having an overall mean of 2.0 to 2.49 and 1.981. The null hypothesis of no significant difference was accepted for two competencies: 2, Federal Laws Related to Credit, and 62, Development of Consumer Legislation.

In summary, the hypothesis that there was no significant difference in the mean scores of the level of learning on 70 personal finance competencies among four groups of personal finance teachers and the business community was retained for 22 competencies and rejected for 48 competencies.

Results of Factor Analysis

A factor analysis methodology was used for the purpose of determining the specific factors which were present among the 70 competencies included in the study for both the acceptance of content and the level of learning. The procedures permitted the identification of clusters of competencies in which, according to generated factor loadings, there existed a high degree of correlation with the extracted factors. Only those competencies with factor loadings of $\pm .45$ or higher were

considered for inclusion in a factor. The results of factor analyses were generated through the factor analytic techniques known as the Q-mode and the R-mode.

Q-Mode Analysis

The Q-mode factor analysis program examined the relationship of every respondent with every other respondent and ordered them according to competencies. The analysis indicated the extent to which respondents resembled each other with regard to the competencies in the study. Results of the five-factor Q-mode solution for acceptance of content indicated that, in all instances, factor loadings were $+ .93$ or higher. Factor I accounted for 100 percent of the common variance. The five-factor Q-mode solution generated for the level of learning contained numerous overlaps on three factors. Thus, the data were uninterpretable.

R-Mode Analysis

The R-mode factor analysis was used to examine the statistical relationship of every competency with every other competency included in the study and clustered them according to the respondents in the study. In order to report on the data with authenticity and strength, real data and random data were compared using a seven-factor R-mode solution. The random number factor analysis was conducted by Martin (1972) and was extrapolated for use in this study. The rationale for this comparison was to confirm that the real data were different and more empirically sound than a group of random numbers. This comparison

showed the real data as being very reliable from Factor 1 through Factor 6. Figure 1 depicts the comparison of the real data of acceptance of content versus randomized data. Figure 2 shows the comparison of real data of levels of learning versus randomized data. Data were initially analyzed for five- and six-factor solutions for both acceptance of content and level of learning.

Acceptance of Content. The six factor solution accounted for 50 competencies with factor loadings of $+ .45$ or higher. The five-factor solution extracted 55 competencies with factor loadings of $+ .45$ or higher. The cumulative percentages of the common variance accounted for in the analysis increased when the number of factors was increased from five to six. Table 8 lists the common variances accounted for in the six-factor R-mode solution on acceptance of content which also contains the common factor variances found in the five-factor R-mode solution.

Of the two-factor analytical solutions imposed on the data, the six factor solution was considered to best represent the data. There

Table 8. Acceptance of content: Percentage of common variance for the R-mode analysis.

Factor solution	Percentage	Cumulative percentage
1	69.9	69.9
2	9.0	78.9
3	8.5	87.3
4	4.8	92.1
5	4.3	96.4
6	3.6	100.0

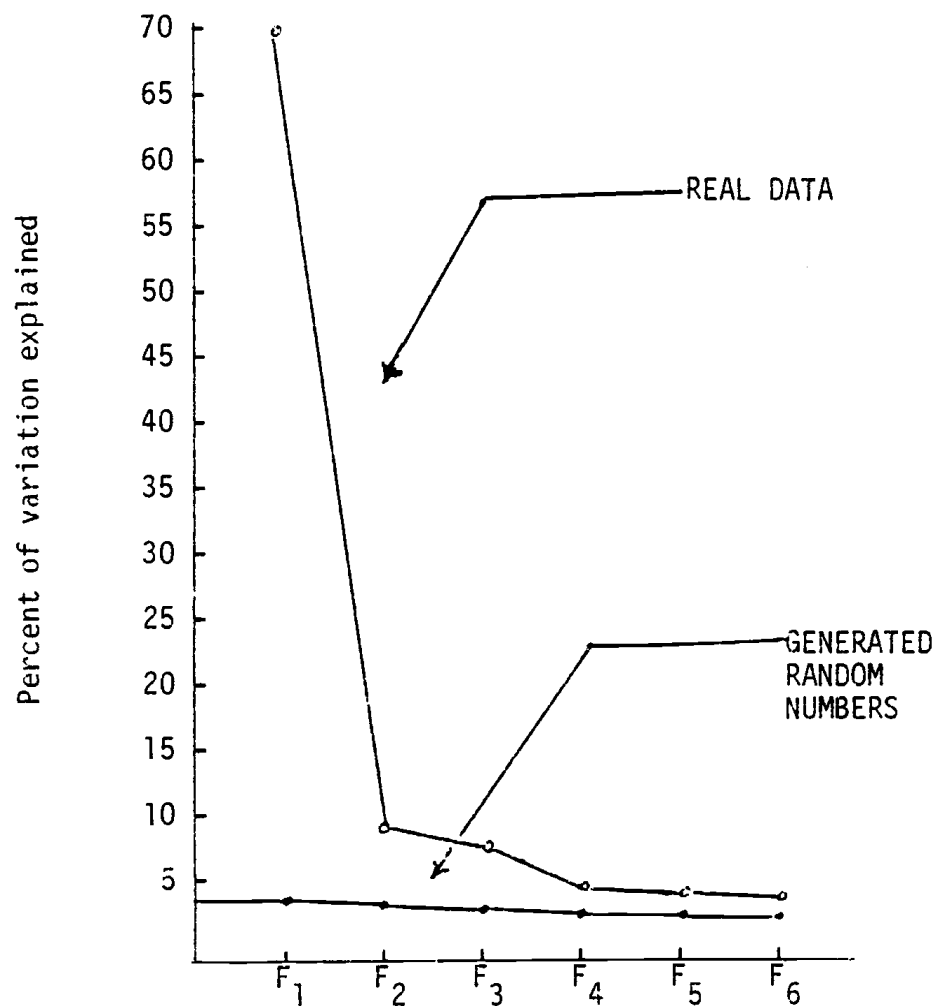


Figure 1. Acceptance of content: Comparison of real data versus random data.

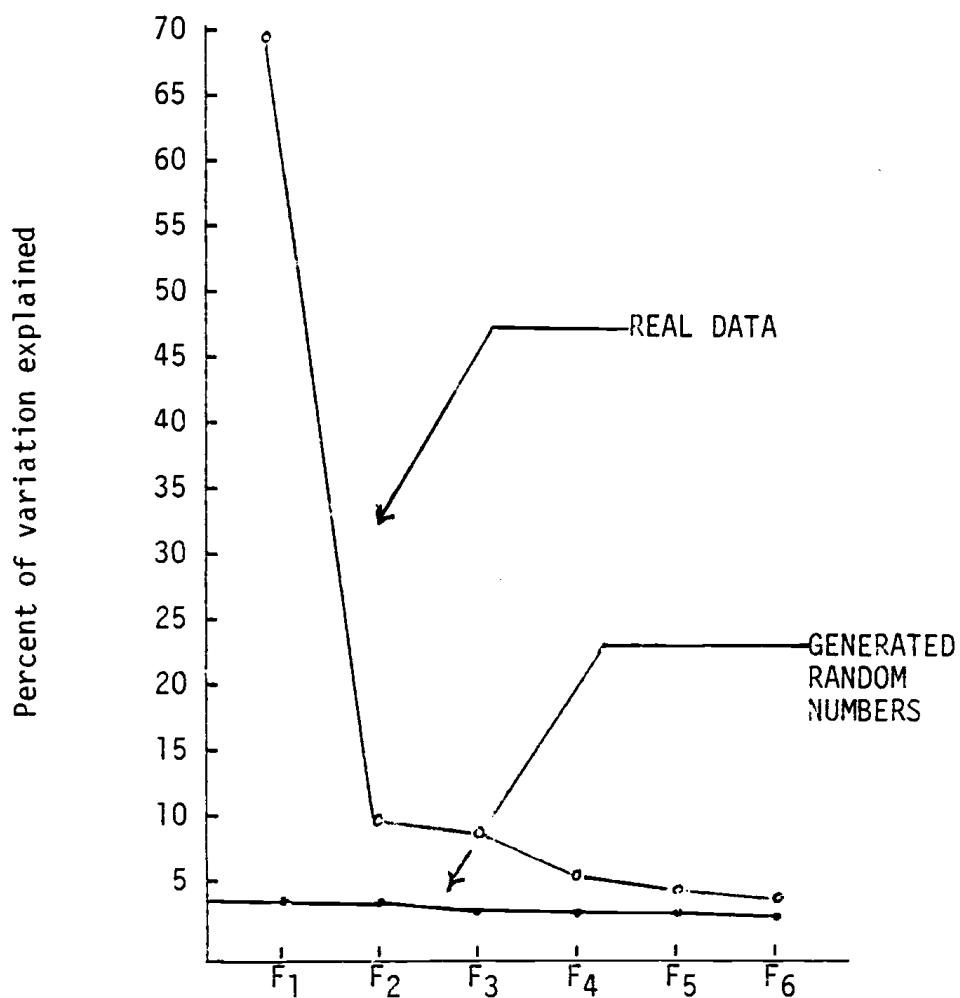


Figure 2. Level of learning: Comparison of real data versus random data.

was only a minimal difference (.004) between the total loading in the six-factor solution and the five-factor solution. The six-factor solution had only two overlapping competencies compared to five overlapping competencies in the five-factor solution. The loadings in the six-factor solution were more evenly distributed among the factors.

The factors were arbitrarily titled after the data were analyzed and were assumed to be indicative of the general nature of the competencies which loaded under each factor. The six factors were extracted from a 70-item (competencies) intercorrelation matrix based upon data collected from 431 respondents.

Results of the R-mode analysis for content acceptance using the six-factor solution appear in Tables 9 through 14. Each table is illustrative of a factor and contains factor loadings of +.450 or higher. Each table also contains a separate listing of spurious competencies, which are defined as those loading highest under one factor but with factor loadings of less than +.450. Competencies which overlap are indicated by a footnote which designates the overlapping factor and the loading of the competency.

Tables 9 through 14 provide the means, standard deviations, and mean rankings for all 70 competencies.

Factor I. Consumer Protection and Regulations

A total of 13 competencies with factor loadings of +.461 or higher were generated for Factor I. The competencies listed pertain directly to legal regulations and protection for the consumer. Items also reflect resources that the consumer may use to challenge business

practices. Factor I contained five of the ten lowest mean-ranked competencies with higher loadings in Factor V.

Factor I contained two spurious competencies with loadings of +.418 or higher. Table 9 presents the analysis results of the 15 competencies which clustered under Factor I.

Factor II. Long Term Expenditures and Benefits

Five competencies with factor loadings of +.537 or higher were clustered in Factor II. These five competencies related directly to insurance selection and planning. Three spurious competencies were generated which related to long-term expenses and planning for obtaining the best benefits. Table 10 presents the analysis of the factoring of the ten competencies which clustered under this factor.

Factor III. Financial Planning

A total of five competencies with factor loadings of +.495 or higher were included in Factor III. All of these five competencies were in the highest ten mean-ranked competencies. Five spurious competencies were generated. Two of these competencies were also in the ten highest mean-ranked competencies. Thus, a total of seven competencies contained within this factor were among the ten highest mean-ranked competencies. Table 11 presents the analysis of the factoring of the ten competencies which were included in this factor.

Factor IV. Credit and Contracts

Thirteen competencies with factor loadings of +.464 or higher were clustered in Factor IV. Two of the ten highest mean-ranked competencies

Table 9. Factor I - Consumer protection and regulation: acceptance of content.

Item number	Title of Competency	Factor loading	Mean	Standard deviation	Mean ranking
2	Federal laws related to credit	.566	3.639	.930	42
14	Methods of protecting consumers against fraud and deception	.561	3.911	.943	27
20	Selected nongovernmental agencies as sources for consumer assistance and information	.580	3.398	.978	54
22*	Criteria for evaluation of advertising techniques	.523	3.196	1.039	61
26	Selected governmental agencies as sources of consumer assistance and information	.662	3.287	.940	58
32	Significant state consumer protection legislation	.712	3.335	.974	56
33	Conditions necessary for a consumer-directed economy	.522	3.019	.976	68
43*	Factors affecting advertising practices	.509	3.078	1.056	65
47	Significant types of fraudulent practices	.461	3.795	.923	33.5
55	State laws related to credit	.564	3.626	.940	44
62	Development of consumer legislation	.631	3.030	.922	66.5
64	Guidelines for consumer behavior in relation to advertising	.494	3.030	1.021	66.5
65	Significant federal consumer protection legislation	.650	3.281	.999	59

Table 9. Continued

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
<u>Spurious Competencies</u>					
9	Marketing practices affecting consumer purchases	.429	3.630	.873	43
66	Responsibilities of consumers in the marketplace	.418	3.510	1.051	49

*Item 22 had double loadings on Factor V at .54

Item 43 had double loadings on Factor V at .59

Table 10. Factor II - Long term expenditures and benefits: acceptance of content.

Item number	Title of Competency	Factor loading	Mean	Standard deviation	Mean ranking
3	Selection of automobile insurance	.537	4.303	.848	9
21	Planning for insurance needs	.607	3.985	.863	21
35	Selection of home insurance	.779	3.832	.956	32
39	Selection of health insurance	.729	3.878	.955	29
41	Selection of life insurance	.708	3.926	.948	26
<u>Spurious Competencies</u>					
28	Guidelines for reporting taxes	.409	4.110	.885	12
29	Types of payroll check deductions and employee benefits	.366	3.989	.934	20
53	Selection of housing	.526	4.037	.941	15

Table 11. Factor III - Financial planning: acceptance of content.

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
4	Ways to plan for saving	.580	4.362	.749	6
10	Personal factors affecting credit worthiness	.495	4.333	.785	8
12	Steps in financial planning (budgeting)	.548	4.502	.723	1
18	Responsibilities for using credit	.609	4.487	.749	2
19	Reasons for financial planning	.538	4.223	.815	10
<u>Spurious Competencies</u>					
1	Sources of assistance in resolving credit problems and financial crises	.304	4.340	.772	7
6	Guidelines for correct use of banking service and financial records	.439	4.394	.742	4
23	Factors affecting saving decisions	.439	3.690	.893	40
17	Types of finance records	.330	3.662	.912	41
11	Types of credit problems	.402	3.991	.861	19

were included in Factor IV. This factor contained one spurious competency, less than any of the other five factors. Table 12 presents the analysis on the 14 competencies which clustered under this factor.

Factor V. Consumer Choices

A total of 12 competencies with factor loadings of $+0.452$ or higher were included in Factor V. Six of the ten lowest mean-ranked competencies were contained within this factor, a larger number than in any other factor. Two of these ten lowest mean-ranked competencies had an overlap in Factor I. The loadings on these two competencies were higher for Factor V than for Factor I. Table 13 presents an analysis of the results on the 15 competencies which were included within Factor V.

Factor VI. Investments in Society and the Individual

Four competencies with factor loadings of $+0.495$ or higher were generated for this factor. The competencies pertain to economics and investments. Six spurious competencies were contained in Factor VI with one being the last of the ten lowest mean-ranked competencies. The spurious competencies pertain to investments for the individual, security and future, and taxes. This factor had a larger number of spurious competencies than any other factor. Table 14 contains the ten competencies which were generated under Factor VI.

Level of Learning. The six-factor solution accounted for 59 competencies with factor loadings of $+0.45$ or higher. The five-factor solution extracted 57 competencies with a factor loading of $+0.45$ or higher.

Table 12. Factor IV - Credit and contracts: acceptance of content.

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
34	Implications of credit reporting	.507	3.768	.925	35
44	Economic factors and lender considerations affecting availability of credit	.464	3.754	.959	38
46	Consumer responsibility in contractual agreements	.477	4.399	.800	3
48	Computing costs of credit	.510	4.092	.926	13
49	Common types of legal documents	.475	3.795	.877	33.5
51	Importance of records and banking services as financial aids	.511	4.006	.868	18
52	Advantages and disadvantages of credit	.586	4.376	.749	5
58	Types of credit granting institutions	.510	3.837	.922	31
63	Types of credit	.608	4.054	.869	14
67	Effects of debtor problems	.645	4.035	.874	16
68	Factors affecting cost of credit	.615	3.976	.904	23
69	Elements of contractual agreements	.637	4.113	.897	11
70	Factors affecting credit selection	.701	3.937	.878	25

Table 12. Continued

Item number	Title of Competency	Factor loading	Mean	Standard deviation	Mean ranking
<u>Spurious Competency</u>					
45	Types of banking services	.437	3.959	.893	24

Table 13. Factor V - Consumer choices: acceptance of content.

Item number	Title of Competency	Factor loading	Mean	Standard deviation	Mean ranking
5	Factors affecting choice of retail outlets	.480	3.414	.945	52
15	Factors affecting choice of services	.452	3.399	.865	53
16	Selection of durable goods (i.e., appliances, furniture)	.549	3.530	.976	48
22*	Criteria for evaluation of advertising techniques	.544	3.196	1.039	61
31	Techniques for shopping effectively	.610	3.757	.954	36
42	Selection of clothing items	.684	2.972	1.135	69
43*	Factors affecting advertising practices	.590	3.078	1.056	65
50	Selection of transportation	.582	3.148	1.067	63
56	Selection of food items	.732	3.395	1.180	55
57	Economic and societal factors affecting consumer purchases	.471	3.095	.995	64
59	Advantages and disadvantages of advertising	.545	3.182	1.042	62
60	Guidelines for planning purchases	.483	3.756	.915	37
<u>Spurious Competencies</u>					
13	Selection of saving institutions	.384	3.576	.925	46
25	Personal factors affecting consumer purchases	.382	3.474	.917	51

Table 13. Continued

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean rating
54	Responsibilities of sellers in the marketplace	.338	3.493	.916	50

*Item 22 had double loading on Factor I at .52

Item 43 had double loading on Factor I at .50

Table 14. Factor VI - Investments in society and the individual: acceptance of content.

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
7	Types of economic systems	.557	3.312	1.005	57
30	Our mixed economy	.630	3.234	1.001	60
36	Types of investment opportunities	.495	3.719	.931	39
40	Factors affecting investment decisions	.503	3.587	.954	45
<u>Spurious Competencies</u>					
8	Purposes of taxes	.400	3.978	.889	22
24	Financial considerations at different ages	.394	3.533	.911	47
27	Financial implications of income and benefits from employment	.366	4.020	.921	17
37	Financial implication of future travel and recreation	.439	2.943	.998	70
38	Financial considerations of further education	.384	3.900	.900	28
61	Types of taxes	.370	3.864	.898	30

The cumulative variance accounted for in the analysis continued to increase as more factors were extracted. Table 15 lists the common variances accounted for in the six-factor solution on level of learning.

The six-factor solution was considered to best represent the data. It accounted for six percent more of the total loadings than did the five-factor solution. Both the six-factor and the five-factor solutions had three overlapping competencies. Although the five-factor solution provided a more even distribution of competencies among factors than did the six-factor solution, the six-factor solution had more meaningful interpretation.

The names of the factors were arbitrarily titled after the data were analyzed and were assumed to be indicative of the general nature of the competencies which loaded under each factor. The six factors were extracted from a 70-item (competencies) intercorrelation matrix based upon data collected from 382 respondents.

Results of the R-mode analysis for level of learning using the six-factor solution appear in Tables 16 through 21. Each table is illustrative of a factor and contains factor loadings of $\pm .450$ or

Table 15. Level of learning: Percentage of common variance for the R-mode analysis.

Factor solution	Percentage	Cumulative percentage
1	69.2	69.2
2	9.5	78.6
3	8.3	86.9
4	5.4	92.3
5	4.4	96.7
6	3.3	100.0

higher. Each table also contains a separate listing of spurious competencies, which are defined as those loading highest under one factor but with factor loadings of less than $+0.450$. Competencies which overlap are indicated by a footnote which designates the factor and the loading of the competency in that factor. The six tables also provide the means, standard deviations, and mean rankings for all 70 competencies.

Factor I. Consumer Choices

A total of 17 competencies with factor loadings of $+0.453$ or higher were generated for Factor I. The competencies listed pertain to consumer choices and those factors affecting consumer choices. Factor I contained six of the ten lowest mean-ranked competencies, one of which had an overlap loading in Factor V. Three spurious competencies were generated which related to choices in income, saving, and purchases. Table 16 presents the analysis of the results of the 21 competencies which cluster under Factor I.

Factor II. Credit and Contracts

Fifteen competencies with factor loadings of $+0.464$ or higher were clustered in Factor II. The competencies pertain to credit, records, and contracts. Four of the competencies generated in Factor II were among the ten highest mean-ranked competencies, one of which had overlap loadings in Factor IV. In addition, one other competency in this factor had overlap loadings in Factor VI. Three spurious competencies were generated which are congruent with the other concepts clustered in Factor II. Table 17 presents an analysis of the results of the 18

Table 16. Factor I - Consumer choices: level of learning.

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
5	Factors affecting choice of retail outlets	.531	2.440	1.350	53
9	Marketing practices affecting consumer purchases	.482	2.713	1.305	45
14	Methods of protecting consumers against fraud and deception	.457	2.983	1.365	29
15	Factors affecting choice of services	.568	2.514	1.234	51
16	Selection of durable goods (i.e., appliances, furniture)	.571	2.805	1.407	42
22	Criteria for evaluation of advertising techniques	.693	2.398	1.461	54
25	Personal factors affecting consumer purchases	.515	2.661	1.291	47
31	Techniques for shopping effectively	.639	2.991	1.371	28
42	Selection of clothing items	.651	2.089	1.452	65
43	Factors affecting advertising practices	.705	2.115	1.365	64
50	Selection of transportation	.623	2.320	1.439	56
54	Responsibilities of sellers in the marketplace	.453	2.471	1.228	52
56	Selection of food items	.708	2.525	1.515	50
57*	Economic and societal factors affecting consumer purchases	.557	2.126	1.261	63

Table 16. Continued

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
59	Advantages and disadvantages of advertising	.607	2.232	1.369	61
64	Guidelines for consumer behavior in relation to advertising	.704	2.061	1.304	66
66	Responsibilities of consumers in the marketplace	.540	2.639	1.376	48
<u>Spurious Competencies</u>					
13	Selection of saving institutions	.420	2.873	1.350	40
29	Types of payroll check deductions and employee benefits	.347	3.035	1.348	27
60	Guidelines for planning purchases	.432	2.957	1.296	31

*Item 57 had double loadings in Factor V at .485

Table 17. Factor II - Credit and contracts: level of learning.

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
18*	Responsibilities for using credit	.464	3.809	1.249	2
34	Implication of credit reporting	.534	2.752	1.329	44
45	Types of banking services	.492	3.121	1.308	23
46	Consumer responsibilities in contractual agreements	.587	3.797	1.235	3
48	Computing costs of credit	.473	3.475	1.349	9
49	Common types of legal documents	.474	2.917	1.335	36
51	Importance of records and banking services as financial aids	.482	3.177	1.279	22
52	Advantages and disadvantages of credit	.575	3.623	1.288	5
55*	State laws related to credit	.470	2.543	1.291	49
58	Types of credit granting institutions	.563	2.890	1.420	38
63	Types of credit	.604	3.251	1.349	15
67	Effects of debtor problems	.631	3.217	1.322	19
68	Factors affecting cost of credit	.586	3.197	1.349	21
69	Elements of contractual agreements	.633	3.357	1.309	12
70	Factors affecting credit selection	.633	3.230	1.280	18

Table 17. Continued

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
<u>Spurious Competencies</u>					
17	Types of finance records	.348	2.793	1.320	43
44	Economic factors and lender considerations affecting availability of credit	.437	2.950	1.341	32
61	Types of taxes	.365	2.944	1.270	33

*Item 18 had double loadings on Factor IV at .587

Item 52 had double loadings on Factor VI at .480

competencies which clustered under this factor.

Factor III. Long Term Expenditures

A total of six competencies with factor loadings of $+0.461$ or higher were included in Factor III. One of the competencies contained in this factor was in the ten highest mean-ranked competencies. The competencies related directly to insurance selection and planning and selection of housing. One spurious competency, which related to taxes, was generated. Table 18 presents an analysis of the results of the seven competencies which were included in this factor.

Factor IV. Finance and Saving

Seven competencies with factor loadings of $+0.504$ or higher were clustered in Factor IV. These competencies pertain directly to planning for financial stability using credit and saving. Six of the ten highest mean-ranked competencies were contained in this factor, the highest number in any one factor. One of the six highest mean-ranked competencies had overlap loading in Factor II. Factor IV included four spurious competencies which were compatible to the concepts contained in this factor. Table 19 presents an analysis of the results of the 11 competencies clustered under Factor IV.

Factor V. Economics and the Individual

A total of seven competencies with factor loadings of $+0.472$ or higher were included in Factor V. These competencies relate directly to economics and investments. Two of the competencies in this factor were contained in the ten lowest mean-ranked competencies, one of

Table 18. Factor III - Long term expenditures: level of learning.

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
21	Planning for insurance needs	.638	3.322	1.287	14
35	Selection of home insurance	.774	3.087	1.404	26
39	Selection of health insurance	.776	3.206	1.373	20
41	Selection of life insurance	.698	3.234	1.389	17
53	Selection of housing	.496	3.333	1.368	13
3	Selection of automobile insurance	.461	3.559	1.357	7
<u>Spurious Competency</u>					
28	Guidelines for reporting taxes	.390	3.392	1.252	11

Table 19. Factor IV - Finance and saving: level of learning.

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
4	Ways to plan for saving	.571	3.605	1.246	6
6	Guidelines for correct use of banking service and financial records	.504	3.656	1.206	4
10	Personal factors affecting credit worthiness	.593	3.480	1.313	8
11	Types of credit problems	.531	3.110	1.328	24
12	Steps in financial planning (budgeting)	.510	3.970	1.131	1
18*	Responsibilities for using credit	.587	3.809	1.249	2
19	Reasons for financial planning	.548	3.428	1.293	10
<u>Spurious Competencies</u>					
1	Sources of assistance in resolving credit problems and financial crises	.387	2.920	1.413	35
23	Factors affecting saving decisions	.391	2.911	1.250	37
24	Financial considerations at different ages	.390	2.673	1.299	46
27	Financial implications of income and benefits from employment	.398	3.236	1.399	16

*Item 18 had double loadings on Factor II at .464

which had overlap loadings in Factor I. Two spurious competencies were generated for this factor. Table 20 presents an analysis of the results of the nine competencies which were included in Factor V.

Factor VI. Consumer Regulation and Protection

Seven competencies with factor loadings of $+0.469$ or higher were clustered in Factor VI. The competencies included in this factor directly related to laws and legislative action for consumer protection. Three of the ten lowest mean-ranked competencies were included in this factor. One competency included in this factor had overlap loadings in Factor II. One spurious competency was generated which related directly to the concepts of consumer assistance. Table 21 presents an analysis of the results of the eight competencies clustered in Factor VI.

Table 20. Factor V \rightarrow Economics and the individual: level of learning.

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
7	Types of economic systems	.618	2.342	1.370	55
30	Our mixed economy	.649	2.252	1.376	59
33	Conditions necessary for a consumer-directed economy	.579	2.049	1.256	67
36	Types of investment opportunities	.488	2.974	1.394	30
37	Financial implication of future travel and recreation	.472	1.981	1.311	70
40	Factors affecting investment decisions	.527	2.881	1.393	39
57*	Economic and societal factors affecting consumer purchases	.485	2.126	1.261	63
<u>Spurious Competencies</u>					
8	Purposes of taxes	.359	2.935	1.336	34
38	Financial considerations of further education	.312	3.099	1.389	25

*Item 57 had double loadings on Factor I at .557

Table 21. Factor VI - Consumer regulation and protection: level of learning.

Item number	Title of competency	Factor loading	Mean	Standard deviation	Mean ranking
2	Federal law related to credit	.536	2.289	1.256	58
26	Selected governmental agencies as sources of consumer assistance and information	.518	2.039	1.253	68
32	Significant state consumer protection legislation	.585	2.246	1.288	60
47	Significant types of fraudulent practices	.501	2.819	1.340	41
55*	State laws related to credit	.480	2.543	1.291	49
62	Development of consumer legislation	.469	2.019	1.252	69
65	Significant federal consumer protection legislation	.478	2.197	1.250	62
<u>Spurious Competency</u>					
20	Selected nongovernmental agencies as sources for consumer assistance and information	.444	2.308	1.300	57

*Item 55 had double loadings on Factor II at .470

V. SUMMARY, CONCLUSIONS AND IMPLICATIONS

Summary of the Study

This study was conducted for three purposes. One aspect of the study was to determine the common personal finance competencies needed by graduating high school students in Oregon. A second dimension was to determine if differences existed among personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community on the acceptance of content and the level of learning for 70 personal finance competencies. A tertiary purpose of the study was to determine the major concepts and underlying patterns of relationship from data gathered on acceptance of content and the hierarchical structure based on the level of learning.

To collect the data for the study, a mail survey questionnaire was developed by a review of the Personal Finance Education Guide (1974), tentative revisions for the Guide which were prepared by the Oregon Department of Education, and a review of the literature pertaining to consumer education and related studies. A jury of experts evaluated the questionnaire for the purpose of establishing validity and clarity of format. The revised questionnaire was field tested with members of the State Personal Finance Cadre, the Oregon Council of Economic Education, and representatives of the business community. The final questionnaire contained 70 personal finance education competencies with two scales. The first scale was designed to determine the acceptance of content and consisted of responses of Non-essential, Doubtful Value,

Moderate, Desirable, and Essential. Response values were assigned Likert-type scale values of 1 through 5. The second scale was designed to determine the level of learning needed to acquire the content and consisted of responses of No Learning Needed, Awareness, Understanding, Application, Synthesis, and Evaluation. The response value assigned for No Learning Needed was a "0". The remaining response values were assigned Likert-type scale values of 1 through 5.

A random sample of personal finance teachers from the subject matter areas of business education, home economics, mathematics, and social studies was obtained from a roster provided by the Oregon Department of Education. Each sample consisted of 80 individuals, resulting in a combined total of 320 subjects in four areas. A random sample of the business community was obtained from the Credit Bureau Inc., Oregon Association of Realtors, and three organizations of insurance agents. The sample consisted of 320 subjects from the business community. After the first mailing and a follow-up postcard reminder, a third mailing was sent to the sample population for the purpose of increasing the percent of returns. Five hundred forty-three usable responses were collected.

The one-way analysis of variance, Student-Newman-Keuls procedure, and factor analytic techniques, consisting of the R-mode and Q-mode, were used to interpret the data.

Summary of Findings

Results of Mean Rankings

Each of the 70 competencies was ranked by the overall means of the five groups, consisting of personal finance teachers from the subject matter areas of business education, home economics, mathematics, and social studies, and the business community, for both the acceptance of content and the level of learning. Rankings were based on the mean score of each of the personal finance competencies. The acceptance of content and level of learning contained nine of the same competencies from the ten highest mean-ranked competencies and eight of the same competencies from the lowest mean-ranked competencies. Additionally, each of the 70 competencies was ranked by the means of the business community for both acceptance of content and level of learning.

Of the 70 personal finance competencies for acceptance of content as determined by the overall mean, 18 had means of 4.0 or above, 31 had means between 3.5 and 4.0, 19 had means between 3.0 and 3.49, and 2 had means below 3.0. Competency 12, Steps in Financial Planning (Budgeting), was considered the competency needing the most emphasis as indicated by the overall means.

Of the 70 personal finance competencies for acceptance of content as determined by the business community, 12 had means of 4.0 or above, 30 had means between 3.5 and 4.0, 17 had means between 3.0 and 3.49, and 11 had means below 3.0. Competency 18, Responsibilities for Using Credit, was considered the competency needing the most emphasis as indicated by the business community.

A comparison of the overall mean ranks and the business community mean ranks indicated a change in rank positions. Based on an analysis of group mean scores for those being significantly different and changing rank positions by five or more locations, it was found that two competencies, as ranked by each of four personal finance groups, were not congruent with the business community's ranking.

Of the 70 personal finance competencies for the level of learning as determined by the overall mean, 7 had means of 3.5 or above, 20 had means between 3.0 and 3.49, 24 had means between 2.5 and 2.99, 18 had means between 2.0 and 2.49, and 1 had a mean between 1.5 and 1.99. Competency statement 12, Steps in Financial Planning (Budgeting), was considered the competency needing the highest level of learning as determined by the overall mean scores.

Of the 70 personal finance competencies for the level of learning as determined by the business community, 8 had means of 3.5 or above, 18 had means between 3.0 and 3.49, 20 had means between 2.5 and 2.99, 13 had means between 2.0 and 2.49, and 11 had means between 1.5 and 1.9. Competency statement 12, Steps in Financial Planning (Budgeting), was also considered the competency needing the highest level of learning as determined by the business community mean scores.

A comparison of the overall mean ranks and the business community mean ranks indicated a change in rank positions. Based on an analysis of group mean scores for those being significantly different and changing rank positions by five or more locations, it was found that 55 competencies were agreed upon by all five groups. All groups agreed on the top eight competencies. It was also found that three

competencies with means between 3.0 and 3.40, two competencies with means between 2.5 and 2.99, four competencies with means between 2.0 and 2.49, and four competencies with means between 1.5 and 1.99 were incongruent with the rankings of the business community.

Results of the One-Way Analysis of Variance

The one-way analysis of variance was used to test the hypothesis that there was no significant difference in mean scores for acceptance of content on 70 personal finance competencies among personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies and the business community. The test revealed that no differences existed for 11 competencies and that significant differences existed for 59 competencies.

Of the 70 competencies, 15 were significantly different out of the 18 that had overall means of 4.0 or above, 23 were significantly different out of the 31 that had overall means of 3.5 to 3.9, 19 were significantly different that had overall means of 3.0 to 3.49 and 2 were significantly different that had overall means of 2.5 to 2.99.

Thus, the hypothesis that there was no significant difference in the mean scores for acceptance of content for 70 personal finance competencies among five groups was retained for 11 competencies and rejected for 59 competencies.

The one-way analysis of variance was used to test the hypothesis that there was no significant difference in mean scores for level of learning on 70 personal finance competencies among personal finance teachers in the subject matter areas of business education, home

economics, mathematics, and social studies, and the business community. The test disclosed that no differences existed for 22 competencies and that significant differences existed for 48 competencies.

Of the 70 competencies, 2 were significantly different out of the 7 that had overall means of 3.5 or above, 12 were significantly different out of 20 competencies that had overall means between 3.0 and 3.49, 17 were significantly different out of 19 competencies that had overall means between 1.98 and 2.49.

Thus, the hypothesis that there was no significant difference in the mean scores for the level of learning for 70 personal finance competencies among five groups was retained for 22 competencies and rejected for 48 competencies.

Results of the Factor Analysis

The Q-mode of factor analysis for respondents on the acceptance of content revealed that personal finance teachers from the subject matter areas of business education, home economics, mathematics, and social studies and the business community resembled one another with regard to values assigned to personal finance competencies.

The Q-mode of factor analysis for respondents on the level of learning contained numerous overlaps; thus, the data were not interpretable.

The R-mode of factor analysis was used to identify common personal finance competencies for acceptance of content. A six-factor solution extracted 50 competencies with factor loadings of +.45 or higher. The six factors extracted were identified for curriculum planning as follows:

- Factor I was identified as Consumer Protection and Regulation and contained 15 competencies. This concept contained some of the lowest mean-rankings.
- Factor II was identified as Long Term Expenditures and Benefits and contained ten competencies.
- Factor III was identified as Financial Planning and contained ten competencies. Seven of these competencies appeared in the highest ten mean-ranked competencies.
- Factor IV was identified as Credit and Contracts and contained 14 competencies.
- Factor V was labeled Consumer Choices and contained 15 competencies. Some of the ten lowest mean-ranked competencies were generated in this factor.
- Factor VI was generalized as Investments in Society and the Individual and contained eight competencies.

The R-mode of factor analysis was used to identify common personal finance competencies for level of learning. A six factor solution extracted 59 competencies with factor loadings of $+0.45$ or higher. The six factors extracted were identified as follows:

- Factor I was identified as Consumer Choices and contained 21 competencies. This factor also contained the majority of the ten lowest mean-ranked competencies.
- Factor II was labeled as Credit and Contracts and contained 18 competencies, four of which were among the ten highest mean-ranked competencies.

Factor III was generalized with the term Long Term Expenditures and it had seven competencies.

Factor IV was named Finance and Savings and contained 11 competencies. It contained the majority of the ten highest mean-ranked competencies.

Factor V was named Economics and the Individual. It included nine of the competencies.

Factor VI was identified as Consumer Regulation and Protection and included eight competencies.

Conclusions

The first question to which the present study was directed was the determination of what content needed emphasis in the personal finance curriculum in Oregon high schools. The responses to the acceptance of content were calculated for mean scores for each of the 70 competencies, and analyzed by the mean scores, the rank order of the means, and the analysis of variance test. These mean scores were rank ordered for the purpose of determining which of the competencies should be emphasized.

Forty-nine competencies were selected by all respondents on the questionnaire as "desirable" and 21 were selected as "moderate." Thus, it was concluded that the sample population felt that 49 competencies need to be emphasized in the curriculum and that 21 additional competencies, which were considered of moderate value, need to be included in the personal finance curriculum. Those competencies selected as needing the most emphasis related to the concepts of financial planning. Competencies needing the next amount of emphasis related to the concepts

of credit and contracts and long-term expenditures and benefits.

The second question was concerned with the determination of the level of learning needed for acquisition of the content contained in each of the 70 personal finance competencies. By use of the mean scores, the rank order, and the analysis of variance test, it was possible to calculate the needed level of learning for the acquisition of the designated content on each of the 70 competencies.

The level of synthesis was indicated for seven competencies. Five of these competencies related to the concept of finance and saving. Of the remaining competencies, 44 were selected as needing the application level of learning and 19 were selected as needing a level of comprehension for the acquisition of the defined content in the personal finance curriculum.

The third question to which the study was directed was whether differences existed among personal finance teachers in the subject matter areas of business education, home economics, mathematics, and social studies, and the business community in the acceptance of content for 70 personal finance competencies. On the basis of the analysis, 11 null hypotheses were retained and 59 were rejected. It was determined that more differences existed between all personal finance teachers and the business community than existed among personal finance teachers in the four subject areas. As a general rule, business teachers and home economics teachers tended to rate competencies the highest while the business community tended to rate them the lowest. Most agreement occurred among all groups in the concept area of investments in society and the individual.

The fourth question was concerned with whether differences were significant among personal finance teachers in the subject matter areas of business education, home economics, mathematics and social studies and the business community in the level of learning for 70 personal finance competencies. Based on the results of the analysis, 22 null hypotheses were retained and 48 were rejected. It was concluded that more differences existed between the personal finance teachers and the business community than existed among personal finance teachers from the subject matter areas of business education, home economics, mathematics, and social studies. In general, business education teachers tended to rate the level of learning the highest and the business community rated them the lowest. On the average, the mathematics teachers rated the level of learning low. Agreement by all five groups was the most observable on competencies related to the concept of finance and saving.

The fifth question of concern in the study was the determination of primary clusters which had underlying unities for the purpose of planning meaningful related curriculum in personal finance for Oregon high schools. The application of the R-mode to the data gathered from the four groups of personal finance educators and from the business community resulted in the grouping of 50 personal finance competencies into six primary factors. It was determined that the clusters of competencies in each factor had meaningful relationships to the factors under which they clustered. This conclusion was further affirmed by the similar groupings in the five factor solution which was applied to the data. It was judged that the statistical tool of factor analysis

was useful in determining underlying unities from among numerous competencies. Factor analysis can be used to assist in decision making for high school curriculum.

The sixth question to which this study was directed was that of determining meaningful clusters of common personal finance competencies for the appropriate application of hierarchical levels of learning. The results of the R-mode indicated that 59 personal finance competencies clustered into six primary factors. It was observed that the clusters of competencies in each factor had meaningful interpretations. In determining the appropriate clusters for achieving the needed level of learning for acquisition of knowledge, it was concluded that factor analysis is an effective technique. It may be projected that this technique can be utilized by high school curriculum planners in the grouping of competencies or content statements into identifiable concepts which need different levels of learning.

Implications

Based upon the review of the literature, the analysis of the data of this study, and the conclusions derived from the analysis, the following are proposed as having significant implications for personal finance curriculum development in the State of Oregon:

1. All 70 personal finance competencies presented in this study should be included in the Personal Finance Education Guide since all competencies were perceived as desirable or moderate.
2. Competencies perceived as desirable (means in the range of 3.5 to 4.5) should be emphasized for curriculum planning in personal finance.

3. Competencies perceived as moderate (means in the range of 2.5 to 3.49) should be included in the personal finance curriculum.

4. Three levels of learning were designated for the 70 personal finance competencies presented in this study. They were synthesis, application, and comprehension. The learning level for each competency should be identified in the Personal Finance Education Guide and be used as a source for determining the level of learning needed for each competency.

5. Clusters of competencies identified in this study should be used as one source of reference for conceptual structuring of personal finance curriculum in Oregon high schools.

6. Based on the factors identified in this study, behavioral objectives and learning activities should be prepared.

7. In Oregon's high schools, the responsibilities for developing curriculum and instruction should be shared where all four subject matter areas are involved in teaching personal finance. Each discipline using a multi-disciplinary team approach should be involved in the decision making and the preparation of materials for the personal finance classroom.

8. Personal finance education should be an inter-disciplinary subject, borrowing theories, concepts, and understandings from business education, home economics, mathematics, and social studies and the business community in order to realize broad as well as more narrow approaches to personal finance.

9. The business community and personal finance teachers in the subject matter areas of business education, home economics, mathematics,

and social studies have different perceptions as to the emphasis needed for consumer protection and regulation. The concept that the business community prefers less government intervention in the business arena is apparent in the literature. In developing curriculum for personal finance, curriculum planners must recognize this value orientation and weigh the effects of emphasizing or de-emphasizing consumer protection and government assistance. The judgment of the educator must prevail when making decisions about curriculum emphasis in areas where biases are identifiable.

Suggestions for Further Study

The following suggestions for further study are made as a result of the findings and conclusions of this investigation:

1. Since the social and economic structure of this society is in constant flux, the need for curriculum change is also apparent. This study should be periodically replicated as standard procedure to verify personal finance curriculum for future use.

2. The present study utilized a random sample of personal finance teachers and members of the business community. A longitudinal study of students should be conducted to determine their perceptions of what is needed in the personal finance curriculum. Research should also be conducted with other populations: parents, labor and industry, school administrators, and the community at large. These studies could provide useful comparative data for making decisions in curriculum for personal finance.

3. Research, designed to validate competencies, should be completed to investigate respondents' understandings and attitudes toward education, competencies, and personal finance.

4. Competencies which are identified as desirable and which are included in classroom instruction should be tested in terms of student outcomes over a period of time.

5. Since business education teachers and home economics teachers rate many competencies higher than mathematics teachers and the business community, an investigation should be conducted to determine the reasons for these differences.

6. Studies of the personal finance teachers' demographic characteristics, such as the number of years of teaching experience, age, highest degree earned, and geographical areas in which they live and teach, should be done to learn if these factors influence opinions about which competencies are essential for the personal finance curriculum.

7. Studies on the various methods of teaching personal finance should be conducted to learn what effects, if any, different teaching styles have on the learner's use of the competencies taught.

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APPENDICES

APPENDIX A

PERSONAL FINANCE EDUCATION ADVISORY COMMITTEE

PERSONAL FINANCE EDUCATION ADVISORY COMMITTEE
1978-79

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APPENDIX B
JURY OF EXPERTS REVISION FORM

JURY OF EXPERTS REVISION FORM

From: _____
 name position institution

Subject: Suggested revisions to Personal Finance Competencies Instrument

Item Number

Suggested Revisions

Suggested Additions
(new items)

Item Number

Suggested Deletions

Note: If additional space is needed, please attach sheet to this memo.

APPENDIX C

LETTER OF SUPPORT, DR. VERNE DUNCAN,
STATE SUPERINTENDENT OF PUBLIC INSTRUCTION

VERNE A. DUNCAN
STATE SUPERINTENDENT
OF PUBLIC INSTRUCTION



STATE OF OREGON

DEPARTMENT OF EDUCATION

942 LANCASTER DRIVE NE
SALEM, OREGON 97310

AREA CODE 503
325-6000

February 12, 1979

In order to make school programs meaningful to our students, we want to take advantage of your practical experience in defining what students need to be competent in the area of personal finance.

The study Margaret Stamps is conducting regarding student competencies will have real value to the future planning for personal finance courses in Oregon.

It is my hope that you will take the time to send in your answers to her questionnaire. Your views are important to us as we study the needs in this vital area.

Redacted for Privacy

Verne A. Duncan
State Superintendent of
Public Instruction

VAD:fj

APPENDIX D
PERSONAL FINANCE QUESTIONNAIRE
PERSONAL FINANCE COMPETENCIES NEEDED FOR PREPARATION
OF HIGH SCHOOL GRADUATES IN OREGON

Personal Finance Competencies Needed for Preparation
of High School Graduates in Oregon

Research Project by: Margaret Stamps, Batcheller Hall 200C
Oregon State University, Corvallis, OR 97331

Purpose of Questionnaire: The purpose of this questionnaire is to seek your assistance in providing your views which will be useful in determining which competencies and their appropriate level of learning are needed for personal finance curriculum in an effort to prepare students to meet their needs.

INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE

- A. The questionnaire asks your opinion on the level of acceptance for content and the level of learning needed for each of the 70 content statements for personal finance.

Please indicate for each statement how you would accept the concept and what level of learning you feel is necessary for the concept. This information is needed for the planning of curriculum which will meet the high school graduation requirement.

- B. DO NOT TAKE TOO MUCH TIME IN THINKING ABOUT ANY PARTICULAR ITEM. Please do not leave out any item--there are no right or wrong answers. The primary concern is about your judgment regarding content and the level of learning for personal finance competencies needed by graduating high school students.
- C. For each item, circle the rating (1, 2, 3, 4, 5) in the first column which most closely represents YOUR JUDGMENT about the acceptance of the content.

In the second column, circle the rating (0, 1, 2, 3, 4, 5) which most closely represents YOUR JUDGMENT about the level of learning.

If your judgment is not precisely represented by one of the choices, pick the one which comes the closest. PLEASE COMPLETE ALL ITEMS.

Here is an example:

Please read the definitions located on the back of the enclosed letter before attempting to answer the questions below.

a. Indicate your level of acceptance for each of the following personal finance concepts in the first column.	CONTENT ACCEPTANCE					LEVEL OF LEARNING						
	Non-essential	Doubtful	Value	Moderate	Desirable	Essential	No Learning Needed	Awareness	Understanding	Application	Synthesis	Evaluation
b. In the second column, indicate the level of learning you feel students should attain for each concept to become competent high school graduates in personal finance.												
1. Selection of Health Insurance	1	2	3	4	5		0	1	2	3	4	5

In marking "5" rating in the first column, this person felt that the content was essential for use in classroom curriculum.

In marking "5" rating in the second column, this person considered that students should have the ability to make judgments about selecting health insurance.

REMEMBER: This is not a test. Refer frequently to the definitions on the back of the enclosed letter.

PERSONAL FINANCE COMPETENCIES QUESTIONNAIRE

a. Indicate your level of acceptance for each of the following personal finance concepts in the first column.		CONTENT ACCEPTANCE					LEVEL OF LEARNING						
b. In the second column, indicate the level of learning you feel students should attain for each concept to become competent high school graduates in personal finance.		Non-essential	Doubtful	Value	Moderate	Desirable	Essential	No Learning Needed	Awareness	Understanding	Application	Synthesis	Evaluation
1.	Sources of assistance in resolving credit problems and financial crises	1	2	3	4	5		0	1	2	3	4	5
2.	Federal laws related to credit	1	2	3	4	5		0	1	2	3	4	5
3.	Selection of automobile insurance	1	2	3	4	5		0	1	2	3	4	5
4.	Ways to plan for saving	1	2	3	4	5		0	1	2	3	4	5
5.	Factors affecting choice of retail outlets	1	2	3	4	5		0	1	2	3	4	5
6.	Guidelines for correct use of banking service and financial records	1	2	3	4	5		0	1	2	3	4	5
7.	Types of economic systems	1	2	3	4	5		0	1	2	3	4	5
8.	Purposes of taxes	1	2	3	4	5		0	1	2	3	4	5
9.	Marketing practices affecting consumer purchases	1	2	3	4	5		0	1	2	3	4	5
10.	Personal factors affecting credit worthiness	1	2	3	4	5		0	1	2	3	4	5
11.	Types of credit problems	1	2	3	4	5		0	1	2	3	4	5
12.	Steps in financial planning (budgeting)	1	2	3	4	5		0	1	2	3	4	5
13.	Selection of saving institutions	1	2	3	4	5		0	1	2	3	4	5
14.	Methods of protecting consumers against fraud and deception	1	2	3	4	5		0	1	2	3	4	5
15.	Factors affecting choice of services	1	2	3	4	5		0	1	2	3	4	5
16.	Selection of durable goods (i.e., appliances, furniture)	1	2	3	4	5		0	1	2	3	4	5
17.	Types of finance records	1	2	3	4	5		0	1	2	3	4	5
18.	Responsibilities for using credit	1	2	3	4	5		0	1	2	3	4	5
19.	Reasons for financial planning	1	2	3	4	5		0	1	2	3	4	5
20.	Selected nongovernmental agencies as sources for consumer assistance and information	1	2	3	4	5		0	1	2	3	4	5
21.	Planning for insurance needs	1	2	3	4	5		0	1	2	3	4	5
22.	Criteria for evaluation of advertising techniques	1	2	3	4	5		0	1	2	3	4	5
23.	Factors affecting saving decisions	1	2	3	4	5		0	1	2	3	4	5
24.	Financial considerations at different ages	1	2	3	4	5		0	1	2	3	4	5
25.	Personal factors affecting consumer purchases	1	2	3	4	5		0	1	2	3	4	5

		CONTENT ACCEPTANCE					LEVEL OF LEARNING						
		Non-essential	Doubtful	Value	Moderate	Desirable	Essential	No Learning Needed	Awareness	Understanding	Application	Synthesis	Evaluation
a.	Indicate your level of acceptance for each of the following personal finance concepts in the first column.												
b.	In the second column, indicate the level of learning you feel students should attain for each concept to become competent high school graduates in personal finance.												
26.	Selected governmental agencies as sources of consumer assistance and information	1	2	3	4	5		0	1	2	3	4	5
27.	Financial implications of income and benefits from employment	1	2	3	4	5		0	1	2	3	4	5
28.	Guidelines for reporting taxes	1	2	3	4	5		0	1	2	3	4	5
29.	Types of payroll check deductions and employee benefits	1	2	3	4	5		0	1	2	3	4	5
30.	Our mixed economy	1	2	3	4	5		0	1	2	3	4	5
31.	Techniques for shopping effectively	1	2	3	4	5		0	1	2	3	4	5
32.	Significant state consumer protection legislation	1	2	3	4	5		0	1	2	3	4	5
33.	Conditions necessary for a consumer-directed economy	1	2	3	4	5		0	1	2	3	4	5
34.	Implications of credit reporting	1	2	3	4	5		0	1	2	3	4	5
35.	Selection of home insurance	1	2	3	4	5		0	1	2	3	4	5
36.	Types of investment opportunities	1	2	3	4	5		0	1	2	3	4	5
37.	Financial implication of future travel and recreation	1	2	3	4	5		0	1	2	3	4	5
38.	Financial considerations of further education	1	2	3	4	5		0	1	2	3	4	5
39.	Selection of health insurance	1	2	3	4	5		0	1	2	3	4	5
40.	Factors affecting investment decisions	1	2	3	4	5		0	1	2	3	4	5
41.	Selection of life insurance	1	2	3	4	5		0	1	2	3	4	5
42.	Selection of clothing items	1	2	3	4	5		0	1	2	3	4	5
43.	Factors affecting advertising practices	1	2	3	4	5		0	1	2	3	4	5
44.	Economic factors and lender considerations affecting availability of credit	1	2	3	4	5		0	1	2	3	4	5
45.	Types of banking services	1	2	3	4	5		0	1	2	3	4	5
46.	Consumer responsibilities in contractual agreements	1	2	3	4	5		0	1	2	3	4	5
47.	Significant types of fraudulent practices	1	2	3	4	5		0	1	2	3	4	5
48.	Computing costs of credit	1	2	3	4	5		0	1	2	3	4	5
49.	Common types of legal documents	1	2	3	4	5		0	1	2	3	4	5
50.	Selection of transportation	1	2	3	4	5		0	1	2	3	4	5
51.	Importance of records and banking services as financial aids	1	2	3	4	5		0	1	2	3	4	5

a. Indicate your level of acceptance for each of the following personal finance concepts in the first column.		CONTENT ACCEPTANCE					LEVEL OF LEARNING						
b. In the second column, indicate the level of learning you feel students should attain for each concept to become competent high school graduates in personal finance.		Non-essential	Doubtful	Value	Moderate	Desirable	Essential	No Learning Needed	Awareness	Understanding	Application	Synthesis	Evaluation
52.	Advantages and disadvantages of credit	1	2	3	4	5		0	1	2	3	4	5
53.	Selection of housing	1	2	3	4	5		0	1	2	3	4	5
54.	Responsibilities of sellers in the marketplace	1	2	3	4	5		0	1	2	3	4	5
55.	State laws related to credit	1	2	3	4	5		0	1	2	3	4	5
56.	Selection of food items	1	2	3	4	5		0	1	2	3	4	5
57.	Economic and societal factors affecting consumer purchases	1	2	3	4	5		0	1	2	3	4	5
58.	Types of credit granting institutions	1	2	3	4	5		0	1	2	3	4	5
59.	Advantages and disadvantages of advertising	1	2	3	4	5		0	1	2	3	4	5
60.	Guidelines for planning purchases	1	2	3	4	5		0	1	2	3	4	5
61.	Types of taxes	1	2	3	4	5		0	1	2	3	4	5
62.	Development of consumer legislation	1	2	3	4	5		0	1	2	3	4	5
63.	Types of credit	1	2	3	4	5		0	1	2	3	4	5
64.	Guidelines for consumer behavior in relation to advertising	1	2	3	4	5		0	1	2	3	4	5
65.	Significant federal consumer protection legislation	1	2	3	4	5		0	1	2	3	4	5
66.	Responsibilities of consumers in the marketplace	1	2	3	4	5		0	1	2	3	4	5
67.	Effects of debtor problems	1	2	3	4	5		0	1	2	3	4	5
68.	Factors affecting cost of credit	1	2	3	4	5		0	1	2	3	4	5
69.	Elements of contractual agreements	1	2	3	4	5		0	1	2	3	4	5
70.	Factors affecting credit selection	1	2	3	4	5		0	1	2	3	4	5

APPENDIX E

COVER LETTER FOR PERSONAL FINANCE QUESTIONNAIRE
TO BUSINESS COMMUNITY AND PERSONAL FINANCE TEACHERS

School of Education
Vocational-Technical
Education Division



Corvallis, Oregon 97331

January 15, 1979

Dear Personal Finance Teacher

As the New Year quickly becomes of age, I am asking for your help. With the assistance of the Oregon Department of Education, I am conducting a study at Oregon State University to determine the concepts which should be included in the personal finance curriculum for use in high schools in the State of Oregon. The study should also determine what level of learning is necessary for each of the concepts considered. This information will assist educators in preparing the best possible program so that high school graduates may be competent in personal finance.

Currently, the Personal Finance Education Guide, used by Personal Finance teachers in Oregon, is being revised for publication during 1979. Marian Kienzle, Consumer Education and Personal Finance Specialist, will use the results of this study in the upcoming revision of the Guide.

Your help is vitally needed. You, along with a number of other members of the business community and teachers of personal finance, have been selected to complete the questionnaire. I hope you will consider doing so. Responses to the questionnaire will be recorded as a group for the purpose of determining curriculum content and level of learning needed for the content. The coding in the upper right-hand corner of the questionnaire is solely for determining whether or not the questionnaire has been completed and returned. All responses will be held in strict confidence. Each completed questionnaire is important.

Directions for answering the questionnaire are provided on the first page of the instrument. A list of definitions for levels of learning is printed on the back of this letter. These definitions will assist you when you complete the questionnaire.

I realize that your daily tasks keep you very busy, but I would appreciate your taking only a few minutes to complete the questionnaire and your returning it to me by January 29 in the pre-addressed, stamped envelope provided by the State Department.

If you have any questions or concerns, please feel free to phone me (754-3681) or write me (Batcheller Hall 200C, Oregon State University).

Your contribution is highly important as this study will reflect curriculum needs as perceived by the business and educational communities. I appreciate your participation in this project.

Sincerely

Redacted for Privacy

Margaret Stamps

School of Education
Vocational-Technical
Education Division



Corvallis, Oregon 97331

January 15, 1979

Dear Member of the Business Community

As the New Year quickly becomes of age, I am asking for your help. With the assistance of the Oregon Department of Education, I am conducting a study at Oregon State University to determine the concepts which should be included in the personal finance curriculum for use in high schools in the State of Oregon. The study should also determine what level of learning is necessary for each of the concepts considered. This information will assist educators in preparing the best possible program so that high school graduates may be competent in personal finance.

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Sincerely

Redacted for Privacy

Margaret Stamps

APPENDIX F
DEFINITIONS--LEVELS OF LEARNING

DEFINITIONS--LEVELS OF LEARNING

THE FOLLOWING ARE DEFINITIONS OF LEVELS OF LEARNING TO USE AS A GUIDE WHEN COMPLETING THE QUESTIONNAIRE.

Categories are arranged from simple to more complex. Each category is assumed to include the behavior at the lower levels (i.e., to reach application level, awareness and understanding must be present).

- Level 0 NO LEARNING NEEDED: The topic is not (or need not be) examined.
- Level 1 AWARENESS: The ability to recall, to bring to mind the appropriate material. Involves the remembering of a wide variety of previously learned material.
This is the lowest level of learning.
- Level 2 UNDERSTANDING: The ability to grasp the meaning of what is being communicated and make use of it without relating it to other ideas or material.
(Requires awareness)
- Level 3 APPLICATION: The ability to use ideas, principles, theories in new and concrete situations.
(Requires awareness and understanding)
- Level 4 SYNTHESIS: The ability to work with pieces, parts or elements and to arrange or combine them to form a whole. To formulate, combine, compose, or consolidate.
(Requires awareness, understanding and application)
- Level 5 EVALUATION: The ability to make judgments about the value of materials and methods. Criteria for judgment may be your own or someone else's. To appraise, critique, or interpret meanings.
(Requires all other levels of learning)
This is the highest level of learning.

APPENDIX G
POSTCARD USED FOR FIRST FOLLOW-UP

February 1, 1979

Oregon
State
University

Dear Member of the Business/Educational
Community

A short time ago, a survey instrument was mailed to you asking your views on the concepts and levels of learning which should be included in the personal finance curriculum. To date, I have not received your completed questionnaire.

I recognize how busy you must be, but I really need your help. During your short coffee break today, please take a few minutes to complete the questionnaire and return it right away. It will take just a little time to help so many youth in Oregon.

Thank you for your assistance.

Sincerely

Redacted for Privacy

Margaret Stamps

APPENDIX H
LETTER USED FOR SECOND FOLLOW-UP

School of Education
Vocational-Technical
Education Division



Corvallis, Oregon 97331

February 12, 1979

Dear Personal Finance Teacher

During the month of January, a questionnaire asking for your views on personal finance competencies was mailed to you. As yet, I have not received your completed questionnaire. It is my hope that you will still consider completing the questionnaire and returning it to me prior to February 21.

Your response to the survey is highly important in aiding educators in the determination of the content for personal finance and the level of learning that should be achieved for the content. Please read the enclosed letter from Dr. Verne Duncan, Superintendent of Public Instruction, with the recognition that there is a need for your participation and that the study is important in determining curriculum for high school youth throughout the State of Oregon.

In hopes that you will participate by completing the questionnaire, I have enclosed another instrument and a pre-addressed, stamped envelope provided by the State Department. Directions for completing the questionnaire are provided on the first page of the instrument. A list of definitions for the levels of learning is printed on the back of this letter to assist you when you respond to the items in the questionnaire. Again, all responses will be held in strict confidence.

If you have any questions or concerns, please feel free to phone me (754-3681) or write me (Batcheller Hall 200C, Oregon State University).

Your views are important! Thank you for your help!

Sincerely

Redacted for Privacy

Margaret F. Stamps

Enclosures

School of Education
Vocational-Technical
Education Division



Corvallis, Oregon 97331

February 12, 1979

Dear Member of the Business Community

During the month of January, a questionnaire asking for your views on personal finance competencies was mailed to you. As yet, I have not received your completed questionnaire. It is my hope that you will still consider completing the questionnaire and returning it to me prior to February 21.

Your response to the survey is highly important in aiding educators in the determination of the content for personal finance and the level of learning that should be achieved for the content. Please read the enclosed letter from Dr. Verne Duncan, Superintendent of Public Instruction, with the recognition that there is a need for your participation and that the study is important in determining curriculum for high school youth throughout the State of Oregon.

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If you have any questions or concerns, please feel free to phone me (754-3681) or write me (Batcheller Hall 200C, Oregon State University).

Your views are important! Thank you for your help!

Sincerely

Redacted for Privacy

Margaret F. Stamps

Enclosures

APPENDIX I
ILLUSTRATION OF OPTIMAL SAMPLE SIZE TEST

ILLUSTRATION OF OPTIMAL SAMPLE SIZE TEST

The sample size procedure detailed by Gonor and Kemp (1978) states that optimal sizes for samples may be derived from the index of precision (D), the ratio of the standard error to the mean. The formula is as follows:

$$D = \frac{(S^2/n)^{\frac{1}{2}}}{\bar{x}}$$

where

S^2 = the sum of squares

n = the number of respondents

\bar{x} = the mean for the cell

If the tolerable error estimation of the mean is 20 percent, then $D = 0.2$. For a given value of D , the formula is as follows:

$$n = \frac{S^2}{D^2 \bar{x}^2}$$

where

S^2 = the sum of squares

D^2 = the square of the ratio of the standard ^{error?} to the mean

\bar{x}^2 = the square of the mean

This specifies the minimum required sample size to obtain a set precision of estimation of the mean density. If $S^2 = 100$ and $\bar{x} = 10$ for some given species, then for a tolerable error of estimation of 20% of the mean, the required sample size would be $n = 25$. On the average, a sample of 25 units in the same location would have a standard error of the mean equal to about 20% of the mean. (Gonor and Kemp, 1978, p. 17)

Optimal sample sizes for the present study were derived by using a ratio approach following the Gonor and Kemp example for tolerable error of

estimates. The following data reflect the results of the determination and verification of optimal sample sizes for the study.

ACCEPTANCE OF CONTENT

Group	Mean	Total population	Gonor & Kemp optimal size	Sample size taken
1	3.8966	304	52	58
2	3.8871	105	17	62
3	3.5909	95	20	44
4	3.6102	185	29	59
5	2.7516	5750	170	318
TOTALS		6438		541

LEVEL OF LEARNING

Group	Mean	Total population	Gonor & Kemp optimal size	Sample size taken
1	3.4310	304	45	58
2	3.5484	105	15	62
3	3.2045	95	17	44
4	3.2373	184	25	59
5	3.5584	5740	161	317
TOTALS		6438		540

APPENDIX J

RESULTS OF ANALYSIS OF VARIANCE USING THE
F STATISTIC FOR THE ACCEPTANCE OF CONTENT

RESULTS OF ANALYSIS OF VARIANCE USING THE
F STATISTIC FOR THE ACCEPTANCE OF CONTENT
(n = 70)

Competency	Computed F	Hypothesis*	Competency	Computed F	Hypothesis*
1	6.182	Reject**	36	1.0035	Retain
2	8.2293	"	37	4.2692	Reject**
3	20.8234	"	38	4.1261	"
4	2.4349	"	39	2.4129	"
5	10.1223	"	40	1.6633	Retain
6	4.4668	"	41	2.7906	Reject**
7	3.7533	"	42	23.9339	"
8	1.4154	Retain	43	38.6520	"
9	16.4059	Reject**	44	1.2728	Retain
10	1.5993	Retain	45	10.4935	"
11	3.7153	Reject**	46	2.4805	"
12	2.844	"	47	13.0680	"
13	11.6024	"	48	5.0267	"
14	22.3080	"	49	1.2989	Retain
15	10.6881	"	50	14.2513	Reject**
16	11.8553	"	51	3.5701	"
17	2.0079	Retain	52	4.5207	"
18	4.1886	Reject	53	3.8856	"
19	4.6344	"	54	4.9254	"
20	18.0278	"	55	7.4919	"
21	3.6123	"	56	19.9201	"
22	39.3015	"	57	11.6863	"
23	3.0451	"	58	10.3015	"
24	.9532	Retain	59	39.3805	"
25	9.7664	Reject**	60	11.0084	"
26	22.8760	"	61	5.4515	"
27	1.7400	"	62	7.1487	"
28	11.1847	"	63	11.5436	"
29	24.6810	"	64	29.3035	"
30	4.6161	"	65	10.7396	"
31	22.6377	"	66	18.6602	"
32	16.3921	"	67	2.1310	Retain
33	4.1278	"	68	9.2865	Reject**
34	2.0385	Retain	69	2.5152	"
35	2.8386	Reject**	70	4.8666	"

* The level of significance was .05 percent level and the critical region with four degrees of freedom for numerator mean square and 539 degrees of freedom for the denominator mean square was $F > 2.39$.

** The Student-Newman-Keuls procedure was used to compare means for the rejected items.

APPENDIX K

RESULTS OF STUDENT-NEWMAN-KEULS PROCEDURE FOR
THE REJECTED HYPOTHESES FOR ACCEPTANCE OF CONTENT

RESULTS OF STUDENT-NEWMAN-KEULS PROCEDURE FOR THE REJECTED HYPOTHESES FOR ACCEPTANCE OF CONTENT

Item number	Competency	Rank	Computed** F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathe- matics n=44	Social Studies n=59	Business Community n=319	
1	Sources of assistance in resolving credit problems and financial crises	7	6.18	4.43	4.76	4.26	4.36	4.25	2 > 1, 3, 4, 5
2	Federal laws related to credit	42	8.23	3.91	4.03	3.68	3.88	3.46	1, 2, 4 > 5
3	Selection of automobile insurance	9	20.82	4.76	4.77	4.50	4.58	4.05	1, 2, 3, 4 > 5
4	Ways to plan for saving	6	2.43	4.41	4.52	4.16	4.19	4.38	*--
5	Factors affecting choice of retail outlets	52	10.12	3.71	3.82	3.55	3.71	3.21	1, 2, 3, 4 > 5
6	Guidelines for correct use of banking services and financial records	4	4.47	4.66	4.62	4.39	4.37	4.31	1, 2 > 5
7	Types of economic systems	57	3.75	3.41	3.10	2.86	3.27	3.40	1, 5 > 3
9	Marketing practices affecting consumer purchases	43	16.41	4.02	4.13	3.67	3.92	3.41	1, 2, 4 > 5; 2 > 3
11	Types of credit problems	19	3.72	4.19	4.29	4.02	3.97	3.90	2 > 5
12	Steps in financial planning (budgeting)	1	2.84	4.64	4.73	4.37	4.40	4.47	*--
13	Selection of saving institutions	46	11.60	4.05	4.02	3.64	3.64	3.38	1, 2 > 5
14	Methods of protecting consumers against fraud and deception	27	22.31	4.31	4.48	4.16	4.31	3.62	1, 2, 3, 4 > 5
15	Factors affecting choice of services	53	10.69	3.56	3.95	3.49	3.50	3.23	2 > 1, 3, 4, 5; 1 > 5
16	Selection of durable goods (i.e., appliances, furniture)	48	11.86	3.86	3.98	3.68	3.83	3.30	1, 2, 3, 4 > 5
18	Responsibilities for using credit	2	4.19	4.66	4.63	4.25	4.24	4.51	1, 2, 5 > 3, 4
19	Reasons for financial planning	10	4.63	4.36	4.37	3.86	3.98	4.26	1, 2, 5 > 3, 4
20	Selected nongovernmental agencies as sources for consumer assistance and information	54	18.03	3.84	4.06	3.37	3.61	3.15	2 > 3, 4, 5; 1 > 3, 5; 4 > 5

ACCEPTANCE OF CONTENT (Continued)

Item number	Competency	Rank	Computed** F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathe- matic n=44	Social Studies n=59	Business Community n=319	
21	Planning for insurance needs	21	3.61	4.22	4.10	4.05	4.19	3.87	1 > 5
22	Criteria for evaluation of advertising techniques	61	39.30	3.81	3.93	3.52	3.78	2.79	1, 2, 3, 4 > 5
23	Factors affecting saving decisions	40	3.05	3.86	3.98	3.60	3.73	3.61	*--
25	Personal factors affecting consumer purchases	51	9.77	3.79	3.97	3.45	3.58	3.30	2 > 3, 4, 5; 1 > 5
26	Selected governmental agencies as sources of consumer assistance and information	58	22.88	3.73	3.87	3.43	3.69	3.00	1, 2, 3, 4 > 5
28	Guidelines for reporting taxes	12	11.18	4.37	4.40	4.34	4.47	3.91	1, 2, 3, 4 > 5
29	Types of payroll check deductions and employee benefits	20	24.68	4.61	4.55	4.27	4.12	3.70	1, 2, 3, 4 > 5; 1, 2 > 4
30	Our mixed economy	60	4.62	3.41	3.05	2.75	3.48	3.26	1, 4, 5 > 3
31	Techniques for shopping effectively	36	22.64	4.22	4.29	4.07	4.12	3.46	1, 2, 3, 4 > 5
32	Significant state consumer protection legislation	56	16.39	3.69	3.90	3.40	3.69	3.08	2, 3 > 5; 2 > 3
33	Conditions necessary for a consumer-directed economy	68	4.13	3.29	3.26	2.93	3.22	2.89	1, 2, 4 > 5
35	Selection of home insurance	32	2.84	3.88	3.98	4.07	4.03	3.72	*--
37	Financial implication of future travel and recreation	70	4.27	3.31	3.21	2.89	2.97	2.83	1, 2 > 5
38	Financial considerations of further education	28	4.13	4.07	3.74	3.64	3.63	3.99	*--
39	Selection of health insurance	29	2.41	3.98	4.18	3.95	3.84	3.80	2 > 5
41	Selection of life insurance	26	2.79	4.03	4.11	4.07	4.12	3.81	*--
42	Selection of clothing items	69	23.93	3.41	3.84	3.30	3.25	2.62	2 > 1, 3, 4, 5; 1, 2, 3, 4 > 5

ACCEPTANCE OF CONTENT (Continued)

Item number	Competency	Rank	Computed** F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathe- matics n=44	Social Studies n=59	Business Community n=319	
43	Factors affecting advertising practices	65	38.65	3.71	3.76	3.45	3.69	2.66	1, 2, 3, 4 > 5
45	Types of banking services	24	10.49	4.49	4.20	4.07	4.05	3.78	1 > 3, 4, 5; 2 > 5
46	Consumer responsibilities in contractual agreements	3	2.48	4.58	4.61	4.30	4.40	4.34	*--
47	Significant types of fraudulent practices	33.5	13.07	4.12	4.26	3.95	4.07	3.57	1, 2, 3, 4 > 5
48	Computing costs of credit	13	5.03	4.51	4.26	4.09	4.15	3.97	1 > 5
50	Selection of transportation	63	14.25	3.58	3.63	3.52	3.41	2.87	1, 2, 3, 4 > 5
51	Importance of records and banking services as financial aids	18	3.57	4.32	4.19	4.00	3.90	3.93	*--
52	Advantages and disadvantages of credit	5	4.52	4.59	4.65	4.41	4.31	4.29	1, 2 > 5
53	Selection of housing	15	3.89	4.22	4.39	4.09	4.02	3.93	2 > 5
54	Responsibilities of sellers in the marketplace	50	4.93	3.69	3.81	3.61	3.61	3.35	1, 2, > 5
55	State laws related to credit	44	7.49	3.93	4.06	3.57	3.71	3.47	1, 2 > 5; 2 > 3
56	Selection of food items	55	19.92	3.84	4.34	3.46	3.54	3.09	1, 2, 3, 4 > 5; 2 > 3, 4, 5
57	Economic and societal factors affecting consumer purchases	64	11.69	3.53	3.52	3.00	3.42	2.88	1, 2, 4 > 5, 3
58	Types of credit granting institutions	31	10.30	4.31	4.13	4.02	3.97	3.64	1, 2, 3, 4 > 5
59	Advantages and disadvantages of advertising	62	39.38	3.83	3.90	3.57	3.69	2.77	1, 2, 3, 4 > 5
60	Guidelines for planning purchases	37	11.01	4.03	4.23	3.93	3.93	3.55	1, 2, 3, 4 > 5
61	Types of taxes	30	5.45	4.21	4.02	3.93	4.07	3.72	1, 2, 4 > 5
62	Development of consumer legislation	66.5	7.15	3.25	3.51	2.98	3.20	2.87	1, 2, 4 > 5; 2 > 3

ACCEPTANCE OF CONTENT (Continued)

Item number	Competency	Rank	Computed** F	Mean scores					Significant differences in means
				Business Education N=59	Home Economics n=62	Mathematics n=44	Social Studies n=59	Business Community n=319	
63	Types of credit	14	11.54	4.51	4.38	4.18	4.20	3.86	1, 2, 3, 4 > 5
64	Guidelines for consumer behavior in relation to advertising	66.5	29.30	3.58	3.74	3.09	3.53	2.69	1, 2, 3, 4 > 5; 1, 2, 4 > 3
65	Significant federal consumer protection legislation	59	10.74	3.56	3.77	3.25	3.62	3.07	1, 2, 4 > 5; 2 > 3
66	Responsibilities of consumers in the marketplace	49	18.66	3.86	4.24	3.56	3.86	3.23	1, 2, 3, 4 > 5; 2 > 3
68	Factors affecting cost of credit	23	9.29	4.42	4.34	4.07	3.93	3.82	1, 2 > 4, 5
69	Elements of contractual agreements	11	2.52	4.37	4.27	3.93	4.02	4.08	*--
70	Factors affecting credit selection	25	4.87	4.24	4.19	4.07	3.90	3.82	1, 2 > 5

*While the F test determined a significant difference among groups, the Student-Newman-Keuls Procedure did not define where the differences existed.

**The level of significance was set at the .05 level and the critical region with four degrees of freedom for numerator mean squares and 539 degrees of freedom for the denominator mean squares was $F > 2.39$.

APPENDIX L

RESULTS OF ANALYSIS OF VARIANCE USING
THE F STATISTIC FOR LEVEL OF LEARNING

RESULTS OF ANALYSIS OF VARIANCE USING THE
F STATISTIC FOR THE LEVEL OF LEARNING
(n = 70)

Competency	Computed F	Hypothesis*	Competency	Computed F	Hypothesis*
1	1.3076	Retain	36	3.1727	Reject**
2	.5212	Retain	37	2.8210	"
3	14.6388	Reject**	38	3.0694	"
4	1.3656	Retain	39	.8391	Retain
5	6.5422	Reject**	40	3.7572	Reject**
6	.9594	Retain	41	1.2714	Retain
7	6.5567	Reject**	42	22.9881	Reject**
8	2.974	"	43	26.4770	"
9	6.0603	"	44	.6298	Retain
10	1.3366	Retain	45	5.7992	Reject**
11	.6803	"	46	1.2404	Retain
12	.7888	"	47	6.5312	Reject**
13	6.0919	Reject**	48	4.1001	"
14	9.3919	"	49	1.3956	Retain
15	3.5585	"	50	14.0892	Reject**
16	11.3843	"	51	2.1648	Retain
17	1.3094	Retain	52	1.5345	"
18	3.5662	Reject**	53	2.5234	Reject**
19	2.7414	"	54	2.6062	"
20	5.5574	"	55	1.9029	Retain
21	3.0678	"	56	20.1829	Reject**
22	35.8801	"	57	7.5614	"
23	.9076	Retain	58	4.3077	"
24	2.4627	Reject**	59	23.7024	"
25	5.7042	"	60	5.4800	"
26	10.7278	"	61	4.2091	"
27	2.7821	"	62	2.1623	Retain
28	8.2533	"	63	6.7646	"
29	10.8131	"	64	23.6126	"
30	5.9283	"	65	3.7961	"
31	17.0847	"	66	14.8654	"
32	5.9903	"	67	1.2674	Retain
33	2.4989	"	68	2.5747	Reject**
34	.7864	Retain	69	2.1626	Retain
35	2.3395	"	70	2.6104	Reject**

* The level of significance was .05 percent level and the critical region with four degrees of freedom for numerator mean square and 539 degrees of freedom for the denominator mean square was $F > 2.39$.

** The Student-Newman-Keuls procedure was used to compare means for the rejected items.

APPENDIX M

RESULTS OF STUDENT-NEWMAN-KEULS PROCEDURE

FOR THE REJECTED HYPOTHESES FOR LEVEL OF LEARNING

RESULTS OF STUDENT-NEWMAN-KEULS PROCEDURE FOR THE REJECTED HYPOTHESES FOR LEVEL OF LEARNING

Item number	Competency	Rank	Computed** F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathe- matics n=44	Social Studies n=59	Business Community n=319	
3	Selection of automobile insurance	7	14.64	4.33	4.03	3.89	3.92	3.21	1, 2, 3, 4 > 5
5	Factors affecting choice of retail outlets	53	6.54	2.88	2.75	2.70	2.81	2.20	1, 2, 3, 4 > 5
7	Types of economic systems	55	6.56	2.40	1.70	1.79	2.50	2.50	1, 4, 5 > 2, 3
8	Purposes of taxes	34	2.97	3.22	2.61	2.60	3.22	2.94	*--
9	Marketing practices affecting consumer purchases	45	6.06	3.03	3.17	2.64	3.09	2.51	1, 4, 2 > 5
13	Selection of saving institutions	40	6.09	3.36	3.16	3.09	3.19	2.64	1, 2, 3, 4 > 5
14	Methods of protecting consumers against fraud and deception	29	9.39	3.42	3.44	3.25	3.45	2.70	1, 2, 3, 4 > 5
15	Factors affecting choice of services	51	3.56	2.82	2.87	2.60	2.61	2.36	1, 2 > 5
16	Selection of durable goods (i.e., appliances, furniture)	42	11.38	3.28	3.41	3.16	3.20	2.48	1, 2, 3, 4 > 5
18	Responsibilities for using credit	2	3.57	4.05	3.80	3.30	3.53	3.89	1, 5 > 3
19	Reasons for financial planning	10	2.74	3.46	3.23	2.98	3.26	3.55	5 > 3
20	Selected nongovernmental agencies as sources for consumer assistance and information	57	5.56	2.79	2.61	2.16	2.63	2.12	1, 2, 4 > 5
21	Planning for insurance needs	14	3.07	3.67	3.08	3.53	3.59	3.22	*--
22	Criteria for evaluation of advertising techniques	54	35.88	3.21	3.31	2.80	3.34	1.85	1, 2, 3, 4 > 5
24	Financial considerations at different ages	46	2.46	2.82	2.28	2.49	2.52	2.77	*--
25	Personal factors affecting consumer purchases	47	5.70	3.03	3.10	2.66	2.93	2.46	1, 2, 4 > 5
26	Selected governmental agencies as sources of consumer assistance and information	68	10.73	2.39	2.40	2.16	2.68	1.77	1, 2, 3, 4 > 5

LEVEL OF LEARNING (Continued)

Item number	Competency	Rank	Computed** F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathe- matics n=44	Social Studies n=59	Business Community n=319	
27	Financial implications of income and benefits from employment	16	2.78	3.56	3.11	2.67	3.19	3.28	1, 5 > 3
28	Guidelines for reporting taxes	11	8.25	3.85	3.45	3.65	3.93	3.16	1, 3, 4 > 5
29	Types of payroll check deductions and employee benefits	27	10.81	3.69	3.48	3.33	3.31	2.74	1, 2, 3, 4 > 5
30	Our mixed economy	59	5.93	2.49	1.69	1.77	2.66	2.31	1, 4, 5 > 2, 3
31	Techniques for shopping effectively	28	17.08	3.51	3.58	3.51	3.55	2.60	1, 2, 3, 4 > 5
32	Significant state consumer protection legislation	60	5.99	2.63	2.51	2.26	2.69	2.04	1, 2, 4 > 5
33	Conditions necessary for a consumer-directed economy	67	2.50	2.19	1.93	1.98	2.49	1.97	*--
36	Types of investment opportunities	30	3.17	3.14	2.40	3.02	3.15	3.02	1, 4 > 2
37	Financial implication of future travel and recreation	70	2.82	2.43	2.18	1.91	2.03	1.86	1 > 5
38	Financial considerations of further education	25	3.07	3.27	2.68	2.79	2.93	3.22	*--
40	Factors affecting investment decisions	39	3.76	2.85	2.27	2.95	2.76	3.01	5 > 2
42	Selection of clothing items	65	22.99	2.63	3.02	2.75	2.53	1.63	1, 2, 3, 4 > 5
43	Factors affecting advertising practices	64	26.48	2.74	2.70	2.43	3.07	1.67	1, 2, 3, 4 > 5
45	Types of banking services	23	5.80	3.81	3.20	3.16	3.25	2.95	1 > 5
47	Significant types of fraudulent practices	41	6.53	3.03	3.95	3.09	3.39	2.59	4 > 5
48	Computing costs of credit	9	4.10	4.10	3.56	3.30	3.51	3.36	1 > 2, 3, 4, 5
50	Selection of transportation	56	14.09	2.98	2.95	2.84	2.69	1.95	1, 2, 3, 4 > 5
53	Selection of housing	13	2.53	3.69	3.54	3.53	3.37	3.19	*--

LEVEL OF LEARNING (Continued)

Item number	Competency	Rank	Computed** F	Mean scores					Significant differences in means
				Business Education n=59	Home Economics n=62	Mathe- matics n=44	Social Studies n=59	Business Community n=319	
54	Responsibilities of sellers in the marketplace	52	2.61	2.66	2.58	2.55	2.55	2.34	4 > 5
56	Selection of food items	50	20.18	3.21	3.57	2.86	2.83	2.10	1, 2, 3, 4 > 5; 2 > 3, 4
57	Economic and societal factors affecting consumer purchases	63	7.56	1.92	2.29	2.09	2.76	1.92	4 > 3, 5; 1 > 5
58	Types of credit granting institutions	38	4.31	3.47	2.80	3.14	3.08	2.73	1 > 2, 5
59	Advantages and disadvantages of advertising	61	23.70	2.86	2.92	2.61	2.97	1.79	1, 2, 3, 4 > 5
60	Guidelines for planning purchases	31	5.48	3.36	3.30	3.11	3.22	2.75	1, 2, 4 > 5
61	Types of taxes	33	4.21	3.47	2.73	2.93	3.22	2.84	1 > 2, 5
63	Types of credit	15	6.76	4.02	3.41	3.11	3.39	3.08	1 > 2, 3, 4, 5
64	Guidelines for consumer behavior in relation to advertising	66	23.16	2.73	2.75	2.34	2.69	1.64	1, 2, 3, 4 > 5
65	Significant federal consumer protection legislation	62	3.80	2.42	2.42	2.09	2.61	2.05	4 > 5
66	Responsibilities of consumers in the marketplace	48	14.87	3.14	3.32	2.63	3.26	2.30	2, 4 > 3, 5; 1 > 5
68	Factors affecting cost of credit	21	2.57	3.64	3.29	3.25	3.31	3.07	1 > 5
70	Factors affecting credit selection	18	2.61	3.68	3.34	3.27	3.25	3.11	1 > 5

*While the F test determined a significant difference among groups, the Student-Newman-Keuls Procedure did not define where the differences existed.

**The level of significance was set at the .05 level and the critical region with four degrees of freedom for numerator mean squares and 539 degrees of freedom for the denominator mean squares was $F > 2.39$.