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Perceived barriers to implementing a distributive education competency-based learning system

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Perceived barriers to implementing a distributive education competency-based learning system

by

Roger Ditzenberger

A Dissertation Submitted to the
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CHAPTER I. INTRODUCTION

Background

The curriculum offerings of vocational education are many and varied, including agricultural, distributive, health, office, and trade and industrial education courses and programs. The purpose of distributive education is to provide instruction to prepare competent employees, managers, and owners for occupations in marketing and distribution. Since the early 1900's when distributive education began, teachers have attempted to develop an effective approach to planning and organizing curriculum and instruction so that their students could develop the knowledges, understandings, skills, and attitudes needed for gainful employment in distributive occupations.

Distributive education curriculum has historically been based on a subject matter or unit of instruction approach; determined in most cases by teachers utilizing textbooks or curriculum guides as their primary resource for curriculum planning and instructional development. The units of instruction incorporated into these subjects were frequently selected in an eclectic manner and in many situations it was difficult to demonstrate a supportive relationship between the units of instruction offered and the knowledges, understandings, attitudes and skills needed by distributive occupations personnel for successful employment.

In recent years, however, several forces have had a significant impact on the development, structure, and content of distributive education curriculum. A consensus of authors feels that forces affecting curriculum include: 1) the "behavioral revolution" revitalized in the

1960's; 2) the educational theorists advancement of a "learning systems approach" to curriculum and instruction; 3) increased legislative and societal pressures for accountability in educational program outcomes; 4) research studies utilizing business as a source for distributive education curriculum through task analysis; 5) research and development projects which have created curriculum and instructional materials for distributive education programs; and 6) increased in-service education offerings pertaining to distributive education curriculum and instruction. Even though many educators feel progress has been made in curriculum development in distributive education, most feel that curriculum changes are constantly needed to improve the quality of distributive education offerings. Teacher attempts to individualize instruction based on the career goals of the students have, in the main, been unsuccessful because of the complexity of the task and the hours needed by the distributive education teacher to develop the individual instruction materials.

In 1969, Ms. Lucy Crawford completed a comprehensive curriculum study, A Competency Pattern Approach to Curriculum Construction in Distributive Teacher Education. The study identified competencies needed by employees in seventy-six distributive occupations. Having identified the competencies needed for gainful employment in selected distributive occupations, the problem became how to use the competencies identified to develop a curriculum. The competency-based curriculum should assist the student in achieving two of the major goals of a distributive education program, to develop competencies needed for initial employment and to develop competencies needed for advancement in a distributive occupation. The competency pattern approach study to curriculum develop-

ment has shown educators that different competencies are required for different marketing occupations; therefore, the approach suggests a need for individually designed curriculum and instruction.

In June of 1971 a consortium of states including Alabama, Florida, Georgia, Ohio, Indiana, Iowa, Kansas, Kentucky, Washington, Wisconsin, and North Carolina was formed to develop a curriculum project for the improvement of instruction in high school and post-secondary distributive education programs. The project was called The Inter-State Distributive Education Curriculum Consortium (I.D.E.C.C.). The primary goal of the project was to develop learning activity packages that would provide a delivery system of learning activities through which students may develop the competencies identified in Lucy Crawford's study as necessary for employment in selected distributive occupations. The learning activity packages were written, field-tested, rewritten, and distributed to the distributive education teachers in the eleven states during the fall and spring semesters of the 1974-1975 school year. Each distributive education teacher received 500 learning activity packages.

The learning activity packages were written to provide distributive education teachers with the opportunity to utilize group or individual instruction. The subject areas in which students may develop competencies through the learning activity packages include: human relations, communications, math, selling, merchandising, operations, product and service technology, advertising, display, and management. Each learning activity package has a student section and a learning manager's section. The student section includes a pre-test for each behavioral objective,

behavioral objectives, and learning activities for each behavioral objective including group and self-contained individual instruction materials. The learning manager's section includes a guide sheet to explain what the teacher should do to direct each student learning activity, the post tests for each behavioral objective, the pre-test keys, and the post-test keys. (See Appendix A)

The competency-based learning system developed by the Inter-State Distributive Education Curriculum Consortium is an innovative approach which utilizes learning activity packages with all of the following components: competencies, behavioral objectives, group and individual instruction, pre-tests and post-tests, learning manager's guide, and pre-test and post-test keys. The learning systems approach and materials are new to almost all distributive education teachers in the field. The project is also innovative because it is the first curriculum project of its kind ever undertaken in distributive education with the possibility of being adopted by several states. The state directors of the project concur that implementing a system to effectively use the learning activity packages will require a change in the role of the distributive education teacher. To efficiently organize and direct this system, the teacher should become a "learning manager" or "manager of the learning process." A learning manager must systematically plan and organize his program curriculum, direct student learning activities utilizing a variety of instructional strategies, and evaluate, for improvement, the program curriculum and instruction.

Traditionally the process of change in education has been slow and arduous (40, p. 1). According to Rogers, the process of change consists

of three sequential steps: 1) invention; 2) diffusion; and 3) consequences (48, p. 7). The invention, the Inter-State Distributive Education Curriculum Consortium learning system has been developed and distributed to the teachers. The questions now become: how will the project be accepted by the distributive education teachers at the local program level and what impact will the project have on teacher effectiveness. Significant changes in vocational education will occur only when and if the teachers become aware of changes needed and subsequently incorporate them into their instructional programs. It is the teacher who decides what is taught and how it will be taught (21).

Considerable research has been completed in the area of diffusion of new ideas and new practices in agriculture, medicine, industry, and education. Research efforts in change orientation and adoption processes were initiated in the 1930's. The early studies dealt with farmers accepting new farming practices (49). The early research studies on the spread of new educational practices were attributed almost exclusively to Paul Mort. Since the 1930's Mort and his students have completed about 200 studies on change in schools. Most of Mort's studies, however, have pertained to the single factor of financial support of schools and its relationship to the adoption of innovations. The numerous studies completed in the area of adoption process have shown that change is a multi-variate phenoma (1, p. 2). Factors such as: situational variables surrounding the change process, individuals involved in implementing the innovation, and the characteristics of the innovation itself have been found to be related to receptiveness to change. Carlson (9, p. 241)

suggests that further research is needed to identify both the characteristics of individuals that relate to change orientation receptiveness and the individuals who are most likely to implement change in instructional programs. Russell (52) developed an instrument to measure the change orientation of teachers. Findings from Russell's study clearly indicated that the change orientation of vocational teachers is measurable. He suggested that:

> "in order to improve prediction of innovative behavior from change orientation scores, studies of perceived or situational factors which inhibit or facilitate innovative behavior need to be conducted " (52, p. 71).

Need for the Study

Certain factors contribute to the defense of this study. To-date approximately one million dollars has been invested in the curriculum project and very little research has been conducted to identify either teacher attitudes toward the system or the specific barriers which teachers feel inhibit the implementation of the Inter-State Distributive Education Curriculum Consortium learning system. The identification of perceived barriers to implementing the system should certainly aid in the continued development of the project as well as serve as a need assessment for future in-service education.

Russell (52) points out the need for the development of more effective strategies for the diffusion of educational innovations. Leaders in vocational education are unable, at the present time, to identify vocational teachers in all the disciplines who are receptive to change. Distributive education is no exception. There is a need in the field to

determine whether change orientation of distributive education teachers is a measurable characteristic. There is also a need to further determine if there is a relationship between a teacher's change orientation and perceived attributes of an innovation, as well as, situational variables associated with implementing innovative learning systems such as the Inter-State Distributive Education Curriculum Consortium project.

Generally speaking, there have been fewer research studies designed to investigate the properties of the innovations and the relationship of these properties with the rate of adoption. When one reviews the literature of diffusion research, he is impressed with how much effort has been expended in studying "people" differences in innovativeness (that is, in determining the characteristics of different adopter categories) and how little effort has been undertaken to analyze "innovation differences" (that is, in investigating how the properties of the innovation affect its rate of adoption). Rogers and Shoemaker (50, p. 168) report that:

> "there is only a limited number of diffusion investigations dealing with perceived attributes of innovations."

They further suggest that research on the perceived attributes of an innovation could be of great value to change agents seeking to base their strategies on diffusion research findings. Change agents could use the research findings to predict the reactions of their clients (consumers of the innovation) and perhaps modify the "packaging" of the innovation to make it more acceptable by the potential adopters.

Based on the aforementioned discussion, there appears to be a practical need for identifying perceived barriers to change and their

relationship to the change receptivity of distributive education teachers. The study may also become a source of useful information to determine the reliability of a change orientation instrument to measure the receptiveness to change of distributive education teachers. The instrument might then be used for future innovation diffusion processes.

Statement of the Problem

Researchers studying the acceptance of educational change have been able to achieve only a limited understanding of the variables affecting change. This lack of understanding on the factors relating to change is due in part to the limited number of studies which focus on the perceived attributes of an innovation and the barriers which relate to adopting that innovation. The problem to be investigated in this research project was to identify: 1) The attitudes of distributive education teachers concerning perceived barriers to implementing the Inter-State Distributive Education Curriculum Consortium learning system, and 2) the individuals most likely to receive and adopt change.

Purpose of the Study

Considerable time and money has been spent to develop, field-test, and provide in-service education for the Inter-State Distributive Education Curriculum Consortium learning system. The learning activity packages have been distributed to distributive education teachers in the eleven consortium states and several other states who have purchased the instructional materials for their distributive education programs. The board of directors of the consortium, at a meeting in May of 1975, voted unanimously to continue the combined states' effort and formulated a set

of by-laws for future efforts. The project to-date has not included any research on a national basis to either evaluate the attitudes of teachers concerning the use of learning activity packages or to identify barriers which may inhibit the teachers from using the system. This project is the first comprehensive curriculum and instruction system developed and field-tested in high school and post-secondary distributive education programs on a nation-wide basis. The system is considerably different than the traditional textbook approach to curriculum and instruction in distributive education. The primary purpose of this study will be to measure the attitudes of distributive education teachers concerning the Inter-State Distributive Education Curriculum Consortium learning system.

Hypotheses Tested

The following hypotheses are presented as a basis for testing the aforementioned purpose of the study:

Hypothesis 1: There is no significant difference in the mean attitude response of learning activity package writers and nonwriters toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

Hypothesis 2: There are no significant interactions among the attitudes of the learning activity package writers and nonwriters with age levels of distributive education teachers toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C.

learning system.

Hypothesis 3: There are no significant interactions among the attitudes of learning activity package writers and nonwriters with levels of teaching experience in present distributive education position toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

Hypothesis 4: There are no significant interactions among the attitudes of the learning activity package writers and nonwriters with levels of the amount of in-service education toward each factor in the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

Hypothesis 5: There are no significant interactions among the attitudes of learning activity package writers and nonwriters with levels of the number of students enrolled in the distributive education program toward each factor in the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

Hypothesis 6: There is no significant difference in the change orientation between the distributive education teachers who wrote learning activity packages and the distributive education teachers not involved in writing learning activity packages as measured

by the Russell Change Orientation Scale.

Hypothesis 7: There is no significant difference in the mean attitude response of the high change-oriented and low change-oriented distributive education teachers toward each factor in the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

Hypothesis 8: There are no significant interactions among the attitudes of learning activity package writers and nonwriters with high and low change-orientation teachers toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

Hypothesis 9: There are no significant interactions among the attitudes of high and low change-oriented teachers with age levels of distributive education teachers toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

Hypothesis 10: There are no significant interactions among the attitudes of high and low change-oriented teachers with levels of teaching experience in present distributive education position toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C.

learning system.

Hypothesis 11: There are no significant interactions among the attitudes of high and low change-oriented teachers with levels of the amount of in-service education received on the learning system toward each factor in the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

Hypothesis 12: There are no significant interactions among the attitudes of high and low change-oriented teachers with levels of the number of students enrolled in the distributive education program toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

Delimitations of the Study

The study was delimited in terms of the dimensions affecting adoption behavior of teachers. There are several factors which may be related to teachers accepting change. To measure a teacher's total pattern of functioning in adopting an educational innovation would be an overwhelming measurement task. The study was limited to the teachers' attitudes toward six barrier categories and fifty-four factors within the categories, a measure of the teacher's change orientation, and selected teacher characteristics as the factors relating to change.

Definition of Terms

Specific terms or phrases which were used in the study are defined as follows:

Adoption: a decision to make full use of a new idea as the best course of action available (50, p. 26).

Behavioral objective: a measurable statement of student performance.

Change agent: an individual who accepts the responsibility of advocating the adoption of an innovation.

Change orientation: an individual's predisposition or attitude toward change (53, p. 9).

Competency: a knowledge, attitude, or skill the student is to learn or develop.

Competency-based learning system: an organized approach to planning curriculum and directing learning activities utilizing competencies, behavioral objectives, pre-tests, learning activities, and post tests.

Diffusion: the a) acceptance b) over a period of time c) of some specific item, idea, product, or practice d) by individuals, groups, or adopting units, linked e) to a social structure, and f) to a given system of values or to a culture (29, p. 237).

Distributive education: A instructional program designed to meet the needs of persons who have entered or are preparing to enter a marketing occupation.

Early adopter: the category of adopters who adopt new ideas slower than the innovators but more rapidly than any other category of adopters (50, p. 181)

Educational change: the process of the acceptance and utilization of innovations by individual educational practitioners.

High change-oriented teachers: teachers who scored above the median on Russell's Change Orientation scale. This would include Roger's innovator, early adopter, and early majority categories.

Innovation: an idea, practice, or object perceived as new by an individual (50, p. 19).

Laggard: the category of adopters who are last to adopt an innovation.

Low change-oriented teachers: teachers who scored below the median on Russell's Change Orientation Scale. This would include Roger's late majority and laggard categories.

Perceived barriers: a factor viewed by the teacher as an inhibitor to adopting the I.D.E.C.C. learning system.

Vocational education: educational offerings designed to develop skills, abilities, understandings, attitudes, work habits, and appreciations, encompassing knowledge and information needed by workers to enter and/or progress in an occupation.

Summary

The process of change in education is slow and complicated. Numerous studies have been conducted on the change orientation process. Diffusion researchers suggest additional studies should be conducted to identify teachers who are receptive to innovative ideas, concepts and projects, and their perceptions concerning the barriers to adopting an innovation. Curriculum development is a value process which distributive

education teachers find time consuming and tedious. Curriculum is in a constant state of change and study. Competency-based curriculum development approach has demonstrated promise for determining program curriculum. This research was aimed at identifying both the teachers receptive to a systematic approach to distributive education curriculum and instruction and the variables perceived by teachers as barriers to implementing a competency-based learning system.

CHAPTER II. REVIEW OF LITERATURE

Introduction

Curriculum in distributive education is influenced by a number of forces. The content and structure of distributive education curriculums are responding dramatically to social, economic, educational, and occupational forces which reflect changes in America's concepts of education and work. National legislation and societal pressures have generated new approaches to curriculum organization. Revised priorities, new programs, and emerging concepts of distributive occupations require distributive education specialists to review and revise existing curriculum and create new approaches for preparing our youth for careers in marketing and distribution (15, p. 128).

The purpose of the study is to measure the attitudes of distributive education teachers concerning the adoption of a competency-based learning system, the Inter-State Distributive Education Curriculum Consortium. Because the study deals with attitudes of distributive education teachers toward adopting an innovative competency-based learning system, the author has undertaken an in-depth review of the literature pertaining to curriculum development in vocational education and studies pertaining to change orientation in education and the manner in which they relate to this study.

While distributive education is unique from other vocational offerings because its' primary purpose is to prepare students for careers in marketing and distribution, many of the theories and approaches advocated for developing curriculum have originated in other educational areas. Samson (55, pp. 79-80). asserted that much of the research on instruction

of value to distributive education is found in resources not directly associated with distributive education. Since the Inter-State Distributive Education Curriculum Consortium is a learning systems approach to curriculum development, the review begins with a study of the learning system's approach in education. The review also includes a study of learning systems approach to building vocational education curriculum, the Inter-State Distributive Education Curriculum Consortium learning system, and factors related to change orientation in education.

Theory of Learning Systems in Education

The term systems and systems approach emerged during and immediately after World War II as a result of research and development in problem solving, efficiency analysis, and most significantly, the development of complex man-machine systems (2, p. 2). Business and industry adopted the systems' approach when it implemented a management-by-objective approach popular in the middle and late 1960's. A system has three basic components: 1) a design or established arrangement of materials, energy, and information; 2) a purpose or objective which the system is designed to accomplish; and 3) inputs of materials, energy, and information allocated according to plan. The inputs are resources of various types made available to achieve the objectives. Outputs of a system would be the actual product attained by the system. Knezevich (34) defines the system's approach as the application of scientific methods, techniques, and tools involving the operations of a system with optimum solutions to the problem. Description of the systems approach as having inputs and outputs is provided by Borow (7). Borow advocates that task analysis and

job analysis may be involved in the systems approach. System analysis, according to Borow, follows these steps: a list of tasks is compiled, specific tasks are grouped optimally, a model may be developed, and simulators may be constructed.

To transform major system strategies into the domain of education requires that educators: 1) formulate specific learning objectives, 2) develop tests to measure the degree to which the learner has attained the objectives, 3) examine the input characteristics and capabilities of the learners, 4) identify whatever has to be learned so that the learner will be able to perform as expected, 5) consider alternatives from which to select learning content, learning experiences, components, and resources needed to achieve the stated objectives, 6) install the system and collect information from the findings of performance testing and systems evaluation, and 7) regulate the system (2). A survey of the contemporary education scene leads us to realize the presence of inadequacies in educational strategies mentioned above, however, considerable effort is presently being expended in many of the areas discussed as major system strategies. Systems-oriented educators are spending considerable time and effort in 1) stating educational objectives, 2) testing and evaluating their objectives, 3) receiving input from various societal resources, and 4) revising and updating the learning activities.

Educational theorists have recently developed curriculum models which contain many, but not all of the components of a system. One such model, the Ralph Tyler Curriculum Rationale, is a systematic approach to developing curriculum. This approach advocates that there are two main aspects to a learning system: curriculum and instruction. The curriculum

deals with determining the objectives of the educational systems or what to teach and the instruction deals with the means or how to teach. Figure 1 illustrates the steps of the Tyler Curriculum Rationale (62).

The sequence of the curriculum model is important. The curriculum planner first decides what to teach or the goals and objectives of the educational program and then decides which methods or learning strategies to employ. Tyler looks to three sources from which general tentative objectives are derived. The sources of curriculum include the students' needs and interests, societal sources such as businessmen or task analyses conducted of employees' positions, and the value judgments of teachers, the subject-matter specialists. The tentative goals derived from the three major curriculum sources, are then screened by means of ones' philosophy of education and psychology of learning principles. The goals or objectives which survive this screening are then stated precisely in terms of measurable learner behaviors.

These precise objectives serve as the curriculum component from which teachers should develop effective instructional means or learning strategies. The Inter-State Distributive Education Curriculum Consortium project utilized similar curriculum development procedures. These procedures will be discussed in detail later in this chapter. Having reviewed the literature for the use of learning systems in education, an in-depth study of how the learning systems approach may be used to build vocational education curriculum is now undertaken.

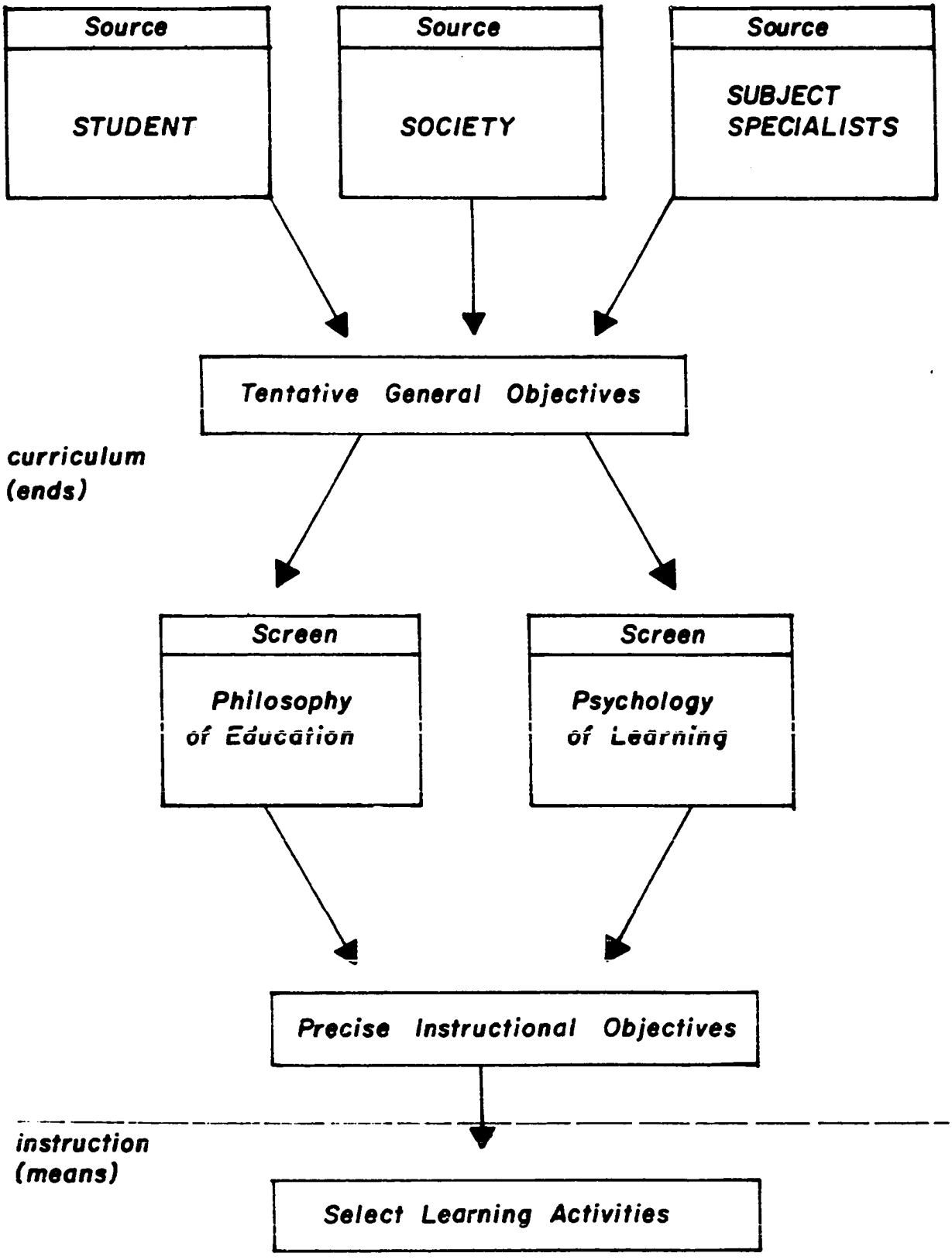


Figure 1. The Ralph Tyler Curriculum Rationale (62)

Learning Systems Approach to Building Vocational Education Curriculum

Researchers at several universities and other educational institutions have explored the feasibility of using the systems approach in some form for vocational curriculum building. The requirements of a systems approach are described by Welch (64) as including the: identification of tasks, breakdown of tasks into operations, determination of methods, training for performance of tasks, and control to see that the tasks are carried out. Mager and Beach (38, pp. 1-8) state that a systematic development of instruction involves detailed specifications of the desired result; development of procedures, lessons, and materials designed to achieve the specific result; and steps to insure the continual improvement of course effectiveness.

Tracey, Flynn, and Legere (61, p. 18-24) suggest that systematic thinking utilized to improve military training can be used to upgrade instruction in vocational education. The article points out that the systems approach, which attempts to combine human and material resources, requires a control model for proper management. The curriculum cycle starts by analyzing market needs and ends by evaluating the student after graduation. Coit (12) in a research project related to the Job Corps, reported that the systems approach involved the accurate identification of the requirements and problems, the setting of specific performance objectives, the application of logic and analysis techniques to the problems and the rigorous measurement of results compared with the specific performance objectives.

An innovative approach to curriculum has been described by Morgan and Bushnell (41). It was entitled the organic curriculum because it

called for radically changing the system in order to design an educational program which would be responsive to the present-day needs of students. Their educational learning system would include the determination of specific and measurable behavioral attainments needed for entry into a variety of post-high school activities, academic and occupational training, personnel development, real work experience, personal and vocational counseling, and social and recreational activities. The curriculum would result from an integration and interaction of these components. The curriculum would be learner-oriented, and each activity would be related logically to all other activities and lead to the attainment of behavioral goals. This systems approach, like most, would begin with a study of those behavioral attainments needed by the individual for entry into a variety of post-high school activities. An increased use of the systems approach is being used in curriculum building. While some institutions are just discovering the implications of the learning systems to curriculum development others are evaluating and refining their efforts.

A curriculum model developed by Erickson in 1970 utilized a learning systems approach to improve the curriculum content of high school office education programs. To reach this goal, the author advocated that an office education curriculum must be relevant to the world of work and changing office occupational requirements. The curriculum, according to Erickson, should be aimed at preparing youth in office education programs for entry-level office jobs. The content of the curriculum, therefore, would be job performance knowledges, attitudes, and skills in contrast to the acquisition of subject matter knowledge. The objectives of the

curriculum should be geared to occupational requirements. The curriculum building process would be initiated with an occupational analysis. Figure 2 illustrates Erickson's model for improving the content of office education programs.

Although the model was developed for use by an office occupation program, the design is applicable to all vocational disciplines. The major goal of any vocational program is to equip students for successful employment (19, p. 208). To reach this goal, the occupational area has to be analyzed to determine the competencies needed by the employee for gainful employment.

The curriculum development model should therefore begin with an occupational analysis to identify what a person actually does on the job. The second step in the occupational analysis would be to indicate the frequency of performance of each task listed under the occupational analysis. The final process to complete the occupational analysis is to list the key steps of what is done for each task. This aids the curriculum developer to identify content in terms of the knowledges, attitudes, and skills the student needs to develop or learn. Samson (54), Carmichael (10), and Ertel (20) conducted task analysis studies in retailing occupations to identify competencies as a base for vocational curriculum development for distributive education programs. The learning system investigated in this study identified curriculum content from task analysis completed by Lucy Crawford and research associates.

The knowledges, attitudes, or skills are stated so they specify a student performance or what the student is expected to do when he has

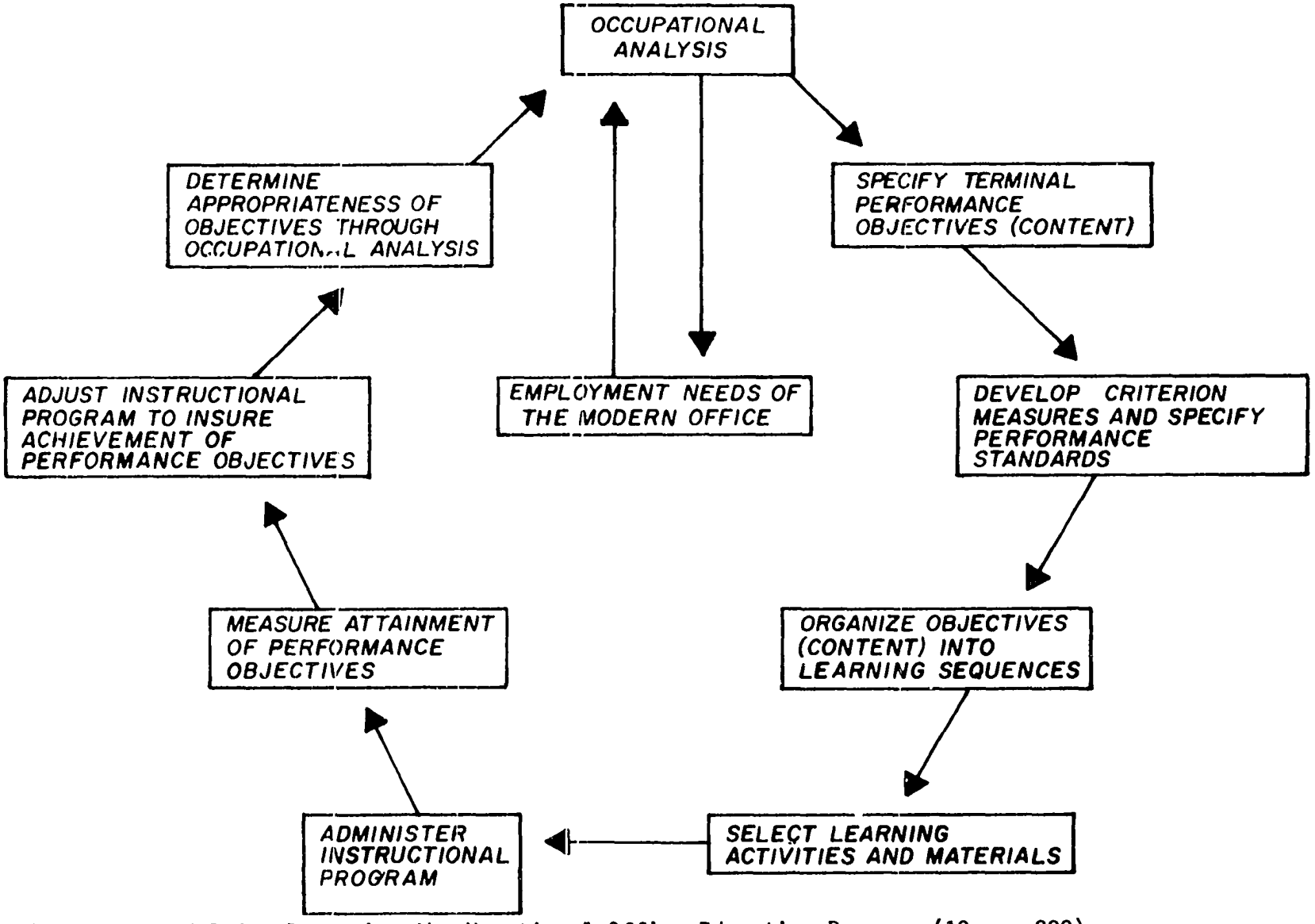


Figure 2. Model for Improving the Vocational Office Education Program (19, p. 209)

completed the instruction. Morrison (42) argues that:

> "A curriculum based upon an analysis of the "performance capabilities" desired of students is the proper basis for all curriculum development and/or improvement. The specification of terminal performance capabilities is essential to development of relevant, effective, efficient vocational curricula" (42, p. 23).

The performance objective, in addition to stating the student performance, also states the conditions under which the performance will occur, and a minimum performance standard. Each behavioral objective in the Inter-State Distributive Education Curriculum Consortium contains all three components.

The next step in Erickson's model involves sequencing the objectives into some order. The objectives may first be divided into ones which may be developed through classroom instruction and others which may best be developed through the on-the-job training phase of a vocational program. Mager and Beach (38, pp. 59-61) suggest six useful methods for the effective sequencing of instructional materials:

1) From general to specific. This approach shows the student the overall picture and then covering the specific details in sequence.
2) Interest sequencing. This approach calls for beginning the unit with information that interest the students the most. Mager suggests placing the more interesting units among the less interesting units.
3) Logical sequencing. Some units should be taught as prerequisites to more difficult units.
4) Skill sequencing. This approach involves sequencing the skill

competencies or task in the order of their degree of difficulty.

5) Frequency sequencing. The development of those skills first which the employee uses most often.

6) Total job practice. This approach advocates that the student have an opportunity to practice or train for the total job rather than just fragmented parts.

Educational taxonomies developed by Bloom and Krathwohl served as useful guides for logical and skill sequencing of activities within the I.D.E.C.C. learning activity packages.

The next step in Erickson's model is selecting learning activities and materials. If the curriculum is stated in terms of student performance, as suggested by Morrison, learning activities will be based on the performance objective. The learning activity selected will be based on the premise that it best provides the activity through which the student may achieve the performance objective. Popham (46, pp. 15-20) recommends five basic principles for the selection of appropriate learning activities:

1) Appropriate practice. The first and most important principle is that the student must have an opportunity to practice the behavior implied by the performance objective.

2) Individual differentiation. The teacher should attempt to differentiate instruction according to the ability, interest, or prior achievements of students. The principle suggests that the students engage in an activity differentiated on the basis of the individual learning potential and not just group or independent study. Pre-tests were developed for each behavioral

objective within the I.D.E.C.C. learning activity packages so that students could "test out" of objectives already acquired.

3) Perceived purpose. The learning activity selected should clearly allow the student to see the purpose or value of the activity. Research evidence indicates that students who see a real purpose in learning something will learn it better.

4) Knowledge of results. According to this principle, the student should know whether or not his responses are correct. This knowledge of results should be given quickly as possible, preferably during the same class period.

5) Graduated sequence. Learning activities should be sequenced from simple to complex so that the activities become progressively more difficult.

Administering the instructional program is the next step in Erickson's model. Factors important to administering an efficient instructional program include administrative philosophical and financial support as well as a well-organized and dedicated teacher. Because vocational programs often include on-the-job training phase, business community support is also essential.

Erickson's seventh step for improving the curriculum was to measure the student's attainment of performance objectives. This is an important step in curriculum improvement because it focuses on the relationship of stated objectives of the program with the actual objectives fulfilled by the students. The purpose of competency-based curriculum is for students to develop the knowledges, attitudes, and skills needed for initial and

gainful employment. This step provides a means of evaluating student performance as well as the goals established by the teacher. If the students achieve all the goals, the teacher may want to either raise the performance standards of the goals or simply add more goals. In vocational programs, evaluation items for students should be performance-oriented, requiring the student to demonstrate performance-related skills rather than traditional paper and pencil test items. Performance objectives should be evaluated as closely as possible to the way in which they would be evaluated in the actual work situation or business. Foley (22) supported this viewpoint when he determined that job task performance tests must be used in place of pencil and paper tests. The two questions which measure the effectiveness of the program are: 1) How well did students achieve each of the stated performance objectives for the course? and 2) How well did student performance compare with the level of performance called for in the criterion measures or standards specified for each performance objective?

The eighth step in the model involves making adjustments in the instructional program to insure achievement of the performance objectives. According to Erickson, if the performance objectives were not achieved by the students, adjustments in the program need to be made. The teacher may need to alter the student performance objectives, the learning activities, or evaluation procedures. Bloom (6) stated that 9 out of 10 students could learn what we have to teach them if provided with appropriate learning activities and an adequate amount of time to learn. Bloom further recommends that students be provided a close teacher-

student instructional relationship, that students be provided with the opportunity to learn at their own pace, that students be given a variety of alternative learning activities, and that they receive immediate feedback on their performance.

The last step in Erickson's model is to determine the appropriateness of the performance objectives. This includes determing whether or not the objectives acquired in the course are actually those needed for successful performance in the chosen occupation. Measuring the effectiveness of an instructional program is truly difficult. Educators often disagree on the purposes of a vocational program. Is the purpose only to develop occupational competence and preparation for the world of work or should the program provide a general education component. All of education suffers from the lack of ability to measure teacher effectiveness or what the student learned. Procedures advocated to measure the effectiveness of a vocational program include personally interviewing graduates of programs two to five months after they have been on the job to determine if the competencies acquired through instruction benefit him in performing effectively at work. Other approaches may include interviewing student's new work supervisors and ask them appropriate questions about the student's work or having an advisory committee evaluate the instructional program.

Reports of research findings and other literature reviewed provided background information for curriculum building. The following model illustrates the commonalities of various authors' concepts of a learning systems approach in curriculum development in education.

CURRICULUM

Step 1 Determine Program Goals	Step 2 Develop Competencies	Step 3 List Behavior Objectives	Step 4 Sequence The Objectives
Coit (12) Ditzenberger (16) Erickson (19) Mager-Beach (38) Morgan- Bushnell (41) Popham et al. (45) Tyler (62)	Ditzenberger (16) Erickson (19) Morgan- Bushnell (41) Popham et al. (45)	Coit (12) Ditzenberger (16) Erickson (19) Knezevich (34) Mager-Beach (38) Morgan- Bushnell (41) Popham et al. (45)	Ditzenberger (16) Erickson (19) Mager-Beach (38) Morgan- Bushnell (41) Popham et al. (45)

Figure 3. Common Elements of a Learning System

	INSTRUCTION		
Step 4 Sequence The Objectives	Step 5 Select Learning Activities	Step 6 Evaluate Student Objectives	Step 7 Add And Revise Competencies
Ditzenberger (16) Erickson (19) Mager-Beach (38) Morgan- Bushnell (41) Popham et al. (45)	Ditzenberger (16) Erickson (19) Mager-Beach (38) Morgan- Bushnell (41) Popham et al. (45)	Coit (12) Ditzenberger (16) Erickson (19) Foley (22) Knezevich (34) Mager-Beach (38) Morgan- Bushnell (41) Popham et al. (45) Tracy et al. (61) Tyler (62)	Ditzenberger (16) Erickson (19) Knezevich (34) Mager-Beach (38) Morgan- Bushnell (41) Popham et al. (45)

The Inter-State Distributive Education Curriculum Consortium project was undertaken to develop a competency-based learning system to improve instruction in distributive education programs. The learning system was developed to utilize most, if not all, of the elements described in Figure 3. In an article entitled Managing D.E. Learning Systems, Ditzenberger (16, p. 29-30) outlined the steps which a high school distributive education teacher should follow in developing and managing a learning system utilizing the Inter-State Distributive Education Curriculum Consortium materials. Figure 4. Functions of a D.E. Learning Manager illustrates the components of the innovative distributive education learning system.

Inter-State Distributive Education Curriculum Consortium Learning System

The learning system for this study was initiated to develop a systematic approach for providing instruction to prepare students for specific careers in marketing and distribution. The curriculum base of the learning system was the competencies identified in the Lucy C. Crawford Study. The study was an extensive research effort from 1965 to 1967 to identify the competencies needed by students who would enter occupations in marketing and distribution. The purpose of the research study was to identify competencies needed by employees in 76 marketing occupations in the following institutions or areas: department stores, food stores, hotel/motels, restaurants, service stations, variety stores, and wholesaling. The results of her study were disseminated at a national seminar at Virginia Polytechnic Institute and State University in August of 1968. Enthusiasm and support for her research led to a meeting

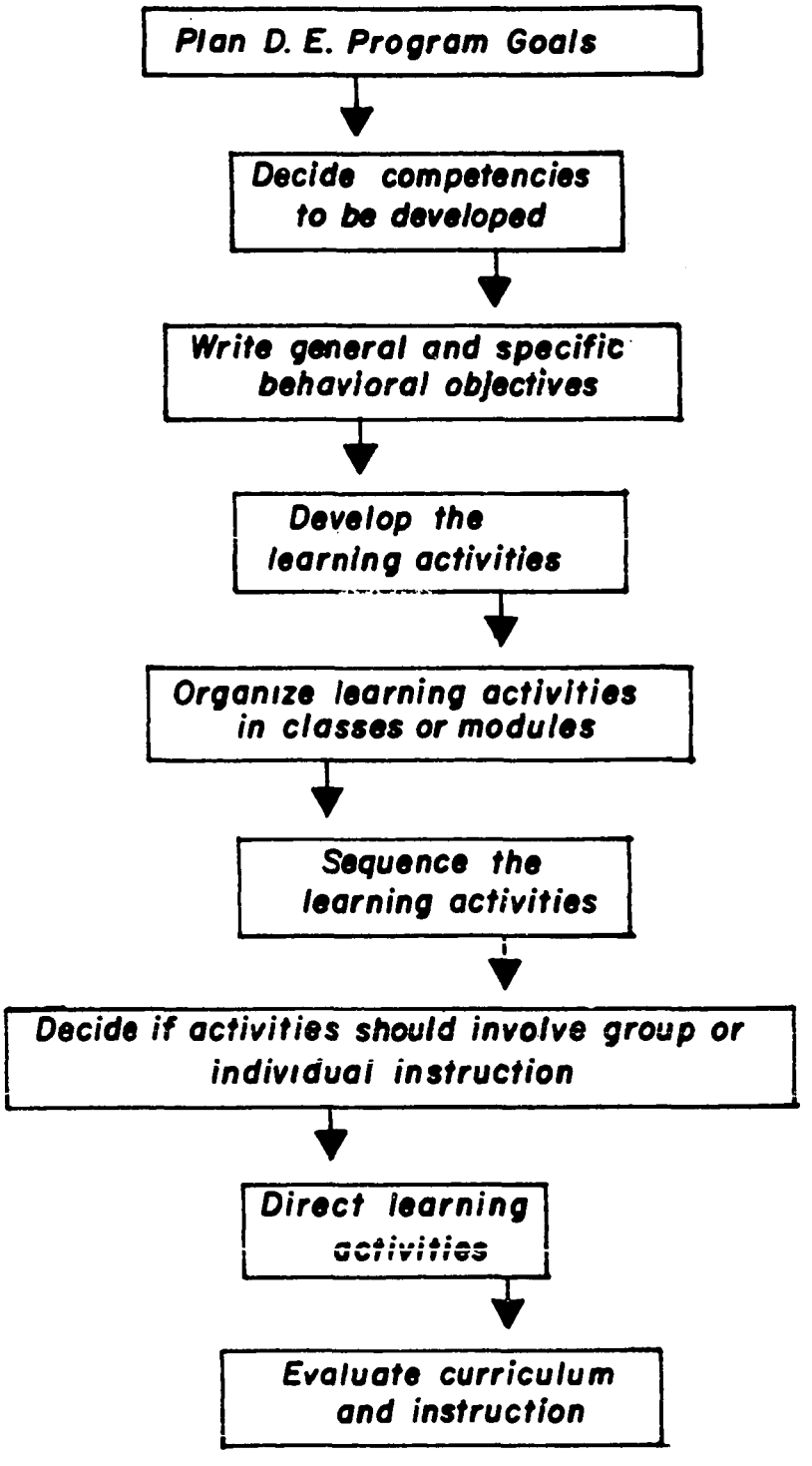


Figure 4. Functions of a D.E. Learning Manager

of distributive education personnel from Wisconsin, Florida, and Washington in the summer of 1971 to discuss the possibility of developing a learning system based on the competencies identified in the Crawford Study. Following the original meeting, additional states were asked to participate in a curriculum consortium effort to develop instructional materials to provide learning activities to fulfill the identified marketing competencies.

The next meeting of the consortium of states was held in November of 1971 in Madison, Wisconsin. Eleven states had now joined the curriculum effort and the project became known as the Inter-State Distributive Education Curriculum Consortium. The directors of the project were one person from the department of public instruction and one distributive teacher educator from a state university in each consortium state. During the November meeting in Madison and a December meeting in Portland, Oregon, considerable time and effort was devoted to establishing the theory, rationale, and format for the learning system to be developed.

The actual development and writing of the learning activity packages began in the spring of 1972. Each state in the consortium was assigned one or more of the major curricular areas identified in the Crawford Study. Since 983 competencies were identified in the task analysis of the 76 marketing occupations, each state was assigned approximately one hundred competencies to develop into learning activity packages. The areas assigned to each state included:

Alabama	Product and Service Technology
Florida	Advertising
Georgia	Management
Indiana	Human Relations

Iowa	Selling
Kansas	Merchandising
Kentucky	Display
North Carolina	Mathematics and Communications
Ohio	Operations
Washington	Selling
Wisconsin	Communications

Preliminary work on the learning activity packages was completed in each of the states by the end of the summer of 1972. Another national consortium meeting was held at which the directors from each of the states developed criteria to evaluate teacher and student attitudes toward the value of the learning activity packages for classroom use. It was decided that three instruments would be used to evaluate the learning activity packages during the field test. The three instruments were a teacher questionnaire, a student questionnaire, and a student/class analysis chart. The teacher questionnaire measured each field-testing teacher's attitudes toward the value of the competencies, behavioral objectives, learning activities, pre-tests and post-tests, test keys, and general impression of each learning activity package. The student questionnaire was completed on each competency and gathered information about students' attitudes toward the directions, learning activities, objectives, and difficulty of each learning activity package. The third field-test instrument, the student/class analysis chart, gathered information about progress of students on each competency. Its purpose was to compute how much time students spent on each competency and the percentage of students that passed each post-test. (See Appendix B for a copy of each of the instruments used in the field-test.)

Distributive education teachers then field-tested the learning activity packages assigned to their state. The learning activity packages

were field-tested in the fall of 1972 and the spring of 1973. The results of the field test on each competency in all the learning activity packages was returned to the original writers in each of the eleven states. The learning activity packages were then rewritten with revisions based on the results of the field-test with 6800 high school students. The final revised learning activity packages were completed in the summer of 1973 and they were printed through the national consortium office in the fall of 1973 and spring of 1974. Distributive education teachers in the eleven states received their final shipment of learning activity packages in the spring of 1975. One of the learning activity packages in the Inter-State Distributive Education Curriuclum Consortium is provided in Appendix A.

Workshops to provide in-service education for distributive education teachers have been conducted in all of eleven consortium states and a National Workshop for the Inter-State Distributive Education Curriculum Consortium was conducted in Chippewa Falls, Wisconsin in June of 1973. The in-service education workshops provided basic knowledges and understandings about the system, curriculum development procedures on implementing the system, and activities on using the learning activity packages. The workshops conducted were normally one or two weeks in duration and included in-service education on many of the following topics:

I. The Inter-State Distributive Education Curriculum Consortium
   A. What is I.D.E.C.C.?
   B. Where and why was it developed?
   C. Features of the I.D.E.C.C. learning system.

D. Common misconceptions about I.D.E.C.C.

E. What curriculum areas are and are not in the learning system.

F. Benefits of the learning system.

II. Planning and Organizing Curriculum in Your Program

A. The role of the "D.E. Manager."

B. How to plan your distributive education curriculum using the computer.

C. How to organize your distributive education curriculum using I.D.E.C.C.

D. How to organize a filing system for the learning activity packages.

E. Duplicating I.D.E.C.C. materials.

F. How to use the master resource list.

III. Directing Learning Activity in Your D.E. Program

A. Explaining the system to the students.

B. Career Counseling.

C. The basic components of the learning activity packages.

D. How to use each section of the learning activity packages.

E. The student competency record form.

Factors Related to Change Orientation in Education

Change as a phenomenon in our society is not new. History is full of documented analyses of change in both the social and technological area. Man is living in a period that is characterized by the single constant of change. Most authors on change agree that we are beyond debating the inevitability of change. They agree that the major constant

is the tendency toward movement, growth, development, progress, i.e., change (3). The contemporary view of change places major concern on the question of how best to control and direct the forces which influence change rather than whether to change or not to change (3, p. 31).

Understanding the process of change is currently one of education's most perplexing problems. Education has often been criticized for the excessive time required to adopt new ideas, practices, and programs. Part of this educational lag has been a result of resistance to change from many sources. During the past two decades, a considerable amount of attention has been placed on attempting to determine how educational change occurs. Rogers (48), Miles (40), Havelock (23), Rogers and Shoemaker (50), and Corwin (13) have provided models and theories to explain the process of educational change. Even with all of the available literature concerning educational change, there is still a large gap between models and theories and the empirical evidence to validate educational change concepts. There have also been many studies in education concerned with the causes and effects of change as well as those which focus on identifying change agents. However, Tardanico in his analysis of those studies revealed that very little data is available that identifies those individuals most likely to receive and adopt change (60, p. 22).

Early studies in the acceptance of educational innovation were conducted almost exclusively by Paul Mort. Since the 1930's, Mort and his students have conducted about 200 studies of the "adaptability" of public schools. Carlson (9, p. 9) in analyzing these studies suggested

that they dealt with a single measure of adopter characteristics--the level of financial expenditure. Carlson (9, p. 11) conducted research on programmed instruction, team teaching, foreign language labs, foreign language instruction in elementary grades, and accelerated programs in secondary schools in Allegheny County, Pennsylvania and West Virginia from 1958 to 1963. The data on which the studies were based consisted mainly of 1) the dates on which the innovations were adopted (if they were adopted) by selected schools systems, 2) characteristics of the superintendents, including a) personal characteristics, b) habits of communication, and c) positions in the social structure of superintendents, and 3) characteristics of innovations. A comparison of the data from the study of the acceptance of various innovative practices points out that adoption performance on one innovation is not necessarily a reliable predictor of adoption performance on another innovation or several other innovations. Carlson found that adoption behavior is a multi-variate phenomenon and it may change from innovation to innovation. He further states that change and rate of acceptance of a new practice depends on 1) the characteristics of the adopting unit, 2) the way the adopting unit is joined to communication channels and sources of information, and 3) the position the adopting unit holds in the social structure of like units. Adamsky (1, p. 103), in a study of the effects of situation variables on the adoption of behavioral objectives by vocational trade and industrial teachers, also found educational change to be a multi-variate phenomenon. Lippitt (37, pp. 310-311) views the forces of resistance to change as dependent on the characteristics of the practice itself; the physical arrangement of the school; the social

structure and authority system of the school; and the attitudes of teachers as being significant in facilitating or impeding change.

It therefore seems apparent that there are many aspects of teaching, the innovation, and the situation surrounding the proposed adoption of an educational innovation which may effect the rate of change to adopt the innovation. Kester and Hull (30), in conducting research for The Diffusion Strategies Program at The Center for Vocational and Technical Education at The Ohio State University, conclude that the process of educational change consists of three basic elements and various interactions between those elements. The elements are 1) the innovation (an idea, product, or practice perceived as new by the teacher), 2) an advocate (the individual, group, or organization suggesting the change), 3) a consumer (the individual, group or organization who is intending to use the innovation), and 4) time. These elements are seen in a dynamic relationship with one another and change can be considered as any measurable consequence of the interaction between these elements. Figure 5 illustrates the elements and possible interactions which may occur in the Kester and Hull (30, p. 3) model. The elements of the model and their interactions were used in this study to develop the perceived barriers to implementing the Inter-State Distributive Education Curriculum Consortium learning system attitude scale.

The innovation

The first element, the innovation, is the idea, product or program which is not now being used by at least some individuals in a given school setting. Innovations consist of two subsets of characteristics: 1) types

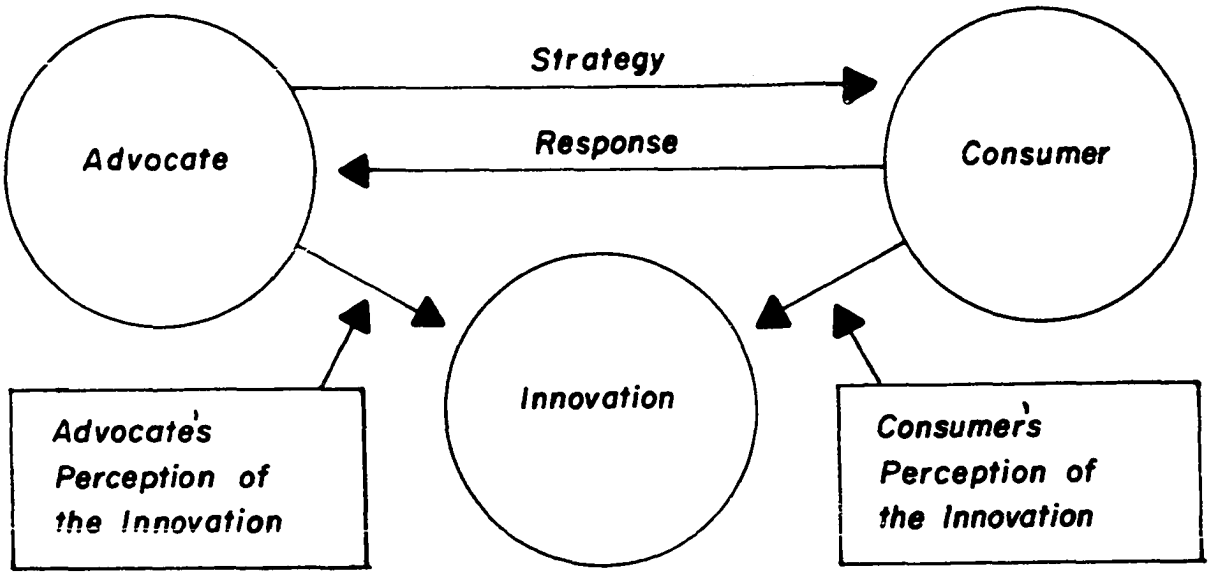


Figure 5. Basic Change Framework (30, p. 3)

and 2) perceived attributes (67). There are three types of innovations: an idea in the form of a written or verbal comment; an instructional package, instructional tool, or management product which can be used independently of several individuals in order for it to function properly. The innovation for this study, the Inter-State Distributive Education Curriculum Consortium learning system, may be categorized as an instructional package and/or instructional system depending on how much of the system is implemented.

Perceived attributes of the innovation

The second characteristic of the innovation, the "perceived attributes" of that innovation, can be observed and discussed under several categories. Kester and Howard (29) categorized the attributes of an innovation in terms of dimensions of the innovation as viewed by the consumers. They identified six specific categories of "perceived attributes". The first category of perceived attributes of the innovation is the degree to which the purpose and content of the change are seen as relevant to the needs of the consumers. For the purposes of this study, the attribute involves the attitudes which the distributive education teachers hold toward the content of the learning activity packages and the relative value of the learning system to distributive education students. The factors which may facilitate or inhibit adoption of the learning activity packages include: are the learning activity packages easy to understand and are the format and materials sequenced properly, is the reading level of the materials too high or too low, are record-keeping procedures adequately designed, are the directions in the learning activity packages clear and easy to follow, and do the materials relate to the students' on-the-job training phase of the program. Reynolds (47, p. 2659-A) and Koppes (35, pp. 3738-3838-A) in studies of teachers adopting educational changes found that lack of teacher knowledge of an innovation was an impeding factor in adopting practices of junior and senior high school teachers in Illinois. Switzer (59, p. 4720-A) in a study of the factors associated with adoption and rejection of an innovative one-semester sociology course found a positive relationship

between a teacher's belief that the sociology course reduces the gap between theory and practice in education and adoption of the course for the curriculum.

Perceived need for additional resources

The second category of "perceived attributes" of an innovation, according to Kester and Howard (29), is the extent to which adopting the innovation requires additional resources. Additional resources which may be needed to implement the Inter-State Distributive Education Curriculum Consortium include administrative financial support for supplies, equipment, books, and other reference materials. Time to study the learning activity packages, prepare group or individual instruction, and set up a file system to house the learning activity packages may be factors which inhibit the adoption of the system. Resource personnel needed for clerical duties and recordkeeping may also be factors which teachers perceive as inhibiting for using the system. Reynolds (47, p. 2659-A) in an aforementioned study concluded that among significant factors impeding innovation in 45 Illinois junior and senior high schools was the lack of adequate funds to purchase supplies and equipment to implement the new program. Cawelti (11), like many studies on adoption of educational innovations, found that cost appeared to be the major retarding factor in many of the 10,000 high schools he studied. Williams (65, p. 4026-A) found that per pupil expenditure was one of several variables related to the adoption of a cooperative agricultural occupations curricula. Koppes (35, p. 3838-A) in a study involving 179 administrators and teachers in seven Catholic high schools in California, found that lack of time was

one of the most consistent reasons for not implementing educational innovations.

Perceived value of the innovation

A third "perceived attribute" is the degree to which the innovation contains values which are perceived as contrary to the values of the potential adopting teacher. The values critical to this study pertain primarily to the teacher's perceptions of the value of the learning system for curriculum and instruction purposes for distributive education programs. Questions which relate to the value of the innovation in this study include the distributive education teacher's perception of the value of competencies as a program curriculum base, the value of individualized instruction, the value of providing instruction based on career objectives, the value concerning how de-humanizing is the systems approach, and the value of behavioral objectives and learning activity packages. In the study conducted by Reynolds on innovations which had been adopted in Illinois junior and senior high in 1967-1968 and 1968-1969 school years, it was found that teachers' resistance to change was the major inhibiting and also the most important factor contributing to the adoption process. Stahl (58, p. 2672-A) in a study of 225 Florida teachers' attitudes toward the adoption of behavioral objectives found that the more favorable perceptions the teachers held toward the characteristics of behavioral objectives, the greater the probability of adopting behavioral objectives.

Perceived value of teacher reference groups

"Consumer rating report" is a fourth perceived attribute of an innovation. This attribute involves the value that teacher reference groups place on the innovation. The manner in which fellow distributive education personnel value the learning activity packages exemplifies this attribute for the current study. The distributive education teacher attitude may be effected by how they feel fellow teachers, state supervisors or teacher-educators and local administrators accept the learning activity packages and learning systems approach. Rogers and Svenning (51) state that schools are slow to change due partially to decisions made on the basis of authority and little is done to give teachers support they need to adopt new practices. The social structure of the school effects a teacher's personality, attitudes, and communications behavior. Group norms, according to Bice (5) and Kievit (32), also effects an individual's behavior. The manner in which the teacher perceives the attitudes of his reference group directly relates to his adoption behavior. Adamsky (1, p. 102) concluded that vocational trade and industrial teachers who have not adopted the practice of using behavioral objectives can be influenced to adopt this practice by convincing them that their reference group values the practice. It has been amply documented that advice and information sought from peers play a large role in the decision to adopt innovations (9, p. 46).

Perceived credibility of the innovation

The fifth "perceived attribute" relates to the credibility of the innovation. This attribute involves the teachers' respect for the

individual and the organization who produced and are proposing the adoption of the innovation. In the current study, this involves the distributive education teachers' attitudes toward the state directors of the project and the distributive education personnel providing the in-service training for the project. Teachers may feel that additional in-service training may be needed to plan, implement, and use the learning system in their distributive education program. Reynolds (47) found that in-service education had not contributed to the adoption of innovative practices in Illinois schools studied.

Perceived need for organization change

The last of the "perceived attributes" suggested by Kester and Howard concerns the extent to which organizational changes are required to use the innovation. Reynolds (47, p. 2659-A) found that schools were more inclined to adopt changes that effected only parts of a system rather than innovations which changed the system completely. New practices that can be tried on a limited bases are more often adopted than those which cannot be tried (50, p. 155). Here it seems only necessary to point out that, as an innovation, the Inter-State Distributive Education Curriculum Consortium learning system does not call upon the school system and teachers to provide a completely new service or teach a new subject. The innovation is a new approach to ordering and teaching an established part of the curriculum. To adopt the learning system a school system would need to provide additional educational supplies and resources and have the teachers receive some in-service

training on how to use the system. The teachers may use the total system or any part of that system on a trial basis.

The advocate

The second element of the conceptual framework associated with the adoption process is an individual or group which is suggesting or supporting the use of the innovation. These individuals are usually called advocates. Advocates for the present study included the state consortium directors, distributive education state supervisors, and teacher educators who were responsible for planning and developing the learning activity packages for the learning system. Advocates may also include local school administrators.

The consumer

The third element in the framework is the individuals who are intended to use the innovation. These individuals are referred to as consumers. The consumers in this study were the high school distributive education teachers in the states who received a complete set of the learning activity packages and their distributive education students. Most of the early studies dealing with change in education dealt with the superintendent of schools as the principal change agent. For example, Brickell (8, pp. 22-24) stressed the importance of the school superintendent in his survey of change processes in the state of New York. He felt that in order to disseminate new types of instructional programs, it would be necessary to convince administrators of their value. Havelock (23, p. 8) however, lists a number of individuals in education

who might act as a change agent. Included in his list is the teacher who may serve as a change agent. Effler (18, p. 3602-A) found a significant difference between administrator perception of needed change and what teachers perceive as necessary changes. Therefore, it seems extremely important to study teachers' perceptions since they are at the apex of the curriculum and instruction process. Marx (39, p. 2649-A) in a study of educational innovations in Iowa and Reynolds (47, p. 2659-A) in Illinois found teachers were clearly the major proposers of curriculum types of innovations. Classroom teachers, by the nature of their position in the instructional process, can exert great influence on the actual implementation of any new instructional approach or program. The teachers' resistance to change has been established as a part of the total resistance and opposition to innovative methodologies and instructional programs. Since some teachers seem to accept change with few concerns and others reject even the slightest deviation from present procedures, it would appear that there are personal traits and characteristics that influence teachers to align themselves with or fail to accept the change. Factors relating to the consumer which may effect the degree of teacher acceptance of the innovation include the teacher's age, teaching experience, education, teacher's orientation to change, teacher's confidence in his own ability to use the learning system, and the teacher's perception of the student as a barrier to using the learning system. Teacher confidence factors for this study include his perceptions of his ability to: plan the curriculum utilizing a computer printout, direct individualized learning activities, counsel students to effectively use the

activity packages, counsel students for career objectives, explain the system to administrators for support, develop evaluation procedures, and devise a usable filing system. Teachers may also perceive students as barriers to implementing the system if they feel the students may not adapt to utilizing individualized instruction, or the students are not self-directing enough to initiate and complete a learning activity package.

Numerous studies have been conducted to identify personal characteristics and traits of teachers involved in educational change. Russell (52); Yegge (66, p. 3649-A); Hawkins (24, p. 4410-A); and Zimmerman (68, p. 6462-A) conducted studies to identify the personality characteristics and school-related perceptions that differentiated innovative teachers from noninnovative teachers. They found that age was directly related to teacher innovativeness and that younger teachers have been found to adopt new practices more quickly than older people. Hawkins (24, p. 4410-A), Edwards (17, p. 2203-A), Zimmerman (68, p. 6462-A) also found a positive relationship between years teaching experience and teacher's receptivity to change.

A teacher's orientation to change is a dynamic characteristic which has been found to be related to adopting new practices. Russell (53) and Rogers and Shoemaker (50, pp. 183-185) have given considerable theoretical support to the existence of five categories of adopters. A summary of the five types of adopters according to Rogers and Shoemaker (50) is provided below:

> Innovators: "These individuals are characterized by their venturesomeness." They try new ideas, have varied interests, communicate

with a wide spectrum of individuals and develop patterns of communication with other innovators. They also desire "the hazardous, the rash, the daring, and risky" (50, p. 183).

Early Adopters: "The key term that identifies the early adopter is respectability." Unlike the innovator, he is more closely associated with his local social system. The early adopter is considered an opinion leader, is respected by his peers, and is considered the "local missionary for speeding the diffusion process." (50, p. 184).

Early Majority: "Individuals in this category adopt new practices before the average, but are seldom in leadership positions. Be not the last to lay the old aside, nor the first by which the new is tried, might be the motto for the early majority. They follow with deliberate willingness in adopting innovations, but seldom lead" (50, p. 184).

Late Majority: "These individuals are characterized by their skepticism. Their motivation to adopt comes from such external sources as economic necessity and peer or general social pressure. They are very cautious and wait to adopt until they are sure there is no other reasonable alternative" (50, p. 184).

Laggards: Individuals in this category are traditionalists. Their "point of reference". . . is the past. They are extremely suspicious of any change" "(50, p. 185).

The literature search has shown in many situations a need for developing validated and reliable methods for identifying individuals who are change-oriented. Earl B. Russell (53) developed an attitude-based instrument to measure the change orientation of vocational teachers. The instrument known as the Change Orientation Scale (COS) consisted of 21 items derived through factor analysis from a pool of over 2,500 items. Russell found that vocational teachers who had high scores on the change orientation scale adopted significantly more educational practices than those with low scores. Russell's scale has evidenced reliability factors in the range of .81 to .91. A high degree of concurrent validity was claimed since the scores of a population of 4,750 subjects were found to correspond to scores on other measures such as the Rokeach Dogmatism

Scale, the McClosky Conservatism Scale, the Rotter Internal-External Control Scale, and the Dye Local-Cosmopolitan Scale. Russell's COS did significantly discriminate between adopters and nonadopters. Later use of Russell's COS Change Orientation Scale by Adamsky (1) and Tardanico (60) supported results obtained by Russell on the instruments ability to differentiate high change-oriented teachers from low change-oriented teachers. Williams (65) found a positive relationship between vocational agriculture teachers' innovativeness and their willingness to adopt cooperative agricultural curricula in a study conducted in 32 Oklahoma public high schools. This research study has used the COS to further validate the findings of Russell.

It should be noted that these three elements of the adoption process, the innovation, the advocate, and the consumer are consistent with basic theoretical discussions of learning theory, theories of attitude change (26, pp. 358-374), and extensively used in communications theories such as Schramm (56) and Berlo (4). The reasons for this are that the process of educational change is considered a subset of all human interaction and involves the basic interaction processes such as learning, attitude change, and communications.

Interaction of the three elements: situational work factors

Once the innovation, the advocates, and consumers are identified the process of change can further be explained as an interaction process. The interaction occurring between the advocates and the consumers concerning the adoption of the innovation. The interaction in this study would involve the in-service training workshops organized and directed by

the advocates, teacher educators and states supervisors in distributive education teachers in the participating states. During the transactions and interactions between the advocates and consumers numerous factors have potential influence on the adoption process. These factors are often referred to as situational factors.

Situational or circumstantial factors may also include the organizational arrangements which surround the adoption of the innovation. For the purposes of this study, organizational arrangements included the philosophical support provided by local school administrators, departmental approval of the systems approach, number of students enrolled in the program, and distributive education program facilities and schedule. Kievit (32) in a study of home economic teachers found a significant relationship between a teacher's willingness to adopt an innovation and their perception of the school's support of the innovation. Kievit also sought to determine how teachers perceived their reference group in terms of adopting the practice of including wage earning activities within a home economics course. Kievit found that the home economics teachers who adopted the wage earning approach had significantly higher scores on a scale which measured their school's supportiveness to change than teachers who did not adopt the wage earning approach. Adamsky (1) sought to determine the relationship of the teacher's perception of their schools, supportiveness to change to using behavioral objectives and that teacher's adoption of behavioral objectives. Adamsky's study did not support the relationship found by Kievit between a schools' perceived support to change and the willingness to adopt the practice. He reported

no significant relationship between a teacher's perceived support by the school system for the change and the teacher's adoption rate. Reynolds (47, p. 2659-A) in this study of receptiveness to innovations by Illinois junior and senior high school teachers concluded that among significant situational factors related to a teacher's change receptivity to innovation was the school principal's support and cooperation. Williams (65, p. 4026-A) found a positive correlation between the number of students enrolled in a vocational agriculture program in Oklahoma and the teachers willingness to adopt a cooperative approach to curriuclum development.

Summary

Several forces in the last decade and a half have served as catalysts for curriculum change. Distributive education, like many disciplines in education, is experiencing curriculum change. The systems approach to developing curriculum and instruction in distributive education has received considerable attention and experimentation. The Inter-State Distributive Education Curriculum Consortium project was developed as a competency-based learning system utilizing learning activity packages to provide group or individualized instruction for student competency development.

The purpose of this study is to measure the attitudes of distributive education teachers toward adopting the innovative learning system. This chapter provided a review of previous research efforts conducted on the adoption of innovations. The review provided the essential elements with which the purpose of the study can be carried out. Russell's

efforts provided an instrument to measure the change orientation of distributive education teachers. Rogers and Shoemaker provided an excellent review and synopsis of innovation diffusion research conducted in the past few decades. Carlson, Kester, and Howard provided conceptual frameworks to identify variables which relate to the adoption of an innovation. The variables included the perceived attributes of an innovation, the advocates of the innovation, the consumers of the innovation, the situational factors surrounding the environment in which the innovation is being adopted, and the interactions of the previously mentioned variables.

The next chapter will explain in more detail how these categories were used to establish the structure and design of the study.

CHAPTER III. METHODS AND PROCEDURES

Sources of Information

This study resulted from a need to understand distributive education teachers' attitudes toward planned change through a comprehensive, competency-based learning system. Considerable time, effort, and money had been spent in the development of the Inter-State Distributive Education Curriculum Consortium Project to improve instruction in high school and post-secondary distributive education programs. The learning activity packages were well-received by some distributive education teachers and not so well-received by other distributive education teachers. Inability to understand teachers' rationale for not accepting the innovative learning system led to this research study.

The study began in November of 1974 with a review of literature in the area of innovation, change, and curriculum development in vocational education. Initially the libraries of Iowa State University and the University of Northern Iowa were used for the review of literature. The literature review began with an ERIC search conducted through the Iowa State University library.

A list of descriptor words was developed to conduct an in-depth search of Abstracts of Instructional Materials (AIM), Abstracts of Research Materials (ARM), Current Index to Journals in Education (CIJE), and Dissertation Abstracts International. A periodical literature search was also conducted using the Business Education Index, Education Index, and the Reader's Guide to Periodical Literature. Copies of dissertations needed for review were obtained through Xerox University Microfilms of

Ann Arbor, Michigan. Two visits to the Center for Vocational and Technical Education located on the Ohio State University campus in the spring of 1975 provided an opportunity to visit with vocational education personnel who had conducted previous research efforts in educational change. Dr. Earl B. Russell of the Center provided information and data on studies which had been conducted in change orientation. These materials were both timely and very valuable in conducting the study.

Selection of Population

The population for the study consisted of all distributive education teachers who would receive a complete set of the 500 learning activity packages developed for the Inter-State Distributive Education Curriculum Consortium Project. Each director of the eleven original consortium member states and two additional states were asked to participate in the study. The directors were either asked to participate personally at a National Directors' meeting in the spring of 1975 or through a telephone call the same week. Eight of the original states: Alabama, Florida, Georgia, Ohio, Iowa, Kansas, Washington, and Wisconsin participated in the study. Missouri and Pennsylvania, because they purchased multiple copies of the learning activity packages for teachers in their states, were also invited and decided to participate in the study. The total number of distributive education teachers receiving a complete set of learning activity packages in the 10 states in the sample was eleven hundred and six.

A list of teachers who had written learning activity packages for the curriculum consortium project was obtained from each state director.

The teachers were asked to complete the questionnaire at the distributive education teacher summer coordinator conferences in the ten states. A letter was utilized to obtain responses from distributive education teachers from Missouri and Pennsylvania. (See Appendix C) This method was used because time was not available on these teachers' summer distributive education conference program to conduct the survey. A second follow-up letter was then sent to distributive education teachers who had not responded to the first letter. Each mailing included the questionnaire, a cover letter, and a self-addressed, stamped envelope. Six hundred and thirty-nine returns had been received after the second follow-up letter. Four of the returned questionnaires were not usuable. The six hundred and thirty-five usuable responses represented a fifty-seven per cent return.

Data Gathering Instrument

This study was designed to analyze the attitudes of distributive education teachers toward change receptivity and perceived barriers to implementing the Inter-State Distributive Education Curriculum Consortium (I.D.E.C.C.) learning system.

A questionnaire was developed to measure or assess the perceptions of distributive education teachers toward a curriculum and instructional innovation. The following steps were undertaken in developing the questionnaire:

1) The purposes, objectives, and specific hypotheses were clearly stated.

2) Information was sought from teachers to better understand their perceptions of potential barriers to implementing the learning system.
3) Review of literature was conducted to identify previous research findings concerning real and perceived barriers to change.
4) An expert jury panel was used to develop the perceived barriers section of the questionnaire.
5) Field-testing was undertaken to determine item clarity and time needed to complete the questionnaire.

The questionnaire was developed to gather information concerning demographic data to develop a profile of distributive education teachers who are receptive to change, the change orientation of distributive education teachers, and the perceived barriers to implementing the I.D.E.C.C. learning system. The final instrument (See Appendix E) contained three sections:

I. Demographic data
II. Change Orientation Scale
III. Perceived barriers attitude scale

Demographic data

The first section, consisting of seven items, was designed to gain background information on the distributive education teachers who had received a set of the I.D.E.C.C. learning activity packages. The review of literature illustrated that numerous demographic factors had been used in previous research studies. Tardanico (60) had developed a demographic

descriptive scale based on factors that were frequently used in change-orientation studies.

A jury panel selected demographic factors which would provide appropriate information to request and collect from each distributive education teacher. The jury panel consisted of six members of the executive board of directors and three state directors of the I.D.E.C.C. project. Data which the jury panel thought should be collected from each distributive education teacher included the teacher's age, state in which the teacher operated the distributive education program, years experience in present distributive education teaching position, teacher's involvement in the development of the learning activity packages, number of days of in-service training to use the I.D.E.C.C. learning system, and the number of students enrolled in the teacher's distributive education program. This information was elicited by direct questions which made up the first section of the questionnaire. The purpose of the demographic data sought in this study was to provide information to make comparisons between the attitudes of learning activity package writers and nonwriters categorized by levels of age, years teaching experience in present distributive education teaching position, days in-service training to use I.D.E.C.C., and number of students enrolled in the D.E. program. The demographic information would also allow comparisons to be made between the attitudes of high and low change-oriented distributive education teachers among the various levels of the same demographic factors.

Change Orientation Scale

The second section of the questionnaire was Russell's Change Orientation Scale. The scale was developed in 1971 to measure the change orientation of vocational teachers. The Change Orientation Scale was developed from a pool of over 2,500 items down to a 21-item measure. The scale was developed through surveying 125 vocational teachers in each of 38 states, totaling 4,750 subjects. A high degree of concurrent validity was claimed since the scores were found to correspond to scores on other measures of change orientation such as the McClosky Conservatism Scale, the Rotter Internal-External Control Scale, the Rokeach Dogmatism Scale, and the Dye Local-Cosmopolitan Scale. The change orientation scale has evidenced reliability factors in the range of .81 to .91 utilizing the Kuder-Richardson Formula 8 (53).

Each of the 635 distributive education teacher's change orientation score was obtained summing all the teacher's responses to the 21 items in Section II. A five choice Likert scoring scale was used for the teacher's response to the items in this section. A response indicating "strongly agree" was scored 1, a response of "agree" was scored 2, a response of "undecided" was scored 3, a response of "disagree" was scored 4, and a response indicating "strongly disagree" was scored 5. The change orientation scale developed by Russell was found to discriminate between teachers who were adopters and those who were nonadopters Russell (52), Adamsky (1), and Tardanico (60) have all utilized adoption categories established by Rogers and Shoemaker (50). These studies found that adoption behavior or the innovativeness of individuals is a normally

distributed characteristic. Figure 6, Adopter Categories, illustrates Rogers and Shoemaker's (50) categories of adoption behavior.

For the purposes of this study, the adoption categories were combined into two categories: high change-oriented teachers and low change-oriented teachers. Because responses of "strongly agree" were scored 1 and "strongly disagree" were scored 5, the distributive education teachers in this study whose summed score on all 21 items was below the median were more receptive to change and were categorized as high change-oriented teachers. The teachers whose summed score was at or above the median were less receptive to change and were categorized as low change-oriented teachers. The smaller the summed score on all 21 items on Russell's Change Orientation Scale, for the purposes of this study, reflects a more positive attitude toward change. Figure 7, illustrates the adopter categories used in this study. Russell found that vocational teachers categorized as high change-oriented according to his scale had adopted more new educational practices than teachers categorized as low change-oriented. He also found that vocational teachers who were highly change-oriented had more favorable attitudes toward using behavioral objectives, were more often younger, and had less teaching experience. Russell also recognized the fact that adoption behavior is dependent upon situational factors and therefore recommended that research be done to determine the real and perceived barriers within a vocational teacher's environment which could inhibit or facilitate innovative behavior. The next section explains how the perceived barriers attitude scale was developed for this study.

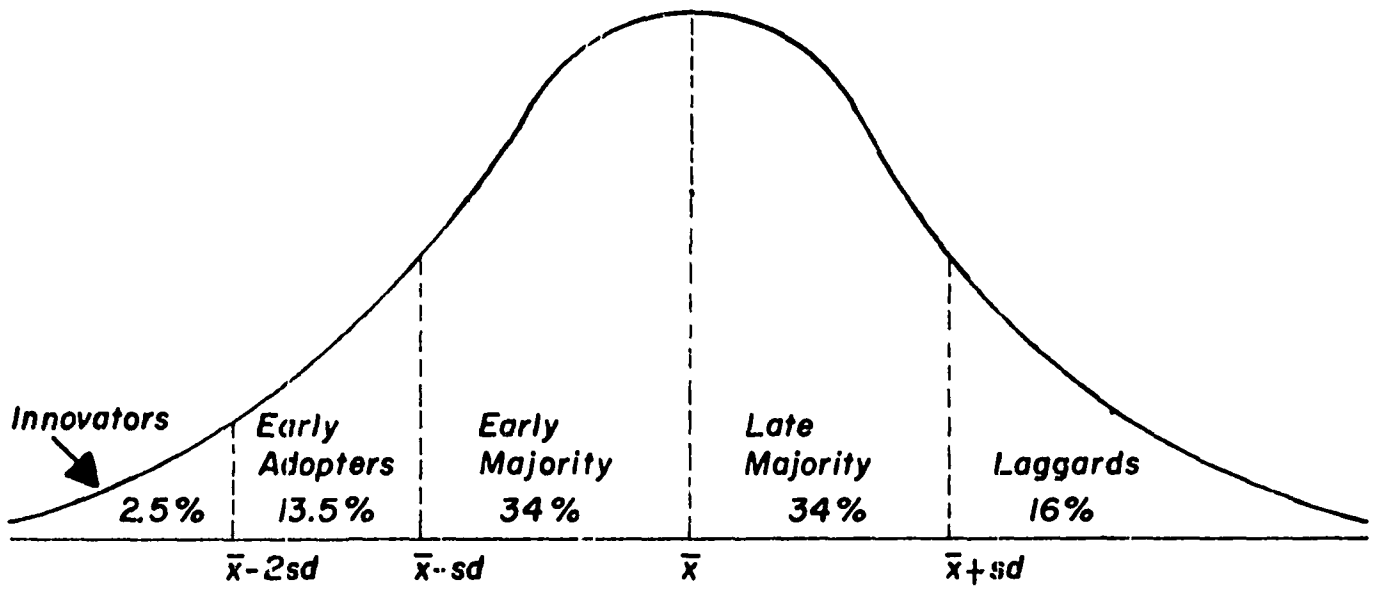


Figure 6. Adopter Categories (50, p. 182)

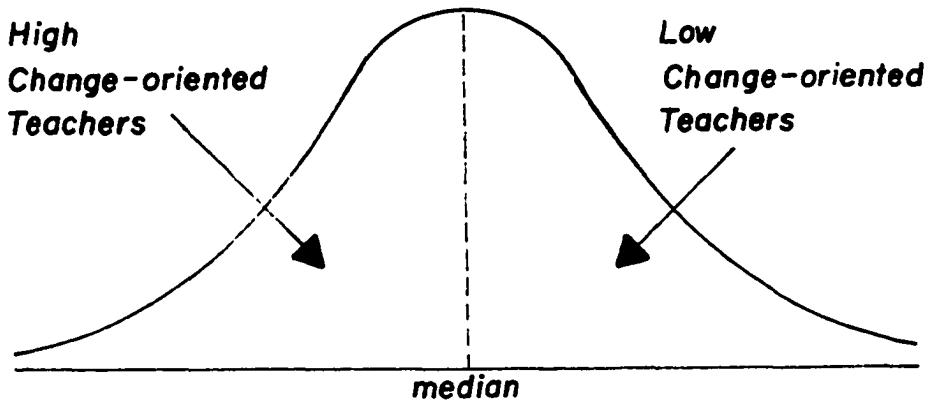


Figure 7. Adopter Categories for this Study

Perceived barriers attitude scale

The last section of the questionnaire, the perceived barriers attitude scale, was developed to measure the attitudes of distributive education teachers toward factors which may inhibit the adoption and use of the I.D.E.C.C. learning system. This scale was developed utilizing the following procedures:

1) Teachers attending in-service training workshops were asked to identify any questions, concerns, or problems they might have in implementing the system.
2) A panel of four distributive education teachers were asked to read attitude statements for clarity and comprehensiveness.
3) A jury panel consisting of the executive board of the I.D.E.C.C. project was asked to read the attitude statements for clarity, comprehensiveness, and for the purpose of combining items into categories.
4) A field test of the instrument was conducted to determine item clarity and time needed to complete the questionnaire.

The first procedure for developing the perceived barriers attitude scale was to obtain input from distributive education teachers concerning potential barriers to implementing the I.D.E.C.C. learning system. Distributive education teachers were asked to express any questions, concerns, or problems they thought they might have in implementing the Inter-State Distributive Education Curriculum Consortium learning system. The following list is a composite of the major concerns distributive education coordinators expressed in workshops in Iowa, Washington, Missouri, Wisconsin, Pennsylvania, Georgia, Alabama, and Florida in the summers of 1974 and 1975.

1) Can the teacher phase the system into his current approach or teaching strategy?
2) Is the computer-printout too complicated to use to plan your D.E. program curriculum?
3) Will grading and evaluation procedures be accepted by administrators?
4) Is the instruction based too much on the career objectives of each student?
5) How does the teacher provide instruction for occupations not included in the system?
6) Will the learning activity packages bore the student?
7) How do I file all these materials?
8) Is the paperwork and bookkeeping too time consuming for the teacher?
9) How do you decide when to use the learning activity package for individual instruction?

10) Does the system really work?

11) Does the teacher have enough time to plan and use the system correctly?

12) Can we get the resource materials needed to use the system?

13) Will the materials be up-dated periodically?

14) Will the teacher have enough copying supplies to use the materials?

15) Will the teacher have enough time to study the materials?

The next step in developing the perceived barriers attitude scale was to transpose the teachers' concerns into attitude statements. Four distributive education teachers were than asked to evaluate sixty-three attitude statements for clarity or understanding. The attitude statements were then revised based on the teachers' evaluations. If three of the four teachers judged the items as clear, the items were submitted for rating to the jury panel. The teachers were also asked to revise or suggest additional items which might be considered barriers to implementing the system. Although the teachers did not eliminate any attitude statements, they did make suggestions on how to write some attitude statements with more clarity.

A jury panel of six members of the executive board of I.D.E.C.C. was used to make the final decisions on: the items to include in the perceived barriers attitude scale and the comprehensiveness of the items critiqued. The jury panel was provided a list of sixty-three attitude statements. They were asked to rate each item using the following rating scale: 5--very appropriate as a potential barrier; 4--appropriate as a potential barrier; 3--some appropriateness as a potential barrier;

2--little appropriateness as a potential barrier; or 1--not appropriate as a potential barrier. If an item received an average score of 4.0 or higher, it was included in the final instrument. The jury panel rated fifty-four of the sixty-three attitude statements 4.0 or above. (See Appendix D for the evaluation form used by the jury panel.)

The jury panel was also asked to cluster the fifty-four items under one of six categories determined by the researcher after an in-depth review of the literature on factors which appear to facilitate or inhibit the adoption of an educational innovation. The six categories of perceived barriers included: 1) attributes of the learning system, 2) need for additional resources, 3) value of the innovation, 4) need for in-service training, 5) the consumer, and 6) situational work factors. See Appendix D for jury panel's clustering of the perceived barriers to implementing and using the I.D.E.C.C. learning system.

The final perceived barriers attitude scale used in Section III of the questionnaire included the jury panel's fifty-four attitude statements. The attitude statements pertained to perceived barriers to implementing the I.D.E.C.C. learning system. A five choice Likert scale was also used for scoring the teachers' responses to each of the attitude statements. A strongly agree response was scored 1 and a strongly disagree response was scored 5. Twenty-five of the attitude statements were written in a positive manner and twenty-nine of the statements were written as barriers. In order to report all the items as barriers, the teachers' mean responses to the items stated in a positive manner were subtracted from six. The statements could then be worded in a negative manner as a barrier to implementing the I.D.E.C.C. learning system.

Data Treatment Analysis

The following procedures were utilized to answer the research questions in this study:

1) The null hypotheses were written.
2) The statistical tests were determined.
3) The significance level for rejecting the null hypotheses were determined.
4) The statistical tests were computed for each hypothesis.
5) The hypotheses were either rejected or failed to be rejected on the basis of the probability level supported by the statistical tests.

Since the hypotheses have already been stated in Chapter I, this section will begin with the manner in which the statistical tests were determined. The data collected from the distributive education teachers was compared to analyze differences between sample means. The hypotheses were written to compare teachers' mean scores on a perceived barriers attitude scale between writers and nonwriters of learning activity packages, high change-oriented teachers and low change-oriented teacners, and teachers categorized by various levels of demographic variables. The statistical tests were determined after considering the hypotheses, the chosen sample statistic, and the assumptions concerning the population distributions.

The sample of 635 distributive education teacher respondents was derived from a population of 1106 distributive education teachers who had received a set of the I.D.E.C.C. learning activity packages in 10

states. Having elicited responses from a large number of teachers of similar experience, the assumption of normality was made. Ostle provides justification for the assumption of a normal distribution through the central limit theorem:

> "If a population has a finite variance of 2 and mean u, then the distribution of the sample mean approaches the normal distribution with variance 2/n and mean u as the sample size n increases" (44, p. 72).

The assumption of a normally distributed population was used for this study. Rogers and Shoemaker (50) states that adopter distributions follow a bell-shaped curve over time and approach normality. This is important because the normal frequency distribution has several characteristics which are useful in classifying adopters. One of these characteristics is the median of the sample. The median was used in this study to differentiate between high change-oriented and low change-oriented teachers. Teachers who scored at or above the median on the 21-item Russell Change Orientation Scale in section II of the questionnaire were classified as low change-oriented teachers. Teachers who scored below the median on the scale were classified as high change-oriented teachers.

In the hypothesis which compared learning activity package writers and nonwriters, selective sampling procedures were utilized. The sample for the study was composed of 635 distributive education teachers. Since there were 523 nonwriters and 112 writers in the sample of distributive education teachers, systematic sampling procedures of nonwriters was utilized to obtain equal n between writers and nonwriters. The first step in systematic sampling was to select a number from a table of random

numbers. Then every fourth nonwriter was selected from the list to obtain the systematic sample of 130 nonwriters.

The data collected by the questionnaire was coded to language for Statistical Analysis System (S.A.S.) and Statistical Package for Social Science (S.P.S.S.). Multivariate regression analysis was first computed to determine the statistical significance of overall differences among dependent variables. The Wilks' (lambda) statistic was computed to determine significant differences among group variables clustered within the perceived barrier categories of: 1) Innovation; 2) Need for additional resources including equipment, supplies, reference materials, time, and clerical assistance; 3) Value of the innovation as perceived by the teacher and teacher reference groups; 4) Need for in-service training; 5) Consumer categories of teachers' confidence in own ability and students as a barrier; and 6) Situational work factors including school organization and administrative support. The generalized formula used to compute the Wilks' statistic was:

$$\Lambda = \frac{|W|}{|T|}$$

where W= the matrix within sums of squares and cross products and T= the matrix of the total sums of squares and cross products (28, pp. 356-358). The translation of the Multivariate Λ to the F statistic was accomplished through the following formula:

$$F = \frac{1 - \Lambda^{1/s}}{\Lambda^{1/s}} \cdot \frac{ms - v}{t(k-1)} \quad \text{where:}$$

Λ = Wilks' lambda

N = total number of cases

t = total number of dependent variables

K = number of experimental treatments

$$s = \sqrt{\frac{t^2(K-1)^2 - 4}{t^2 - (K-1)^2 - 5}}$$

$$v = \frac{t(K-1)-2}{2}$$

$$m = \frac{2N - t - K - 2}{2}$$

This statistic was analyzed to determine the statistical significance of the dependent variable interactions. Those variable interactions found significant as a group were further analyzed through univariate analysis. The S.A.S. program for analysis of variance by regression was used for all the univariate computations.

The convention of using the .05 and .01 levels of significance were utilized in determing the significance of all statistical results obtained by calculation of the multivariate and univariate analysis tests of mean differences. To reject the null hypothesis, at least four Multivariate F tests of mean differences in attitudes toward barrier categories had to yield significant F values. The teachers had to have significantly different attitudes toward four of the six categories tested to reject the null hypothesis of no differences in attitude toward perceived barriers to implementing the I.D.E.C.C. learning system.

Summary

This study was initiated in November of 1974 as a result of the researcher's inability to understand teachers' rationale for not accepting and using an innovative learning system. A considerable amount of time and money had been spent in developing the I.D.E.C.C. learning system and the investigation was conducted to identify the perceived barriers which would inhibit the adoption of the learning system by distributive education teachers. The initial planning of the study and review of literature was conducted in the libraries of Iowa State University, the University of Northern Iowa, and the Center for Vocational Technical Education at Ohio State University.

The sample for the study was distributive education teachers from ten states who had received a set of the five hundred learning activity packages developed for the I.D.E.C.C. learning system. Six hundred and thirty-five distributive education teachers completed a three-part questionnaire developed to gather data concerning the distributive education teachers' attitudes toward barriers to implementing the I.D.E.C.C. learning system.

The questionnaire was developed utilizing a jury panel and field-tested with distributive education teachers before final utilization with the study sample. The three sections of the questionnaire were developed to provide background information on the respondents, to measure each distributive education teacher's orientation to change, and to measure the distributive education teachers' attitudes toward barriers to implementing the I.D.E.C.C. learning system. The first

section of the questionnaire provided the background information on the distributive education teachers. This information was utilized to establish levels of demographic factors to allow attitude comparisons of teachers categorized by levels of age, teaching experience, involvement as a writer or nonwriter, days of in-service training on I.D.E.C.C., and number of students enrolled in the D.E. program. The second section of the questionnaire contained Russell's Change Orientation Scale which consists of twenty-one items to measure the teacher's change receptivity. The Change Orientation Scale was used to discriminate between high and low change-oriented distributive education teachers. Further comparisons could then be made between the attitudes of high and low change-oriented distributive education teachers toward barriers to implementing the I.D.E.C.C. learning system. The third section of the questionnaire contained fifty-four attitude statements relating to barriers to implementing the I.D.E.C.C. learning systems. The fifty-four barrier statements were used as the dependent variables for eleven of the twelve null hypotheses of the study.

The data collected by the questionnaire were coded utilizing Statistical Package for Social Science (S.P.S.S.) and Statistical Analysis System (S.A.S.) programs. Univariate analysis was conducted to test attitude differences between teacher groups toward each of the fifty-four barrier factors. Multivariate regression analysis utilizing the Wilks' lambda statistic, was conducted to test attitude differences between teacher groups toward each of the six barrier categories to implementing the I.D.E.C.C. learning system.

CHAPTER IV. FINDINGS

The results of the analysis of the data collected for this investigation are presented in this chapter. The primary purpose of this study, as stated in Chapter I, was to measure the attitudes of distributive education teachers concerning the Inter-State Distributive Education Curriculum Consortium learning system. The questionnaire was completed by 635 distributive education teachers in ten states. Table 1 illustrates the number of completed questionnaires received from teachers in each of the ten states participating in the study.

Table 1. The number of questionnaires returned by teachers in each state

State	Number of Returned Questionnaires
Alabama	84
Florida	81
Georgia	45
Iowa	58
Kansas	36
Missouri	36
Ohio	179
Pennsylvania	40
Washington	41
Wisconsin	35
Total	635

The format to report the findings is to restate each hypothesis, show the tables for the statistical tests for each hypothesis containing significant differences, and explain the findings. Based on previous research efforts and theoretical constructs dealing with the adoption of innovations, teachers' attitudes toward six categories of barriers were

studied. The categories of potential barriers were the attributes of the learning system, the need for additional resources, the value of the innovation, the consumer, the need for in-service education, and situational work factors. The 54 attitude statements which the teachers responded to in section three of the questionnaire are grouped into the six aforementioned potential barrier categories. The findings for each hypothesis pertaining to teachers' attitudes toward perceived barriers to implementing the I.D.E.C.C. learning system are presented by category. Each table represents the perceived barrier category and the factors in that category. The findings are reported so that comparisons between the attitudes of learning activity package writers and nonwriters are presented and then comparisons between the attitudes of high change-oriented distributive education teachers and low change-oriented distributive education teachers are presented. The last section of the chapter contains a report of all the distributive education teachers attitudes toward each of the fifty-four perceived barriers to implementing the I.D.E.C.C. learning system. The teacher's composite mean attitude response and standard deviation will be reported for each of the fifty-four factors.

Comparisons between Learning Activity Package Writers and Nonwriters

Hypothesis 1: There is no significant difference in the mean attitude response of learning activity package writers and nonwriters toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

Attributes of the learning system as perceived barriers

Table 2 illustrates the responses of the distributive education teachers who wrote learning activity packages and those not involved in writing learning activity packages toward attitude statements about the attributes of the I.D.E.C.C. learning system as perceived barriers. Although there were no significant differences in the mean attitude scores of the two teacher groups, it is interesting to note that the writers had more positive attitudes toward the learning activity package format. The writers' mean attitude score was 3.71 compared to the nonwriters' mean attitude score of 3.52 on the format as a barrier.

Table 2. Comparison of the mean attitude responses of learning activity package writers and nonwriters toward attributes of the learning system as barriers to implementing the I.D.E.C.C. learning system.

Attribute of the learning system	Learning Activity Package Writers (Means)	Nonwriters (Means)	F value	Significance level
L.A.P. Format	3.71	3.52	1.49	.22
Length and sequence	2.80	2.86	.11	.74
Reading level:				
Too low	3.13	3.18	.10	.75
Too high	3.59	3.50	.33	.57
Need for recordkeeping	2.99	3.02	.02	.88
L.A.P. directions	3.43	3.42	.007	.93
Materials which relate to on-the-job training	3.39	3.38	.01	.92
Repetition in format	3.31	3.12	1.42	.23

Resource needs as perceived barriers

Table 3 provides a comparison of the attitudes of learning activity package writers and nonwriters toward resource needs as a barrier to implementing the I.D.E.C.C. learning system. The learning activity package writers were less concerned than the nonwriters about the financial support they had received for copy equipment and copy paper to make

Table 3. Comparison of the mean attitude responses of learning activity package writers and nonwriters toward the need for additional resources as perceived barriers to implementing I.D.E.C.C.

Perceived resource need	Learning Activity Package Writers (Means)	Nonwriters (Means)	F value	Significance level
Equipment:				
File cabinets	4.10	4.07	.04	.84
Overhead projector	4.31	4.32	.0006	.98
Copy equipment	4.00	3.60	5.05	.02
AV equipment	3.87	3.68	1.31	.25
Supplies:				
File folders	4.32	4.26	.28	.64
Duplicator masters	4.08	3.85	1.97	.16
Copy paper	4.00	3.68	3.76	.05
Transparency film	4.05	3.82	1.96	.16
File tabs	4.17	4.06	.48	.50
Divider pages	3.81	3.62	1.34	.25
Test keys	4.05	3.88	1.37	.24
Competency records	3.75	3.57	1.01	.32
Reference materials:				
Books, records, films	3.52	3.62	.39	.54
Time:				
To set up files	2.82	2.83	.002	.96
To prepare instruction	2.66	2.72	.10	.75
To study material	2.70	2.60	.35	.56
Clerical Assistance:				
Copy materials	2.40	2.32	.19	.66

multiple copies of the materials in the learning activity packages. The learning activity package writers' mean attitude score was 4.00 compared to a 3.60 mean attitude score for the nonwriters which indicates that the writers show more disagreement with the statement that copy equipment is a barrier to implementing and using the I.D.E.C.C. learning system. The value of the F statistic was 5.05 which was significant at the .02 probability level. The learning activity package writers' mean attitude score of 4.00 compared with the nonwriters' mean attitude score of 3.68 illustrates that the writers are less concerned about having an adequate supply of copy paper to run multiple copies of the learning activity packages. The value of the F statistic was 3.76 which yielded a significant difference in attitude at the .05 level.

Value of the innovation as perceived barriers

The third category of perceived barriers to implementing the I.D.E.C.C. learning system pertains to the teachers' values and values of the teachers' reference groups. Table 4 illustrates the mean attitude responses of the writers and nonwriters toward statements about their educational philosophy concerning the elements of the learning system. There were no significant attitude differences between the writers and nonwriters toward statements about the educational philosophy of the learning system.

Table 4. Comparison of the mean attitude responses of learning activity package writers and nonwriters toward teacher values concerning the innovation as perceived barriers to implementing I.D.E.C.C.

Value of the Innovation	Learning Activity Package Writers (Means)	Nonwriters (Means)	F Value	Significance level
Value contrary to the teacher's:				
Competencies as curriculum base	4.19	4.19	.45	.51
Individualize instruction	3.75	3.79	.10	.75
Lack of career objective	2.70	2.64	.10	.75
System de-humanizing	4.11	3.67	.02	.90
Resistance to elements of the system	3.65	3.64	.01	.93

Table 5 represents the attitude responses of writers and nonwriters to statements about the teacher reference groups as perceived barriers. The learning activity package writers had significantly different attitudes than nonwriters concerning how the D.E. leaders in the state viewed the practice of using learning activity packages. The writers' mean attitude score was 4.12 compared to the nonwriters' mean attitude response of 4.39. The analysis of variance test resulted in a significantly different F value of 5.69. The nonwriters were less concerned than writers that the distributive education leaders in the state viewed negatively the practice of using learning activity packages.

Table 5. Comparison of the mean attitude responses of learning activity writers and nonwriters toward the values of teacher reference groups as perceived barriers to implementing I.D.E.C.C.

Value of the innovation	Learning Activity Package Writers (Means)	Nonwriters (Means)	F value	Significance level
Value of teacher's reference group:				
Fellow teacher's	3.21	3.38	1.26	.26
D.E. leaders in state	4.12	4.39	5.69	.02

The consumer as perceived barriers

The fourth category of perceived barriers tested in this hypothesis was the teacher's attitude toward consumer factors as perceived barriers to implementing the I.D.E.C.C. learning system. The consumer category included both the teachers and the students as potential barriers. Table 6 reports the findings of the learning activity package writers' and nonwriters' responses to statements about the teacher's self-confidence to perform functions necessary to implement a learning systems approach. No significant differences in attitudes were reported between learning activity package writers' and nonwriters' self-confidence in performing functions to implement the I.D.E.C.C. learning system.

Table 6. Comparison of the mean attitude responses of learning activity package writers and nonwriters toward self-confidence as a perceived barrier to implementing the I.D.E.C.C. learning system.

Consumer Category	Learning Activity Package Writers (Means)	Nonwriters (Means)	F value	Significance level
Confidence in own ability to:				
Schedule competencies	3.87	3.97	.49	.51
Individual instruction	3.70	3.71	.01	.94
Counsel students	3.50	3.88	.25	.63
Use learning activity packages	4.12	3.92	2.07	.15
Career counsel	4.06	4.08	.02	.90
Explain system	4.21	4.03	2.47	.11
Obtain financial support	3.93	3.73	1.95	.16
Evaluate students	3.34	3.40	.14	.71
Devise file system	3.29	3.09	1.39	.24

Table 7 presents the responses of the learning activity package writers and nonwriters toward statements concerning the D.E. students as perceived barriers to implementing the I.D.E.C.C. learning system. The learning activity package writers were less concerned than the nonwriters that

the level of student intelligence in their D.E. program would be a barrier to implementing the I.D.E.C.C. learning system. The mean attitude response of the writers was 3.63 compared to a 3.25 mean attitude response for the nonwriters. The value of the F statistic for the analysis of variance test was 4.96 which was significant at the .03 probability level.

Table 7. Comparison of the mean attitude responses of learning activity package writers and nonwriters toward students as perceived barriers to implementing the I.D.E.C.C. learning system.

Consumer Category	Learning Activity Package Writers (Means)	Nonwriters (Means)	F Value	Significance level
Confidence in students:				
Attitude	3.03	3.03	.19	.66
Experience	2.86	2.86	.001	.98
Motivation	2.71	2.63	.26	.61
Intelligence	3.63	3.25	4.96	.03
Acceptance of L.A.P.'s	3.44	3.45	.02	.89

In-service training need as perceived barriers

Table 8 illustrates the responses of the learning activity package writers and nonwriters toward attitude statements concerning the need for in-service training and resource assistance. Writers were more confident that they had received enough in-service training or resource assistance to implement the I.D.E.C.C. learning system. However, there were no statistically significant differences in the attitudes of writers and nonwriters toward these factors as perceived barriers.

Situational work factors as perceived barriers

The last category of perceived barriers to be tested in this hypothesis was situational work factors. Writers' and nonwriters'

Table 8. Comparison of the mean attitude responses of learning activity package writers and nonwriters toward in-service training as a barrier to implementing the I.D.E.C.C. learning system.

In-service need	Learning Activity Package Writers (Means)	Nonwriters (Means)	F value	Significance level
In-service training	3.74	3.48	2.75	.09
Resource assistance	3.15	2.91	2.00	.16

attitudes toward situational work factors as barriers to implementing the I.D.E.C.C. learning system are shown in Table 9. There was no significant difference in the mean scores of the attitudes of learning activity package writers and nonwriters toward situational work factors as perceived barriers. Table 9 pertains to factors relating to school organization and Table 10 pertains to factors relating to administrative support.

Table 9. Comparison of the mean attitude responses of learning activity package writers and nonwriters toward school organizational factors as barriers to implementing the I.D.E.C.C. learning system.

Situational Work Factors	Learning Activity Package Writers (Means)	Nonwriters (Means)	F value	Significance level
D.E. facilities	3.78	3.62	.88	.65
D.E. schedule	3.70	3.67	.03	.85

Although there was no significant difference in the mean attitude responses of writers and nonwriters, the writers were less concerned that their administrators had a negative view of using learning activity packages.

Table 10. Comparison of the mean attitude responses of learning activity package writers and nonwriters toward administrative support as barriers to implementing the I.D.E.C.C. learning system.

Administrative Support Factor	Learning Activity Package Writers (Means)	Nonwriters (Means)	F value	Significance level
Philosophical support	4.02	3.95	.37	.55
Departmental approval	3.85	3.89	.11	.74
Administrator's negative view of the L.A.P.'s	4.13	3.93	3.11	.08

In summarizing the comparisons of attitudes of learning activity package writers and nonwriters, only four of the fifty-four potential barriers were perceived in a significantly different manner. The learning activity package writers had less concern than nonwriters for financial support for copy equipment and supplies to make multiple copies of the materials, as well as student intelligence level, as potential barriers in implementing the I.D.E.C.C. learning system. The writers also perceived that the distributive education leaders in their state viewed the use of the learning activity package with more favor than did the nonwriters. Since only four of the fifty-four items resulted in significant differences, the decision was made to fail to reject the null hypothesis.

Hypothesis 2: There are no significant interactions among the attitudes of the learning activity package writers and nonwriters with age levels of distributive education teachers toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

This hypothesis was written to identify differences in attitudes of writers and nonwriters among various age levels toward each factor within

the six perceived barriers categories to implement the I.D.E.C.C. learning system. The univariate F tests did not show any significant differences between the attitudes of writers and nonwriters among the various age levels toward any of the 54 perceived barrier factors within the six categories. Multivariate analysis was also conducted on each of the six categories and there were no significant differences between the attitudes of the writers and nonwriters toward the categories as perceived barriers. The decision was therefore made to fail to reject null hypothesis number two.

Hypothesis 3: There are no significant interactions among the attitudes of learning activity package writers with levels of teaching experience in present distributive education position toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

The purpose of this hypothesis was to identify any differences in attitudes among writers and nonwriters with different amounts of teaching experience. The only category of barriers in which the writers and nonwriters with different levels of teaching experience had significantly different attitudes was in the attributes of the learning system as perceived barriers.

Attributes of the learning system as perceived barriers

Table 11 provides both the univariate analysis for each item in the attributes of the learning system category and the multivariate analysis of the items as a group. The writers and nonwriters had significantly different attitudes concerning too high a reading level of the materials in the learning activity packages. The analysis of variance test of

teachers' attitudes that the reading level of the materials is too high yielded a F value of 2.36 which was significant at the .02 probability level. Figure 8, page 85, is a graph illustrating the mean attitude scores of the writers and nonwriters among the levels of teaching experience. The nonwriters with one year experience had more concern than the writers with one year experience that the reading level of the learning activity packages was too high. The attitude responses of the writers with two to five years experience showed that they were generally more concerned than nonwriters of similar experience that the reading level of the learning activity package was too high. The mean response attitude scores of teachers with five or more years of experience fluctuated so much that it is difficult to draw inferences based on the attitude responses. The multivariate F test on the differences in attitudes of writers and nonwriters among various levels of teaching experience toward the attributes of the learning system category as a perceived barrier yielded highly significantly different attitude responses. The multivariate F value of 1.437 was highly significantly different at the .00089 probability level. Figure 9, page 86, provides a graphic representation of the categorical mean responses of the writers and nonwriters at the various levels of teaching experience. The learning activity package writers with three or less years experience were less concerned that the attributes of the I.D.E.C.C. learning system would be a barrier to its implementation than nonwriters of the same amount of experience. The mean attitude responses of the writer and nonwriter groups with more than three years experience fluctuated to the degree that it was difficult to make definitive conclusions

Table 11. Comparison of the mean attitude responses of learning activity package wri
experience toward attributes of the I.D.E.C.C. learning system as perceive

Attributes of the learning system	Levels of teaching experience of writers and r									
	1 year		2 years		3 years		4 years		5 years	
	W	NW	W	NW	W	NW	W	NW	W	NW
L.A.P. format	3.00	3.62	3.18	3.57	4.00	2.94	4.00	3.67	4.26	4.1
Length and sequence of L.A.P.	3.00	2.78	3.00	2.87	3.71	3.00	2.83	2.89	2.42	2.4
Reading level:										
Too low	3.60	2.67	2.17	2.87	3.00	2.94	2.50	2.56	3.32	3.4
Too high	4.30	3.33	3.82	3.78	3.43	4.18	3.33	3.89	3.53	2.6
Need for recordkeeping	3.90	3.06	3.64	3.09	3.00	3.35	3.17	3.56	2.16	2.3
Materials which relate to on-the-job training	3.70	3.78	3.82	3.65	3.29	3.29	3.00	3.78	3.26	2.9
Repetition in format	3.50	3.17	3.91	3.09	3.14	3.24	3.06	3.44	3.21	2.8
Learning Activity Package directions	3.70	3.39	3.36	3.56	3.71	3.71	3.44	3.89	3.16	2.6

Multivariate $F_{56,4134} = 1.437$ Probability = .00089

learning activity package writers and nonwriters categorized by level of teaching learning system as perceived barriers.

; experience of writers and nonwriters												
ears	4 years		5 years		6-7 years		8-9 years		10 years +		F	Significance
NW	W	NW	W	NW	W	NW	W	NW	W	NW	value	level
2.94	4.00	3.67	4.26	4.15	3.11	3.25	3.93	3.31	3.87	3.39	1.52	.16
3.00	2.83	2.89	2.42	2.45	2.72	3.50	2.79	2.69	2.67	2.94	.63	.73
2.94	2.50	2.56	3.32	3.40	2.67	2.33	3.57	2.77	2.27	2.67	1.38	.21
4.18	3.33	3.89	3.53	2.65	4.00	3.83	2.64	3.23	3.80	3.89	2.36	.02
3.35	3.17	3.56	2.16	2.30	3.06	3.08	2.64	3.00	3.00	3.06	.62	.74
3.29	3.00	3.78	3.26	2.90	3.78	3.50	2.64	3.08	3.80	3.17	1.05	.39
3.24	3.06	3.44	3.21	2.80	3.61	3.75	2.43	2.31	3.73	3.39	.69	.69
3.71	3.44	3.89	3.16	2.65	3.61	3.67	2.71	2.31	3.93	3.51	.81	.58

y = .00089

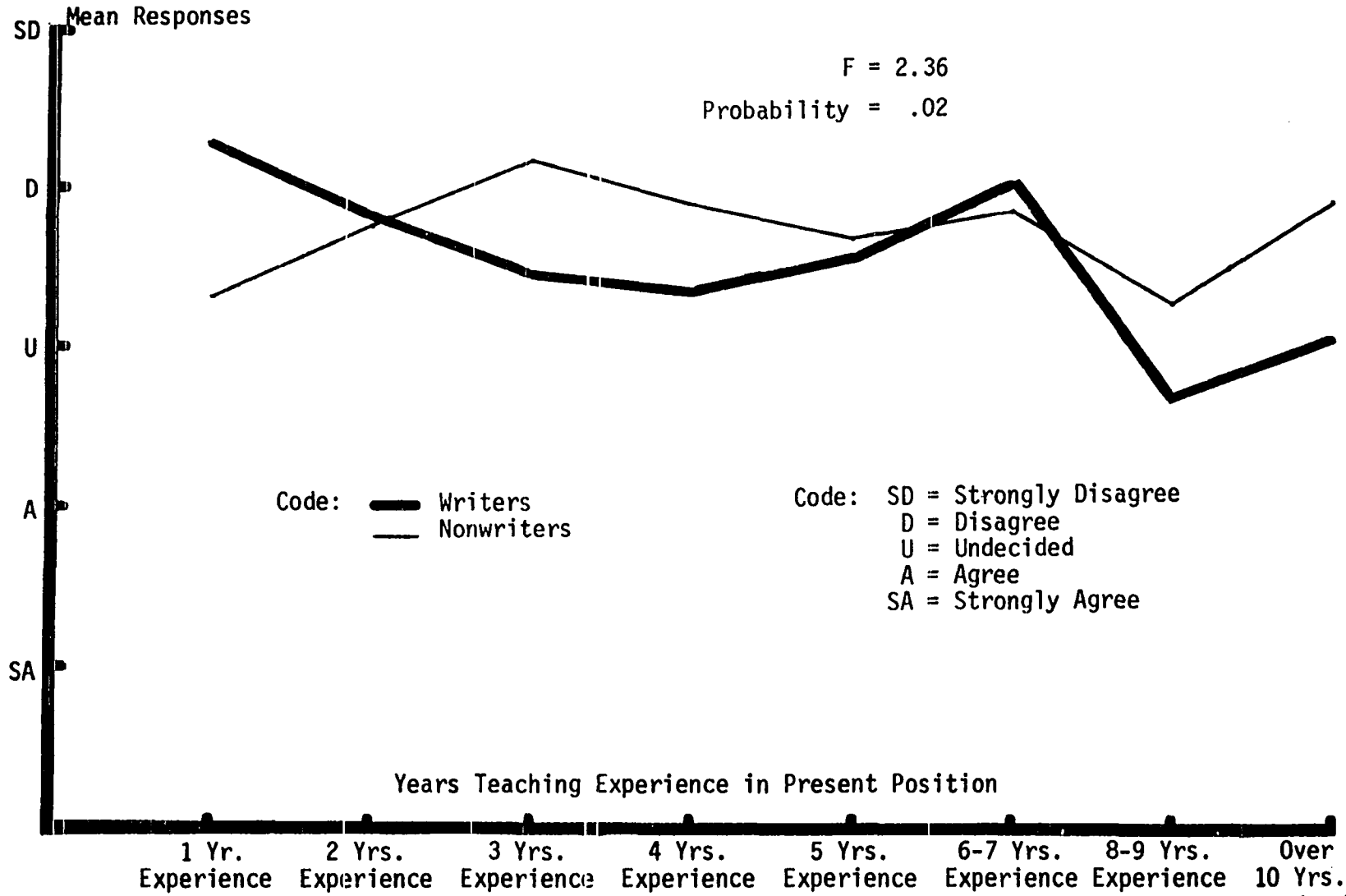


Figure 8. Mean attitude responses of learning activity package writers and nonwriters categorized by years teaching experience toward too high a reading level as a barrier to implementing the I.D.E.C.C. learning system.

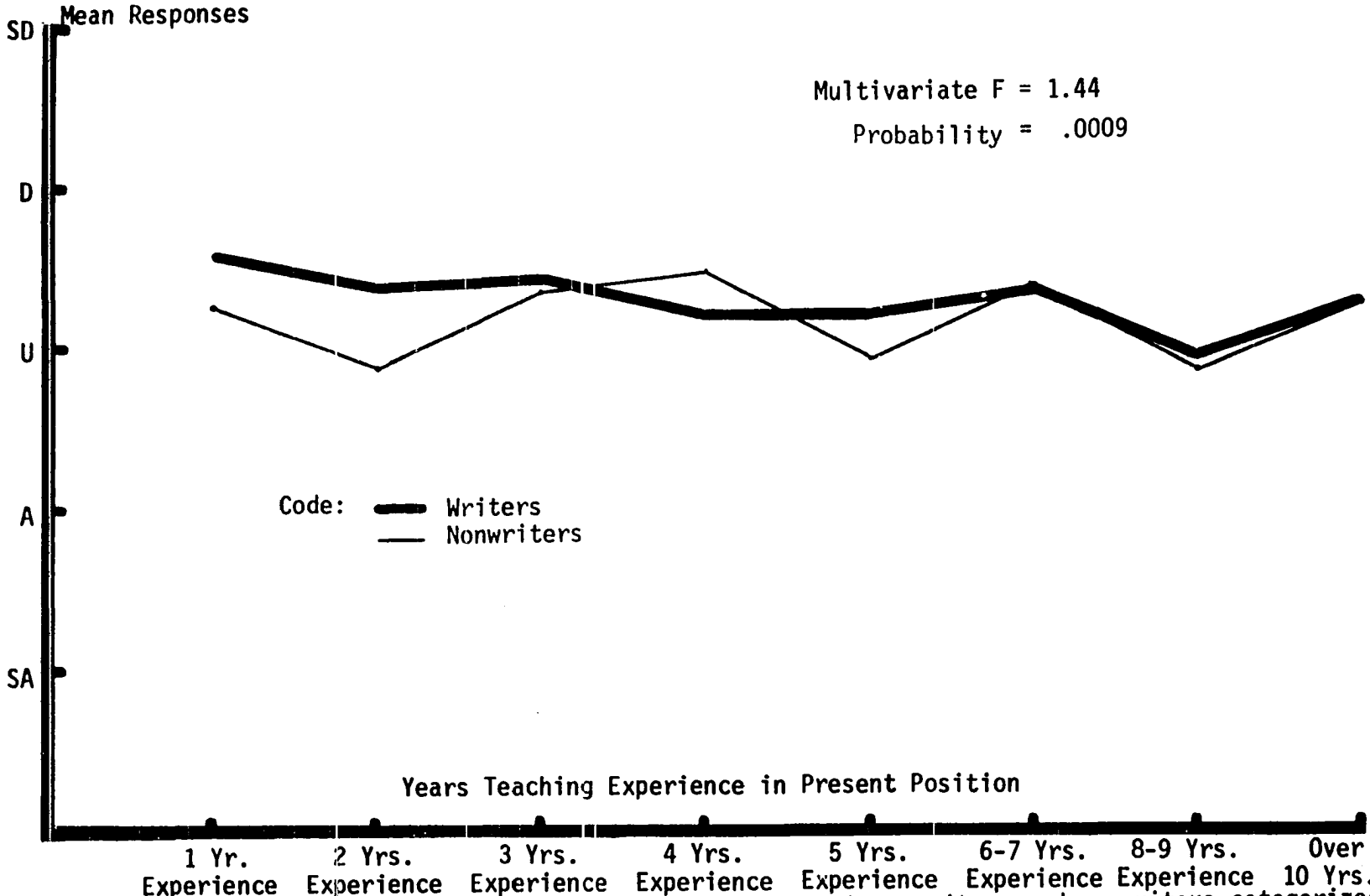


Figure 9. Mean attitude responses of learning activity package writers and nonwriters categorized by years teaching experience toward attributes of the I.D.E.C.C. learning system as a barrier.

concerning their attitudes about the attributes of the learning system as a perceived barrier.

The statistical tests produced only one significant univariate F value and one significant multivariate F value. The decision was therefore made to fail to reject the null hypothesis that there are no significant interactions among the attitudes of learning activity package writers and nonwriters with levels of teaching experience toward the barriers to implementing the I.D.E.C.C. learning system.

> Hypothesis 4: There are no significant interactions among the attitudes of the learning activity package writers and nonwriters with levels of the amount of in-service education toward each factor in the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

This hypothesis was written to determine if writers and nonwriters with various levels of in-service education on the I.D.E.C.C. learning system perceived the barriers in a significantly different manner. Attitudes toward potential barriers of attributes of the learning system, the need for additional resources, the value of the innovation, the consumer, the need for in-service training, and situational work factors were measured. The only significant difference in attitudes between the writers and nonwriters categorized by levels of in-service training was their feelings toward the attributes of the learning system as a perceived barrier.

Attributes of the learning system as perceived barriers

Although none of the univariate tests on the items within the category of attributes were significant, the Multivariate F test on the

items as a group yielded a significant difference between the writer and nonwriter attitudes. The Multivariate F yielded a score of 1.50 which results in a significance level of .047. Table 12 shows the univariate tests for each item and the multivariate overall test of the attribute factors as a group. Figure 10 presents a graph of the mean responses of the two teacher groups at various levels of in-service training. When the mean attitude scores for writers and nonwriters were plotted on the graph, the results showed that initially the writers without any in-service training were less concerned than nonwriters that the attributes were a barrier. The nonwriters were less concerned with the attributes as a barrier at the three levels of in-service training of one to three days, four to five days, and six to ten days. The trend reversed again after eleven days or more of in-service and the writers had less concern that the attributes of the I.D.E.C.C. learning system were a barrier. Since there were no significant univariate F values and only one of six Multivariate F values that was significant, the decision was made to fail to reject the null hypothesis.

Hypothesis 5: There are no significant interactions among the attitudes of learning activity package writers and nonwriters with levels of the number of students enrolled in the distributive education program toward each factor in the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

The purpose of this hypothesis was to identify any attitude difference between learning activity package writers and nonwriters categorized by levels of the number of students enrolled in the distributive education program. The statistical tests showed no significant difference in the attitudes of writers and nonwriters among the levels of student enrollment

Table 12. Comparison of the mean attitude responses of learning activity package w education toward attributes of the learning system as barriers to implem

Attribute of the learning system	Number of days inservice of writers and nonwrit: None W	None NW	1-3 days W	1-3 days NW	4-5 days W	4-5 days NW	6-10 days W	6-10 days NW
L.A.P. format	3.21	3.38	3.33	3.39	3.26	3.41	3.54	3.54
Length and sequence of L.A.P	2.31	1.90	2.93	3.13	2.74	3.04	2.75	2.73
Reading level:								
Too low	3.62	3.67	2.33	2.65	2.05	2.11	2.42	2.15
Too high	1.77	1.52	3.27	3.48	3.37	3.63	2.21	3.23
Need for recordkeeping	2.31	2.00	3.13	3.13	3.21	3.26	2.63	2.88
Materials which relate to on-the-job training	2.08	1.81	3.07	3.74	3.58	3.85	3.46	3.77
Repetition in format	1.46	1.95	3.47	3.45	3.37	3.59	3.58	3.38
L.A.P. directions	2.08	2.00	3.33	3.71	3.63	3.67	3.45	3.69

Multivariate $F_{28.898} = 1.50$ Probability = .047

of learning activity package writers and nonwriters categorized by level of inservice
ng system as barriers to implementing the I.D.E.C.C. learning system.

nservice of writers and nonwriters							
4-5 days		6-10 days		11 days-over		F value	Significance level
W	NW	W	NW	W	NW		
3.26	3.41	3.54	3.54	3.80	3.04	1.37	.24
2.74	3.04	2.75	2.73	2.98	3.28	.50	.74
2.05	2.11	2.42	2.15	2.22	2.12	.43	.79
3.37	3.63	2.21	3.23	3.34	3.64	.42	.80
3.21	3.26	2.63	2.88	3.27	3.60	.42	.80
3.58	3.85	3.46	3.77	3.80	3.32	2.28	.06
3.37	3.59	3.58	3.38	3.66	2.92	2.35	.06
3.63	3.67	3.45	3.69	3.78	3.68	.45	.77

= .047

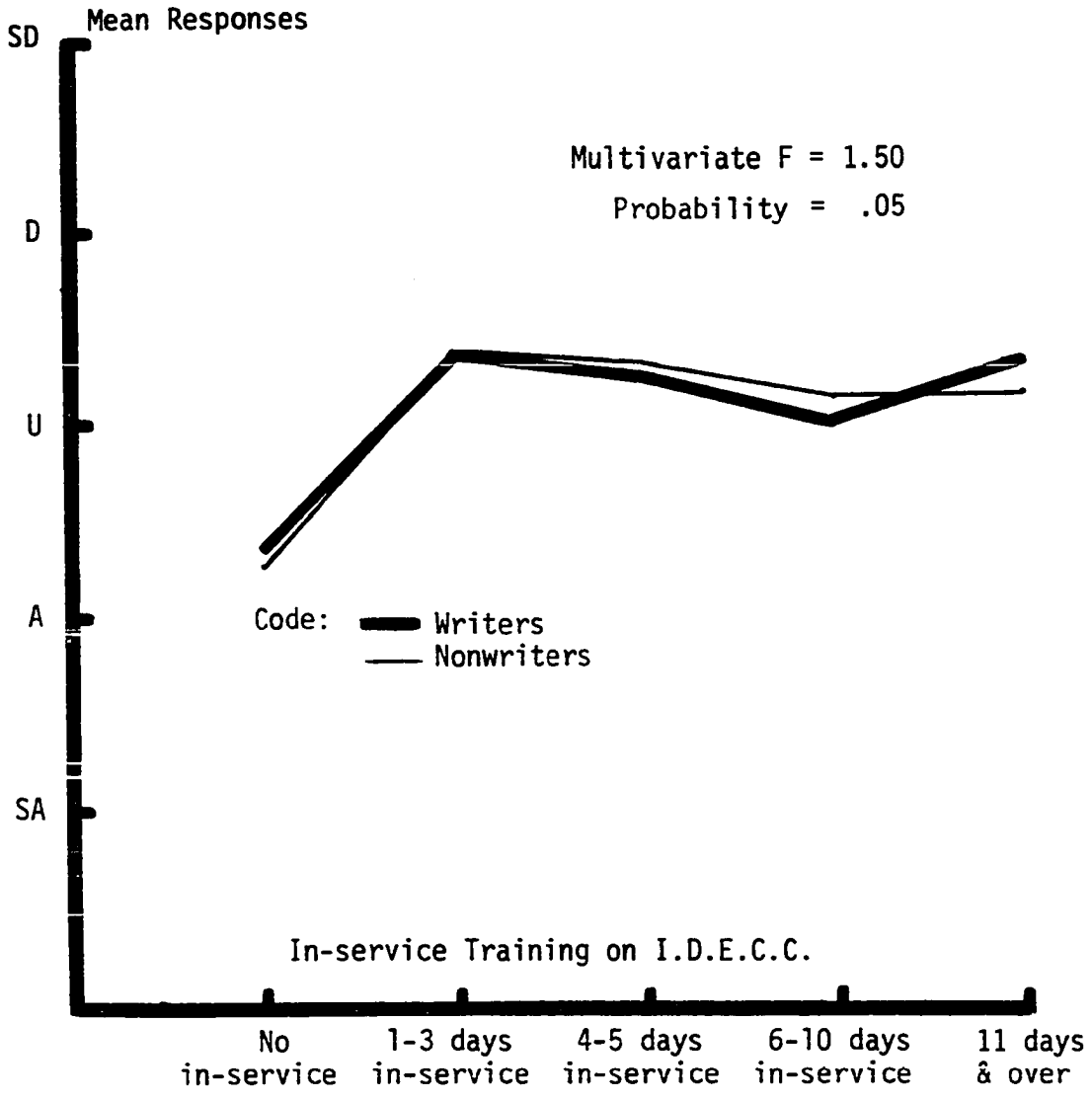


Figure 10. Mean attitude responses of learning activity package writers and nonwriters categorized by days of in-service training toward attributes of the learning system as barriers to implementing the I.D.E.C.C. learning system

toward any of the 54 items within the six perceived barriers categories. Multivariate analysis was also computed on each of the six categories and none of the multivariate F tests yielded significant difference in attitude scores. The decision was made to fail to reject the null hypothesis.

Comparisons between High and Low Change-Oriented Distributive Education Teachers

One of the purposes of this study was to identify distributive education teachers most likely to adopt change. Since Russell's Change Orientation Scale was developed in 1971, it has been used by several researchers in change receptivity studies. The instrument discriminated, in a significant manner, between adopters and nonadopters in studies by Russell (53), Adamsky (1), and Tardanico (60). The instrument was used in this study to further validate the findings of previous research studies. The 635 distributive education teacher's change orientation score was obtained by summing the response scores on all twenty-one items of the Change Orientation Scale. Table 13 provides the descriptive statistics for the distribution of the teacher's total score on the scale.

Table 13. Distributive Education teachers' scores on Russell's Change Orientation Scale

	Mean	Median	Mode	Standard Deviation
Teachers' scores on Change Orientation Scale	40.31	40.63	43.00	8.73

Figure 11 illustrates the distribution resulting from all the distributive education teachers' summed score on the Change Orientation Scale. The distribution of scores closely paralleled the normal distribution.

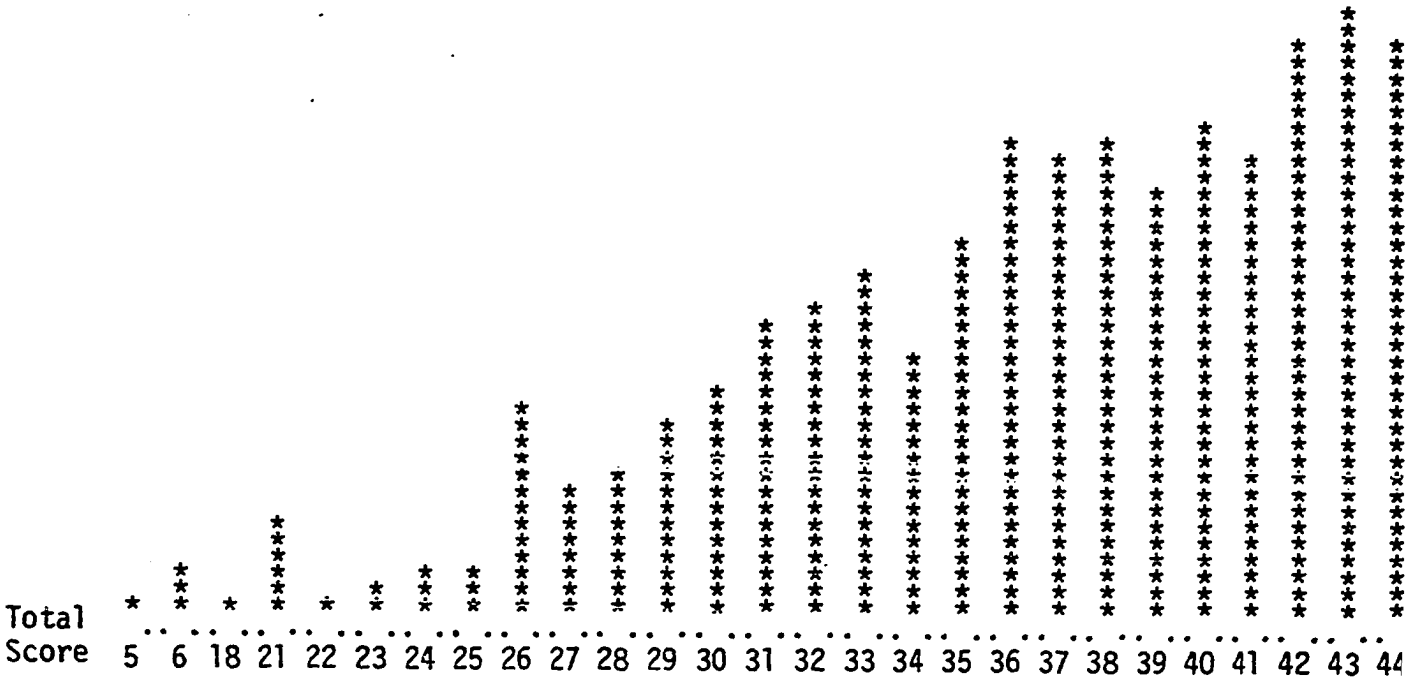
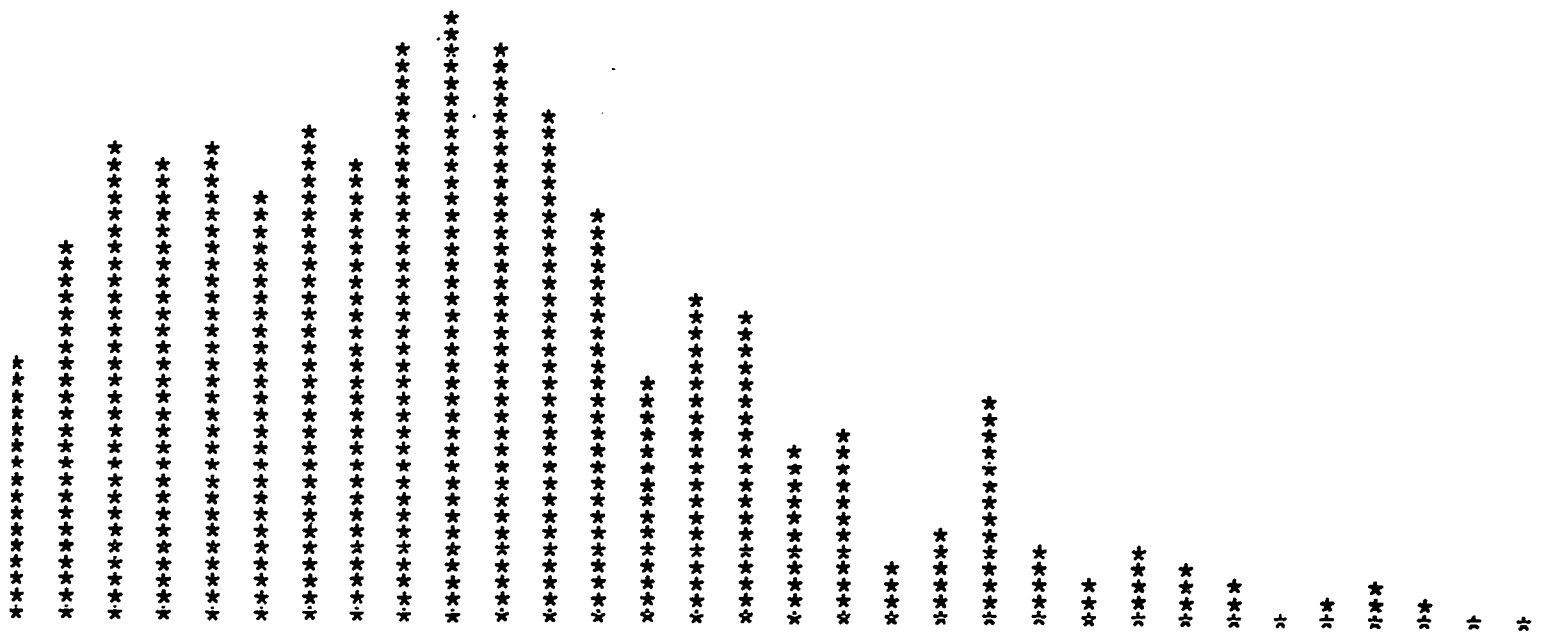


Figure 11. Distribution of the 635 distributive education teacher's total score



4 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 62 63 67 69 70

education teacher's total score on the twenty-one item Russell Change Orientation Scale.

The kurtosis and skewness were 1.288 and -0.123 respectively. The 635 distributive education teachers were then categorized into high and low change-oriented teachers. The distributive education teachers who scored below 40.63 were categorized as high change-oriented teachers and those scoring at or above 40.63 were categorized as low change-oriented teachers. Since results of the distributive education teachers' responses on the Change Orientation Scale discriminated between high and low change-oriented distributive education teachers, further comparisons could be tested. The first hypothesis to be tested dealt with the innovativeness of the distributive education teachers in the sample.

Hypothesis 6: There is no significant difference in the change orientation between the distributive education teachers who wrote learning activity packages and the distributive education teachers not involved in writing learning activity packages as measured by the Russell Change Orientation Scale.

The purpose of this hypothesis was to learn if the distributive education teachers who had written learning activity packages were more receptive to change than the distributive education teachers who had not been involved as writers.

An analysis of variance test was conducted on the total of the attitude scores for all 21 items of Russell's Change Orientation Scale. Table 14 provides the results of the analysis of variance test between the distributive education teachers who wrote learning activity packages and those not involved in writing. The test did not yield a significant difference in the mean scores between the writers and nonwriters. The writers as a group were therefore not more receptive to change than the

teachers who were nonwriters and the decision was made to fail to reject the null hypothesis.

Table 14. Comparison of writer's and nonwriter's change orientation scores.

	Learning Activity Package Writers (Mean)	Nonwriters (Mean)	F value	Significance level
Score on Russell's Change Orientation Scale	42.88	40.98	.29	.60

Hypothesis 7: There is no significant difference in the mean attitude responses between the high and low change-oriented distributive education teachers toward each factor in the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

This hypothesis was written to test attitude differences between high and low change-oriented teachers toward the six categories of perceived barriers to implementing the I.D.E.C.C. learning system. The six categories in which the mean attitude scores of the two groups of teachers were compared included attributes of the learning system, the need for additional resources, the value of the innovation, the consumer, the need for in-service training, and situational work factors as perceived barriers. Each table represents the items within one of the six barrier categories.

Attributes of the learning system as perceived barriers

Table 15 illustrates the comparison of the attitudes of high change-oriented and low change-oriented distributive education teachers toward the attributes of the learning system as perceived barriers to implementing the I.D.E.C.C. learning system. Five of the eight univariate F

tests on individual items yielded significant or highly significant F values. High change-oriented distributive education teachers perceived the format of the learning activity package in a highly significant different manner than the low change-oriented teachers. The F value on this item was 32.81 which was highly significant at the .0001 level. The low change-oriented teachers felt less favorable about the learning activity package format than the high change-oriented teachers. The low change-oriented teachers also perceived the length of the learning activity package in a highly significantly different manner than the high change-oriented teachers. The univariate F score of 11.97 was highly significant at the .0009 level. The high change-oriented teacher perceived the length and sequence of the learning activity package as more of a barrier than the low change-oriented teacher. The high change-oriented teacher, however, viewed recordkeeping as less of a perceived barrier than the low change-oriented teachers. The univariate F of 10.29 was highly significantly different at the .002 level. The low change-oriented teachers' attitudes toward unclear directions in the learning activity packages were significantly different than the high change-oriented teachers. The mean of 3.21 for the low change-oriented teachers and 3.42 for the high change-oriented teachers shows that the low change-oriented were more concerned about the directions being unclear. High change-oriented teachers had a mean attitude of 3.41 compared to a mean attitude of 3.21 for low change-oriented teachers on the item dealing with the inability of the materials to relate to on-the-job training. The low change-oriented teachers again felt that this factor was more of a barrier than the high change-oriented teachers. The

F value on this item of 4.24 yields a significant difference in attitudes at the .04 probability level. The Multivariate F of 6.96 yields a highly significantly different attitude score between the high and low change-oriented teacher groups toward the attributes as a group of perceived barriers. The means of 3.24 for the high change-oriented teachers and 3.18 for the low change-oriented teachers are highly significantly different at the .0001 level. High change-oriented distributive education teachers, therefore, had highly significantly less concern about the attributes of the learning system as a composite barrier.

Table 15. Comparison of the mean attitude responses of high change-oriented and low change-oriented distributive education teachers toward attributes of the learning system as barriers to implementing the I.D.E.C.C. learning system.

Attribute of the learning system	Low change-oriented D.E. teachers (Mean)	High change-oriented D.E. teachers (Mean)	F value	Significance level
L.A.P. Format	3.41	3.94	32.81	.0001
Length and sequence of L.A.P.	2.90	2.54	11.97	.0009
Reading level:				
Too low	3.57	3.46	.32	.58
Too high	3.08	3.20	1.39	.24
Need for recordkeeping	3.07	2.74	10.29	.002
L.A.P. directions	3.21	3.42	4.39	.03
Materials which relate to on-the-job training	3.21	3.41	4.24	.04
Repetition in format	3.07	3.22	2.29	.13
Multivariate $F_{8,626} = 6.96$		Probability = .0001		

The need for resources as perceived barriers

Table 16 represents the comparison of high change-oriented and low change-oriented distributive education teachers' attitudes toward the

need for resources as a perceived barrier to implementing the I.D.E.C.C. learning system. There were seventeen items categorized as resource needs. The high change-oriented and low change-oriented teachers had significantly different (.05 level) or highly significantly (.01 level) different attitudes in fourteen of the eighteen univariate tests. High change-oriented distributive education teachers had highly significantly more positive attitudes than low change-oriented teachers toward having adequate financial support for obtaining adequate equipment such as file cabinets, overhead projectors, and AV equipment. The high change-oriented teachers had significantly less concern that having adequate copy equipment was a barrier to implementing the I.D.E.C.C. learning system. High change-oriented teachers had at least significantly more positive attitude scores toward having adequate supplies in five of eight attitude statements measured by the univariate F tests. The high change-oriented teachers were less concerned than the low change-oriented teachers toward having adequate supplies such as file folders, duplicator masters, copy paper, transparency film, and file tabs to implement and use the I.D.E.C.C. learning system. The low change-oriented teachers had less concern toward not having financial support to purchase the subject-matter test keys. Having adequate reference materials to implement the learning system caused highly significantly less concern among the high change-oriented than the low change-oriented teachers. Two barriers relating to the time factor as perceived barriers, were viewed in significantly different manner by the two teacher groups. The high change-oriented teachers were more concerned than the low change-oriented teachers about having adequate time to study the materials in

Table 16. Comparison of the mean attitude responses of high change-oriented and low change-oriented D.E. teachers toward the need for resources as perceived barriers to implementing the I.D.E.C.C. learning system.

Perceived resource need	Low change-oriented D.E. teachers (Mean)	High change-oriented D.E. teachers (Mean)	F value	Significance level
Equipment:				
File cabinets	3.91	4.26	14.65	.0004
Overhead projector	4.08	4.41	17.58	.0001
Copy equipment	3.63	3.89	5.68	.02
AV equipment	3.57	3.96	14.59	.0004
Supplies:				
File folders	4.16	4.33	4.11	.04
Duplicator masters	3.79	4.18	16.55	.0002
Copy paper	3.78	4.04	6.75	.009
Transparency film	3.74	4.06	10.43	.002
File tabs	3.91	4.21	10.70	.002
Divider pages	3.63	3.81	2.67	.10
Test keys	3.88	3.08	4.42	.03
Competency records	3.59	3.79	3.57	.06
Reference materials:				
Books, records, films	3.52	3.80	7.28	.007
Time:				
To set up files	2.80	2.91	.91	.66
To prepare instruction	2.58	2.82	4.68	.03
To study material	2.79	2.42	13.72	.0005
Clerical Assistance:				
Copy materials	2.30	2.54	4.27	.04
Multivariate $F_{18,62} = 1.76$		Probability = .004		

the learning activity packages. The low change-oriented teachers, however, were more concerned than the high change-oriented group that there was adequate amount of time to prepare instruction.

Low change-oriented teachers also perceived the need for clerical duties to implement the I.D.E.C.C. learning system as more of a problem than did high change-oriented teachers. The Multivariate F test which measured the difference in high and low change-oriented distributive education teachers' perceptions of the need for resources, collectively

as a group, shows that high change-oriented teachers have highly significantly different attitudes than the low change-oriented teachers. The Multivariate F value of 1.76 yields a probability of .004 which is highly significantly different. The high change-oriented distributive education teachers had highly significantly more positive attitudes than the low change-oriented distributive education teachers concerning the need for resources to implement the I.D.E.C.C. learning system. The high change-oriented teachers were not as concerned as the low change-oriented teachers that resources were a barrier to implementing the innovative learning system.

Value of the innovation as perceived barriers

The third category of attitude comparisons between high and low change-oriented distributive education teachers was the value of the innovation as a perceived barrier. The value of the innovation category contains factors which relate to the teacher's values and the values of the teacher's reference groups. Table 17 pertains to the teacher's values and Table 18 relates to values of the teacher's reference groups.

Table 17. Comparison of the mean attitude responses of high change-oriented and low change-oriented distributive education teachers toward teacher values concerning the innovation as perceived barriers to implementing the I.D.E.C.C. learning system.

Value of the innovation	Low change-oriented D.E. teachers (Mean)	High change-oriented D.E. teachers (Mean)	F value	Significance level
Value contrary to the teacher's:				
Competencies as curriculum base	3.94	4.46	62.50	.0001
Individualize instruction	3.59	3.99	22.23	.0001
Lack of career objective	2.57	2.90	8.88	.003
System de-humanizing	4.36	3.82	57.55	.0001
Resistance to elements of the system	3.49	3.78	8.23	.005

Table 18. Comparison of the mean attitude responses of high change-oriented and low change-oriented distributive education teachers toward the values of teacher reference groups as perceived barriers to implementing I.D.E.C.C.

Value of the innovation	Low change-oriented D.E. teachers (Mean)	High change-oriented D.E. teachers (Mean)	F value	Significance level
Value of teacher's reference group:				
Fellow teacher's	3.13	3.54	18.43	.0001
D.E. leaders in state	4.16	4.40	10.80	.002
Multivariate $F_{7,596}$ = 9.35		Probability = .003		

All the univariate F tests for each factor and the Multivariate F test yielded highly significantly different attitudes between the high and low change-oriented distributive education teachers. The high change-oriented distributive education teachers had more positive attitudes toward competencies as a curriculum base, using more individualized instruction, and the elements of the I.D.E.C.C. learning system and did not perceive these factors as barriers to the degree that the low change-oriented teachers perceived them as barriers. The high change-oriented teachers also perceived that their fellow teachers and the D.E. leaders in the state had more favorable attitudes toward the learning activity packages. The only factor in this category which concerned the high change-oriented teachers more than the low change-oriented teachers as a barrier was the system being de-humanizing .

The consumer as perceived barriers

Table 19 compares the responses of the teachers' attitudes, with varying degrees of change-orientation, toward self-confidence as perceived barriers to implementing the I.D.E.C.C. learning system. The

table shows that the low and high change-oriented teachers have highly significantly different attitudes in all but one of the self-confidence factors. The only item for which the two teacher groups did not respond in a highly signficantly different manner was on their lack of ability to devise a usable filing system to implement the learning system. The high change-oriented teachers had less concern than the low change-oriented teachers toward scheduling curriculum competencies, individualizing instruction, counseling students for careers, understanding the learning activity packages, explaining the system to obtain the philosophical financial support of administration, and evaluating students. Low change-oriented teachers were also more concerned than high change-oriented teachers about utilizing counseling for individual instruction.

Table 19. Comparison of the attitudes of high change-oriented and low change-oriented D.E. teachers toward consumers as perceived barriers.

Consumer Category	Low change-oriented D.E. teachers (Mean)	High change-oriented D.E. teachers (Mean)	F value	Significance level
Confidence in own ability to:				
Schedule competencies	3.73	4.10	19.61	.0001
Individual instruction	3.51	4.06	37.02	.0001
Counsel students	3.71	3.99	9.31	.003
Use learning activity packages	3.68	4.18	32.80	.0001
Career counsel	3.81	4.26	36.36	.0001
Explain system	3.90	4.28	25.27	.0001
Obtain financial support	3.63	4.07	26.90	.0001
Evaluate students	3.23	3.60	13.84	.0005
Devise file system	3.06	3.18	1.34	.25
Multivariate $F_{9,615} = 6.89$		Probability = .0001		

Table 20 illustrates the comparison of low and high change-oriented teachers' attitudes toward students as perceived barriers to implementing the I.D.E.C.C. learning system. Four of the five univariate F tests produced highly significantly different attitude responses. The high change-oriented teachers were highly significantly less concerned about student attitudes, experience, motivation, and acceptance of the learning activity packages than were the low change-oriented teachers. The Multivariate F tests for both teachers and student groups in the consumer categories yielded a highly significantly different F value. The high change-oriented teachers had highly significantly more positive attitudes than low change-oriented teachers toward the consumer as a perceived barrier to implementing and using the I.D.E.C.C. learning system.

Table 20. Comparison of the mean attitude responses of high change-oriented and low change-oriented distributive education teachers toward students as perceived barriers to implementing the I.D.E.C.C. learning system.

Consumer Category	Low change-oriented D.E. teachers (Mean)	High change-oriented D.E. teachers (Mean)	F value	Significance level
Confidence in students:				
Attitude	2.82	3.24	16.96	.0002
Experience	2.74	3.09	10.69	.002
Motivation	2.59	2.91	9.52	.003
Intelligence	3.33	3.43	.98	.68
Acceptance of L.A.P.'s	3.29	3.70	25.24	.0001
Multivariate $F_{5,523}$ = 4.82		Probability = .0001		

In-service training as a perceived barrier

Table 21 illustrates a comparison of the high change-oriented and low change-oriented distributive education teachers' attitudes toward the need for in-service training and resource assistance. The high change-

oriented teachers felt more positive in their attitude toward having received enough in-service training to implement the I.D.E.C.C. learning system as evidenced by a mean score of 3.66 as compared to the low change-oriented teacher's mean score of 3.34. The univariate F value was 9.72 which yields a probability of .002 which is highly significantly different. The Multivariate F value of 2.40 was significant at the .047 probability level. The high change-oriented teachers had significantly more positive attitudes than the low change-oriented teachers and were less concerned that in-service training was a barrier to implementing and using the I.D.E.C.C. learning system.

Table 21. Comparison of the mean attitude responses of high change-oriented and low change-oriented D.E. teachers toward in-service training as a perceived barrier to implementing the I.D.E.C.C. learning system.

In-service need	Low change-oriented D.E. teachers (Mean)	High change-oriented D.E. teachers (Mean)	F value	Significance level
In-service training	3.34	3.66	9.72	.002
Resource assistance	2.84	3.03	3.22	.07
Multivariate $F_{4,1254} = 2.40$		Probability = .047		

Situational work factors as perceived barriers

Situational work factors was the last category of perceived barriers to test for differences between the high change-oriented and low change-oriented distributive education teachers. Table 22 provides the univariate F test for each item in the first group of factors in the situational work category. Both univariate F tests yielded a highly significant difference in mean attitude scores between the high and low change-oriented distrib-

utive education teachers. The high change-oriented teachers had highly significantly less concern toward their D.E. program facilities and schedules as barriers to implementing the I.D.E.C.C. learning system than the low change-oriented teachers.

Table 22. Comparison of the mean attitude responses of high change-oriented and low change-oriented D.E. teachers toward situational work factors as perceived barriers to implementing the I.D.E.C.C. learning system.

Situational work factors	Low change-oriented D.E. teachers (Mean)	High change-oriented D.E. teachers (Mean)	F value	Significance level
D.E. facilities	3.84	3.50	11.69	.001
D.E. schedule	3.51	3.80	9.35	.003

The second group of situational work factors was administrative support. Table 23 illustrates the comparison of the attitudes of low and high change-oriented teachers toward administrative support factors. The high change-oriented teachers were less concerned about all three factors as perceived barriers to implementing the I.D.E.C.C. learning system. The Multivariate F test on the situational work factors yielded a highly significant F value of 4.74. The high change-oriented teachers were less concerned about situational work factors as a group of barriers to implementing the I.D.E.C.C. learning system than were the low change-oriented teachers.

A Multivariate F test was also computed on all 54 variables which made up Section III of the questionnaire. The resulting F value from the multivariate test was 4.10 which yields a highly significant difference at the .0001 probability level. The manner in which the high change-oriented distributive education teachers perceive the total of the 54 variables as

Table 23. Comparison of high change-oriented and low change-oriented D.E. teachers' attitudes toward administrative support as perceived barriers to implementing the I.D.E.C.C. learning system.

Administrative support factor	Low change-oriented D.E. teachers (Mean)	High change-oriented D.E. teachers (Mean)	F value	Significance level
Philosophical support	3.79	4.09	15.67	.0003
Departmental approval	3.76	4.09	15.71	.0002
Administrator's negative view of L.A.P.'s	3.80	4.27	39.88	.0001
Multivariate $F_{5,124} = 4.74$		Probability = .0001		

perceived barriers is highly significantly different than the perceptions of the low change-oriented distributive education teachers. The high change-oriented teachers were less concerned about perceived barriers to implementing the I.D.E.C.C. learning system than the low change-oriented distributive education teachers based on the statistically significantly different F values in 44 of the 54 univariate F tests and in the Multivariate test on all 54 items as a composite barrier.

The null hypothesis that there is no significant difference between the attitudes of high and low change-oriented teachers toward perceived barriers to implementing the I.D.E.C.C. learning system was rejected.

Hypothesis 8: There are no significant interactions among the attitudes of learning activity package writers and nonwriters with high and low change-oriented teachers toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

The purpose of this hypothesis was to identify differences in attitudes among high and low change-oriented writers and nonwriters toward the factors in the six categories of perceived barriers to imple-

menting the I.D.E.C.C. learning system. No significant differences in attitudes were identified within the perceived barrier categories of attributes of the system, in-service training, and the value of the innovation when univariate F tests were completed on each item. The categories in which significant F values for perceived barriers were found included the perceived resource need, the consumer barrier category, and situational work factors.

Resource needs as perceived barriers

Table 24 illustrates both the univariate analysis for each item in the perceived resource need category and the Multivariate F test for the items as a group. The Multivariate F test for the overall effect of the items produced on $F_{36,\ 1222} = 1.25$ and a nonsignificant probability at .15 level. Five of the univariate F tests yielded significant attitude difference in the responses among the teacher groups. The low change-oriented nonwriter that the lack of duplicator masters, copypaper, file tabs to identify each learning activity package, and resource materials will be a barrier to implementing the I.D.E.C.C. learning system. The high change-oriented writer has a highly significantly different attitude than the low change-oriented writer that file folders will be a barrier to implementing the I.D.E.C.C. learning system. Figure 12 through Figure 16 represent the five resource factors which yielded significant or highly significant attitude response differences between the high and low change-oriented writer and nonwriter teacher groups.

Table 24. Comparison of the mean attitude responses of high and low change-oriented writers and nonwriters toward the need for additional resources as perceived barriers to implementing the I.D.E.C.C. learning system.

Perceived resource need	LAP Writers LCO	LAP Writers HCO	Nonwriters LCO	Nonwriters HCO	F value	Significance level
Equipment:						
File cabinets	2.91	3.27	2.97	3.20	2.25	.10
Overhead projector	4.13	4.47	4.18	4.50	.73	.51
Copy equipment	3.72	4.25	3.44	3.81	1.84	.16
AV equipment	4.00	4.02	3.46	3.98	.82	.56
Supplies:						
File folders	4.19	4.44	4.30	4.20	5.88	.0003
Duplicator masters	3.77	4.36	3.74	4.02	3.80	.02
Copy paper	3.72	4.25	3.68	3.69	3.94	.02
Transparency film	3.79	4.29	3.71	3.98	1.32	.27
File tabs	3.96	4.34	3.96	4.20	3.72	.02
Divider pages	3.77	3.85	3.58	3.67	.87	.58
Test keys	3.89	4.20	3.83	3.94	.98	.62
Competency records	3.62	3.86	3.46	3.74	1.59	.20
Reference materials:						
Books, records, films	3.23	3.78	3.58	3.69	2.72	.06
Resource materials	2.36	2.95	2.60	2.46	3.63	.03
Time:						
To set up files	2.92	2.73	2.67	3.06	1.12	.33
To prepare instruction	2.75	2.58	2.57	2.93	2.08	.12
To study material	2.79	2.61	2.74	2.41	.92	.60
Clerical Assistance:						
Copy materials	2.47	2.34	2.07	2.69	2.29	.10

Multivariate $F_{36,1222} = 1.25$ Probability = .15

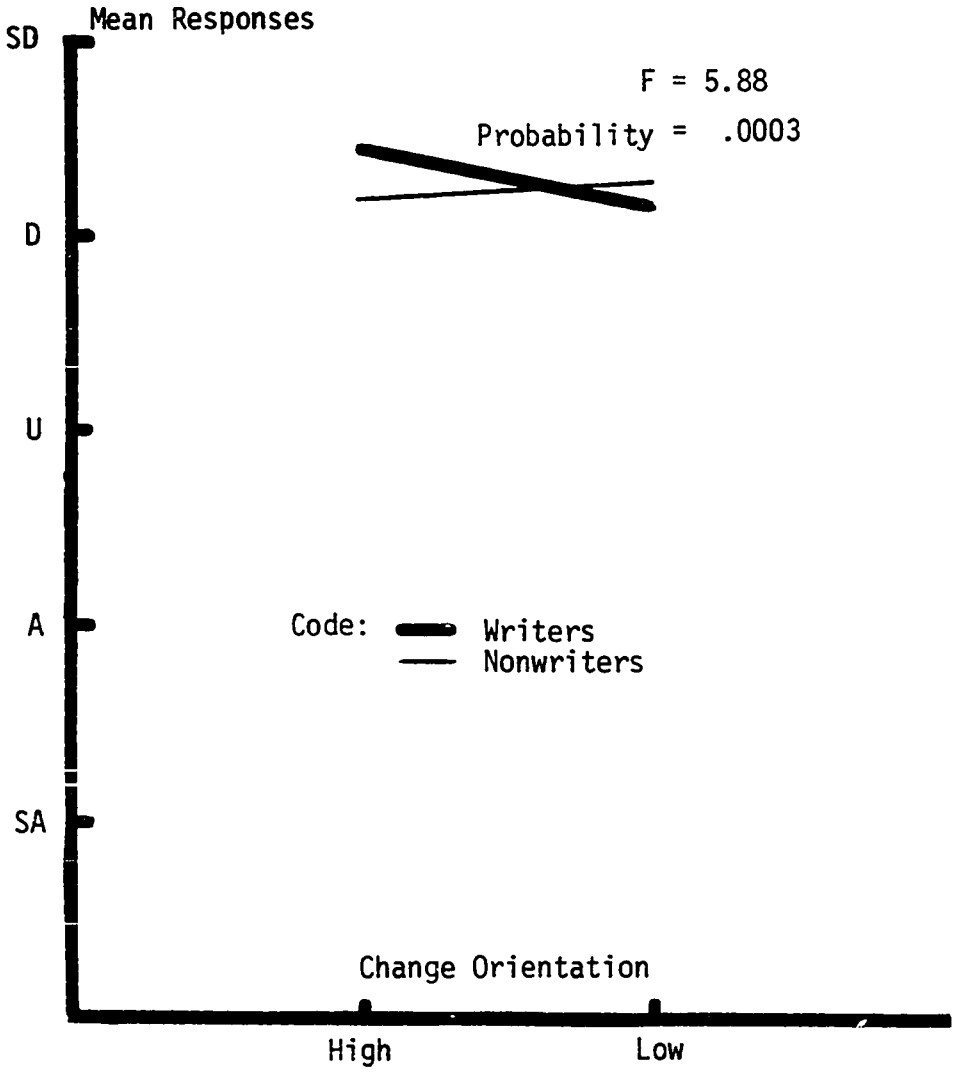


Figure 12. Mean attitude responses of high and low change-oriented writers and nonwriters toward file folders as a barrier to implementing the I.D.E.C.C. learning system.

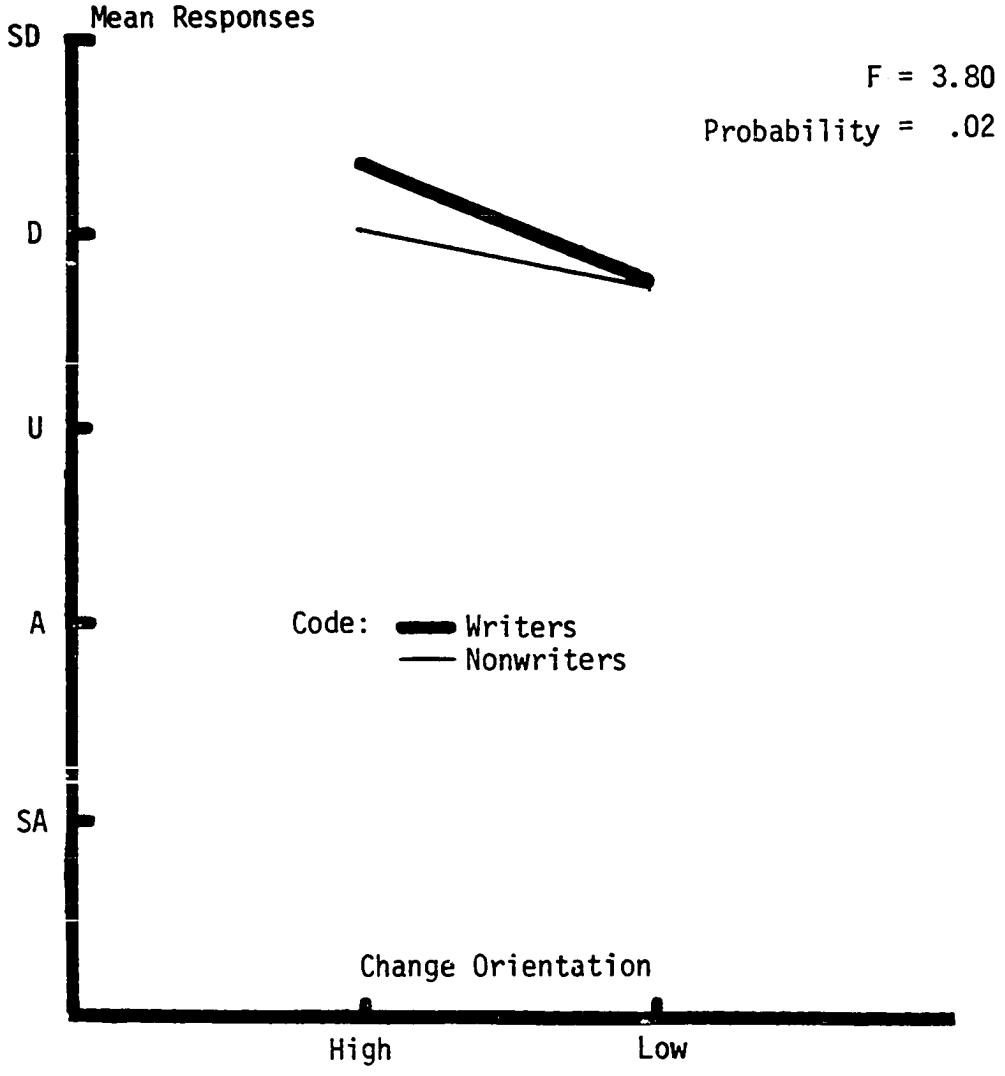


Figure 13. Mean attitude responses of high and low change-oriented writers and nonwriters toward duplicator masters as barriers to implementing the I.D.E.C.C. learning system.

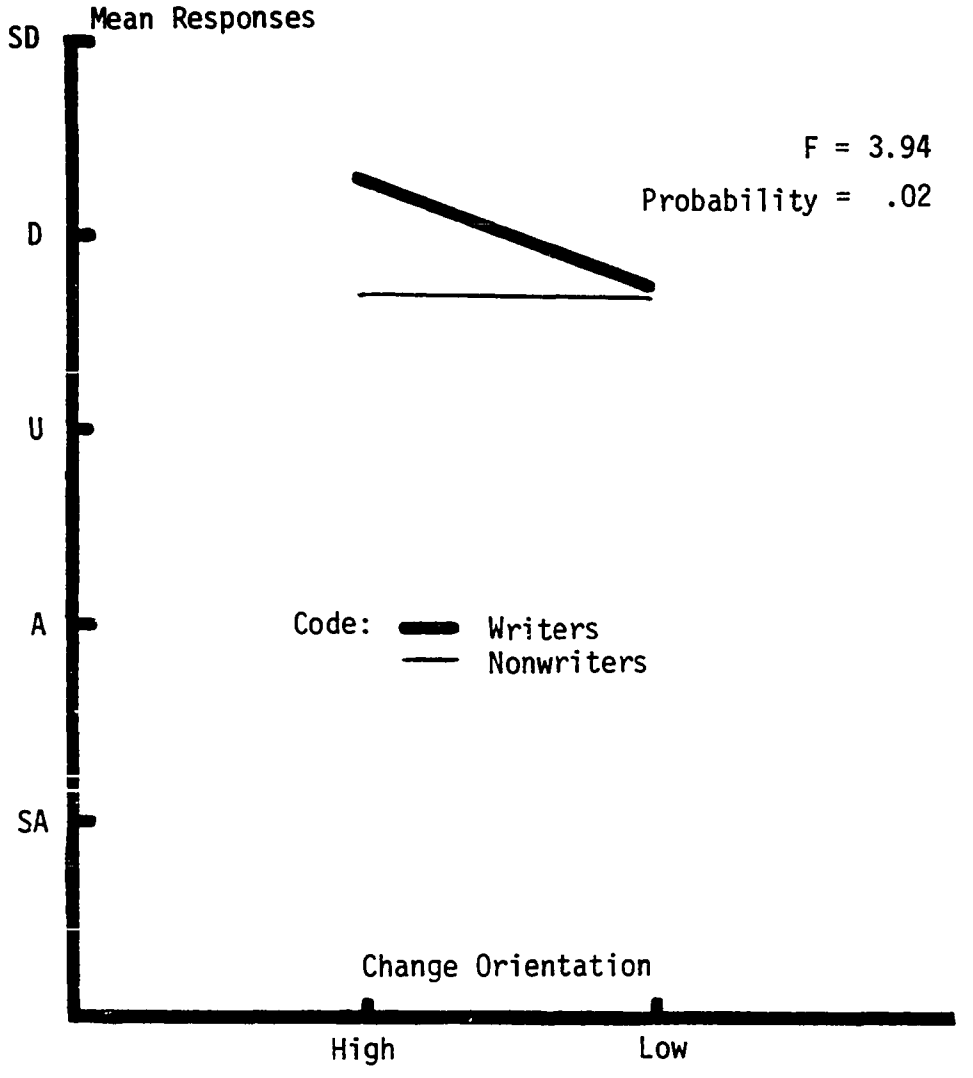


Figure 14. Mean attitude responses of high and low change-oriented writers and nonwriters toward copy paper as a barrier to implementing the I.D.E.C.C. learning system.

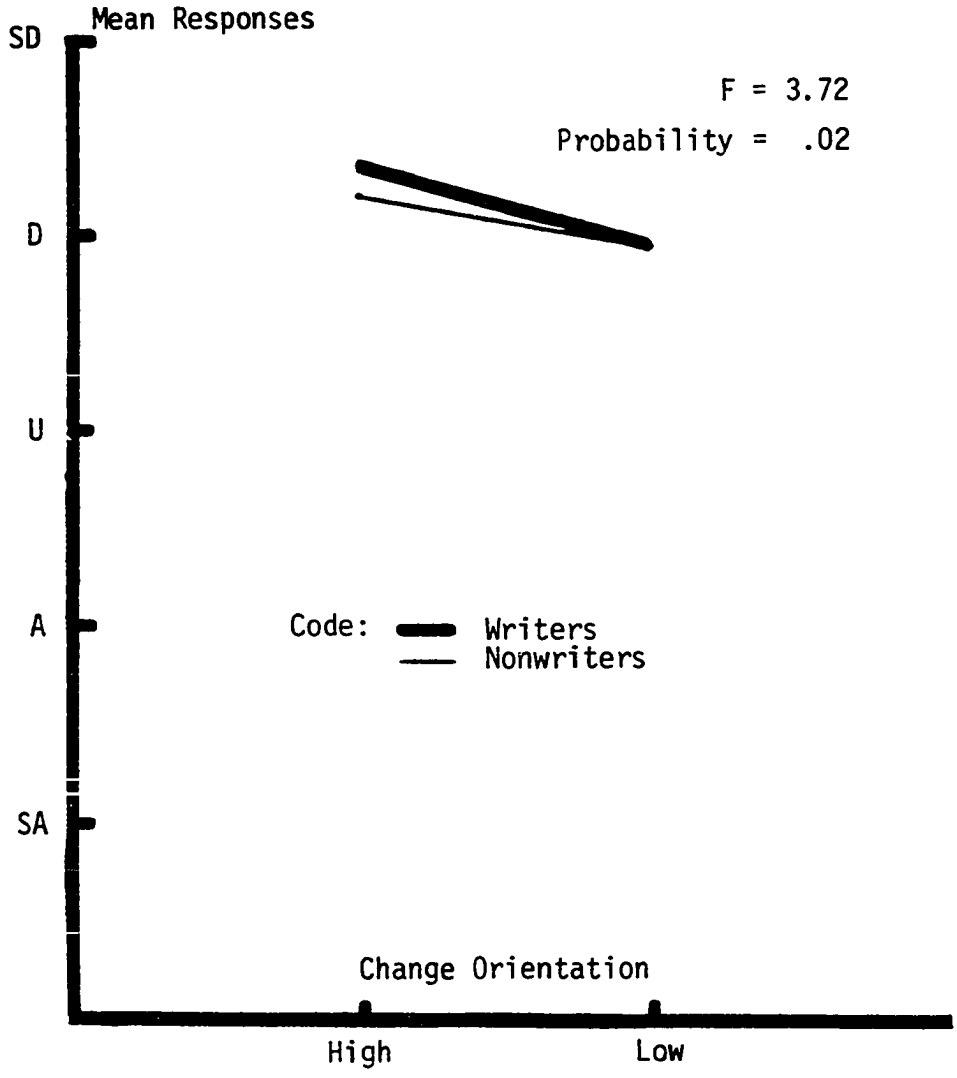


Figure 15. Mean attitude responses of high and low change-oriented writers and nonwriters toward file tabs as a barrier to implementing the I.D.E.C.C. learning system.

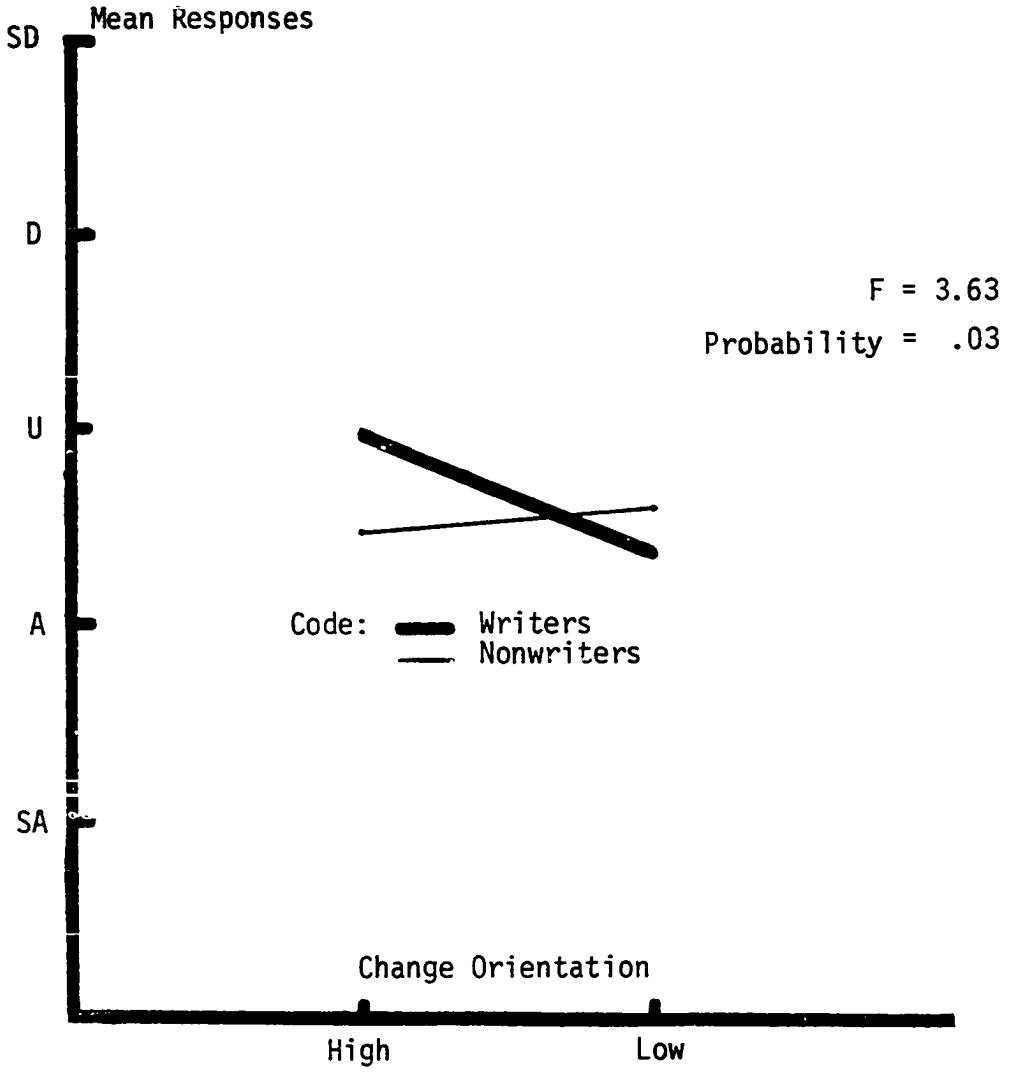


Figure 16. Mean attitude responses of high and low change-oriented writers and nonwriters toward resource materials as a barrier to implementing the I.D.E.C.C. learning system.

The consumer as perceived barriers

Tables 25 and 26 illustrate the teacher's attitude responses to the items in the consumer barrier category. Only two items, teacher's confidence in his own ability to effectively schedule competencies to plan the curriculum and students in my school view using the learning activity packages favorably, resulted in signficant attitude differences. High change-oriented writers have highly significantly more positive attitudes than low change-oriented nonwriters toward their own self-confidence in scheduling competencies. The univariate F value was 4.95 which was highly significant at the .008 level. Figure 17 graphically illustrates the teacher group difference in attitudes toward scheduling competencies. In the student category shown in Table 26, differences in attitudes were shown in the teacher's responses to the statement that students in my school view the practice of using the I.D.E.C.C. learning activity packages favorably. The univariate F test resulted in a F value of 3.40 which was significant at the .03 level. High change-oriented nonwriters have significantly more positive attitudes than the low change-oriented nonwriters toward how the students accept the use of the learning activity packages. Figure 18 illustrates the teachers' attitudinal differences toward students accepting the learning activity packages. A Multivariate F test on the overall attitude difference resulted in a F score of 1.84 which was highly significant at the .005 probability level. The high change-oriented writers had highly significantly less concern toward the consumer as a barrier to implementing the I.D.E.C.C. learning system. Figure 19 graphically represents the differences in attitude responses between high and low change-oriented writers

and nonwriters toward the role of the consumer as a barrier to implementing the I.D.E.C.C. learning system.

Table 25. Comparison of the mean attitude responses of high and low change-oriented writers and nonwriters toward self-confidence as a perceived barrier to implementing the I.D.E.C.C. learning system.

Consumer Category	L.A.P. Writers LCO	L.A.P. Writers HCO	Nonwriters LCO	Nonwriters HCO	F value	Significance level
Confidence in own ability to:						
Schedule competencies	3.72	4.02	3.95	4.00	4.95	.008
Individual instruction	2.47	3.90	3.47	3.04	.40	.67
Counsel students	3.77	4.10	3.82	3.96	.22	.80
Use learning activity packages	3.98	4.24	3.68	4.22	1.05	.35
Career counsel	3.81	4.29	3.83	4.43	.86	.57
Explain system	1.92	1.66	2.14	1.72	.51	.60
Obtain financial support	3.60	4.22	3.57	3.96	.39	.68
Evaluate students	3.30	3.37	3.25	3.41	1.58	.21
Devise file system	3.21	3.36	3.03	3.19	.21	.82

Table 26. Comparison of the mean attitude responses of high change-oriented and low change-oriented writers and nonwriters toward students as a perceived barrier to implementing the I.D.E.C.C. learning system.

Consumer Category	L.A.P. Writers LCO	L.A.P. Writers HCO	Nonwriters LCO	Nonwriters HCO	F value	Significance level
Confidence in students:						
Attitude	2.79	3.24	2.71	3.30	.49	.62
Experience	2.74	2.97	2.70	3.19	.30	.75
Motivation	2.68	2.75	2.46	2.87	1.08	.34
Intelligence	3.47	3.76	3.18	3.35	.73	.51
Acceptance of L.A.P.'s	3.40	3.47	3.23	3.63	3.40	.03
Multivariate $F_{28.1230}$ = 1.84			Probability = .005			

Situational work factors as perceived barriers

The last category of perceived barriers which yielded significant univariate F scores was situational work factors. Three of the five

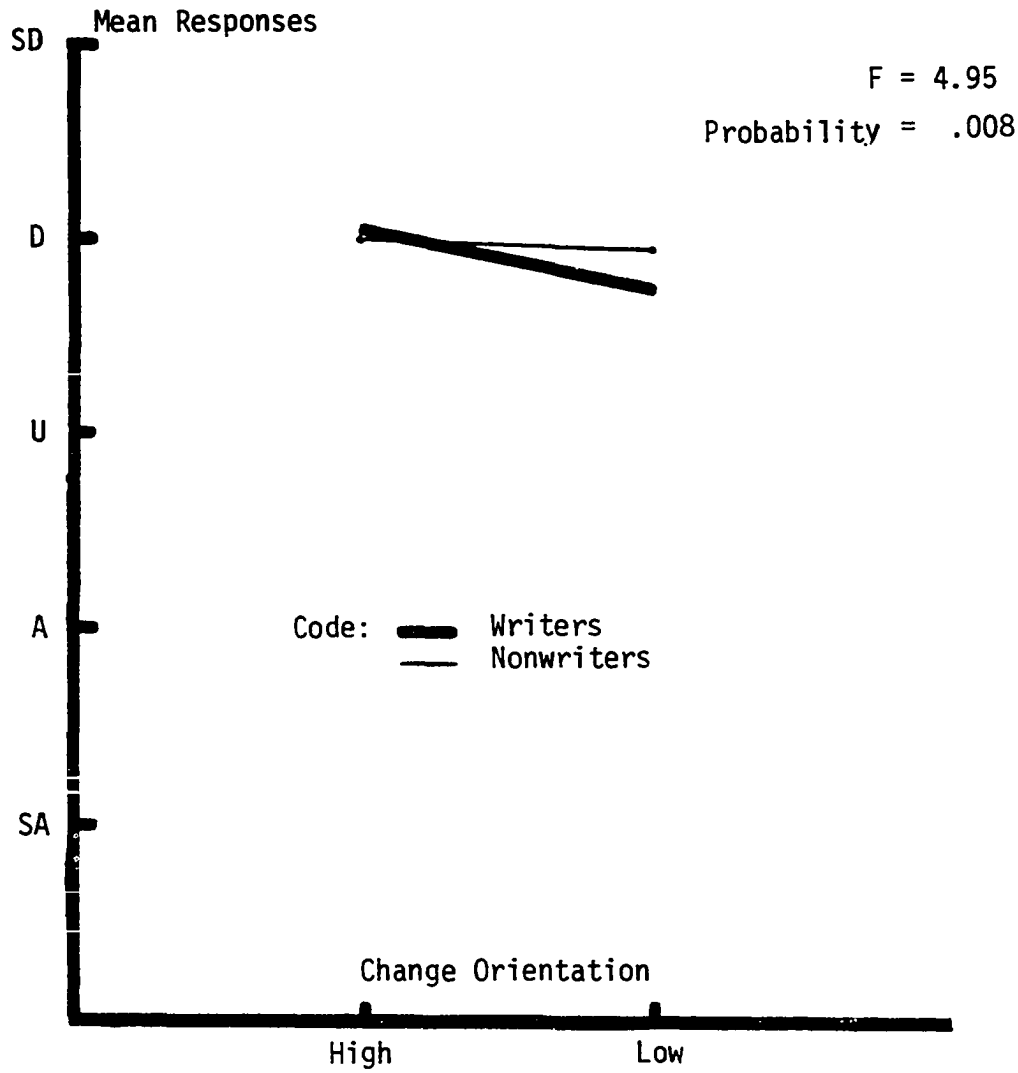


Figure 17. Mean attitude responses of high and low change-oriented writers and nonwriters toward self-confidence in scheduling competencies as a barrier to implementing the I.D.E.C.C. learning system.

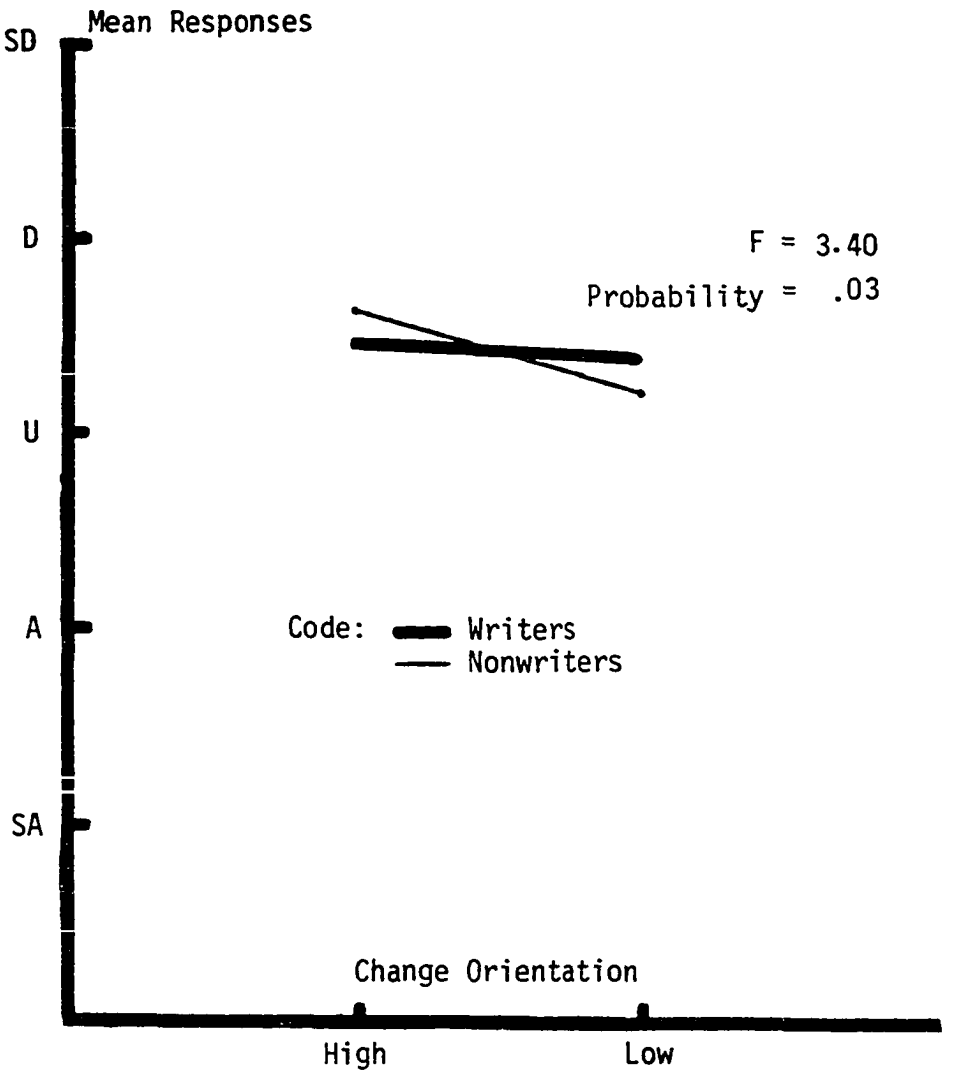


Figure 18. Mean attitude responses of high and low change-oriented writers and nonwriters toward students' acceptance of the learning activity packages as a barrier to implementing the I.D.E.C.C. learning system.

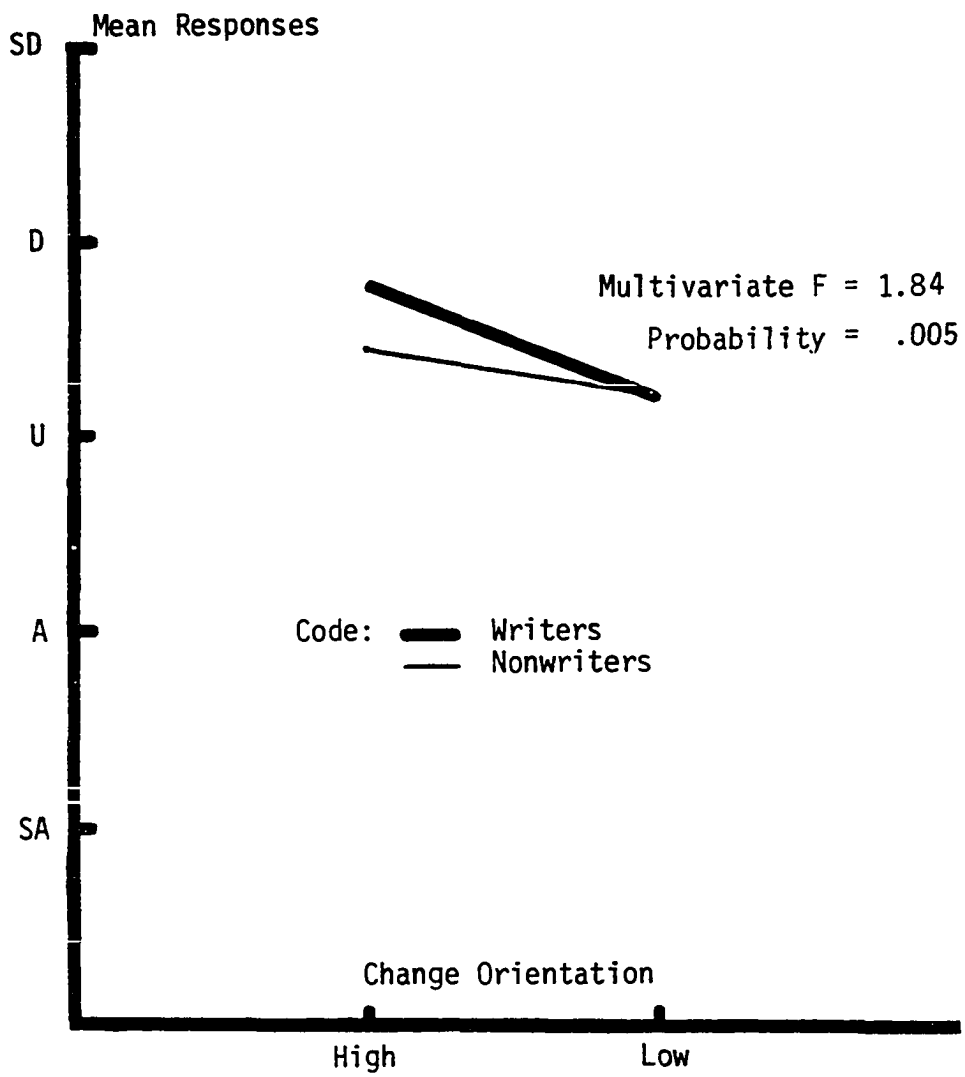


Figure 19. Mean attitude responses of high and low change-oriented writers and nonwriters toward the consumer as a barrier to implementing the I.D.E.C.C. learning system.

univariate F tests yielded at least significant differences among the teacher attitudes. All three items dealing with administrative support yielded differences. Items pertaining to school administration and de rtmental approval yielded respective F values of 5.45 and 5.40 which were highly significant at the .005 level. Figures 20 and 21 graphically illustrate the more positive attitudes of the high change-oriented writer and nonwriter teacher groups toward school administration approval. Figure 22 illustrates the more positive attitudes of the high change-oriented teachers concerning how they view their administrator's attitudes toward the learning activity packages.

Table 27. Comparison of the mean attitude responses of high and low change-oriented writers and nonwriters toward administrative support factors as perceived barriers to implementing the I.D.E.C.C. learning system.

Administrative Support Factor	L.A.P. Writers		Nonwriters		F value	Significance level
	LCO	HCO	LCO	HCO		
Philosophical support	3.83	4.19	3.70	4.30	5.45	.005
Departmental approval	3.70	3.98	3.64	4.24	5.40	.005
Administrator's negative view of L.A.P.'s	4.02	4.24	3.61	4.39	3.28	.04

Table 28. Comparison of the mean attitude responses of high and low change-oriented writers and nonwriters toward school organizational factors as barriers to implementing the I.D.E.C.C. learning system.

School Organization Factor	L.A.P. Writers		Nonwriters		F value	Significance level
	LCO	HCO	LCO	HCO		
D.E. facilities	2.42	2.18	2.42	2.31	.006	.99
D.E. schedule	3.53	3.79	3.44	3.91	.53	.59
Multivariate $F_{10,1248} = 4.74$					Probability = .0001	

A Multivariate F test on overall attitude difference on all five factors as a group resulted in a F score of 4.74 which yielded a .0001 probability level. The more positive attitudes of the high change-oriented teacher groups toward situational work factors as a categorical barrier is illustrated in Figure 23 on page 123.

Two of the six Multivariate F tests resulted in highly significant attitude response differences between the teacher groups. Ten of the fifty-four univariate F values yielded significant differences in attitude responses between the teacher groups. The null hypothesis was failed to be rejected that there was attitudinal difference in the high and low change-oriented writers and nonwriters toward the perceived barriers to implementing the I.D.E.C.C. learning system.

Hypothesis 9: There are no significant interactions among the attitudes of high and low change-oriented teachers with age levels of distributive education teachers toward each factor within the six perceived barriers categories to implementing the I.D.E.C.C. learning system.

This hypothesis was written to test for differences in attitudes of high and low change-oriented teachers among various age levels toward the factors in the six categories of perceived barriers to implementing the I.D.E.C.C. learning system. The univariate F test showed no significant difference in the attitudes of high and low change-oriented teachers among the various age levels toward any of the 54 items within the six perceived barriers categories. Multivariate analysis was also computed for each category as a group and then for all 54 items as one group. The Multivariate tests all produced nonsignificant F values and the decision was made to fail to reject the null hypothesis.

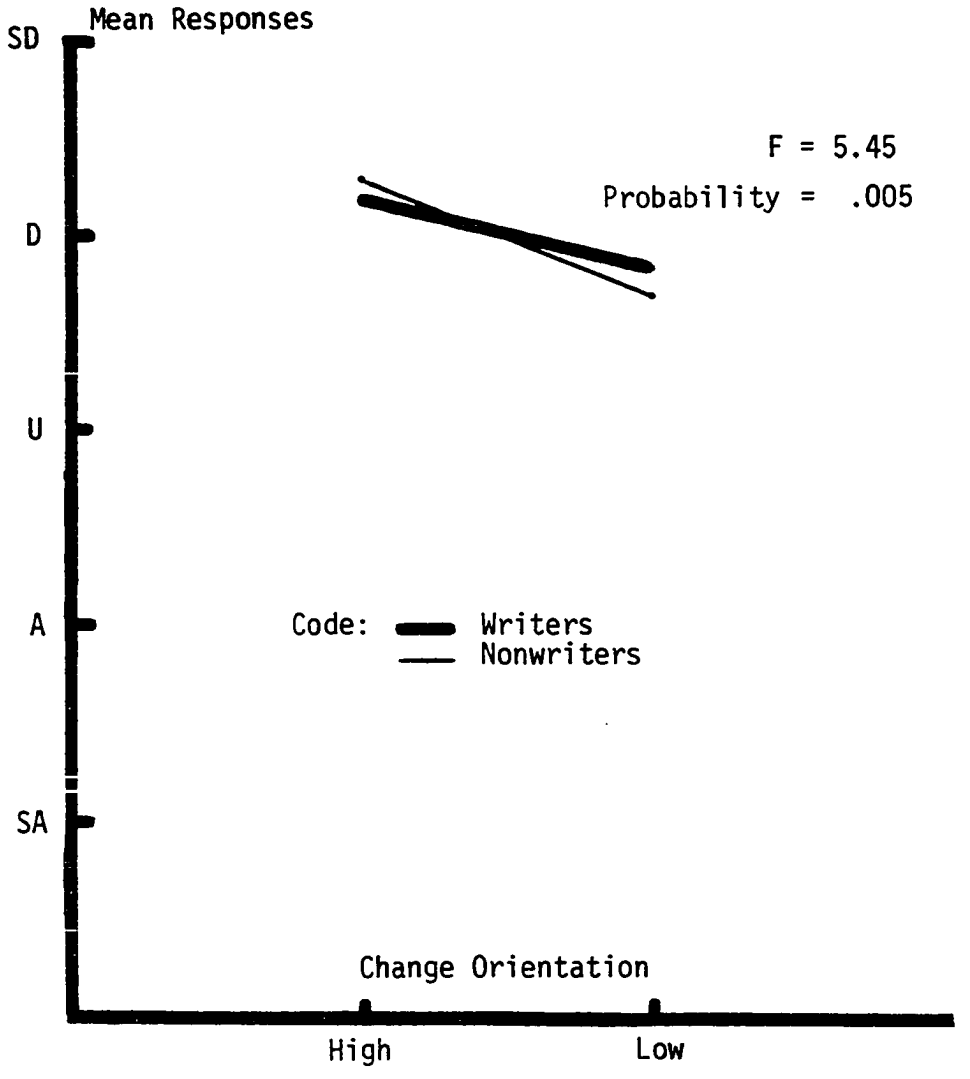


Figure 20. Mean attitude responses of high and low change-oriented writers and nonwriters toward administrative philosophical support as a barrier to implementing the I.D.E.C.C. learning system.

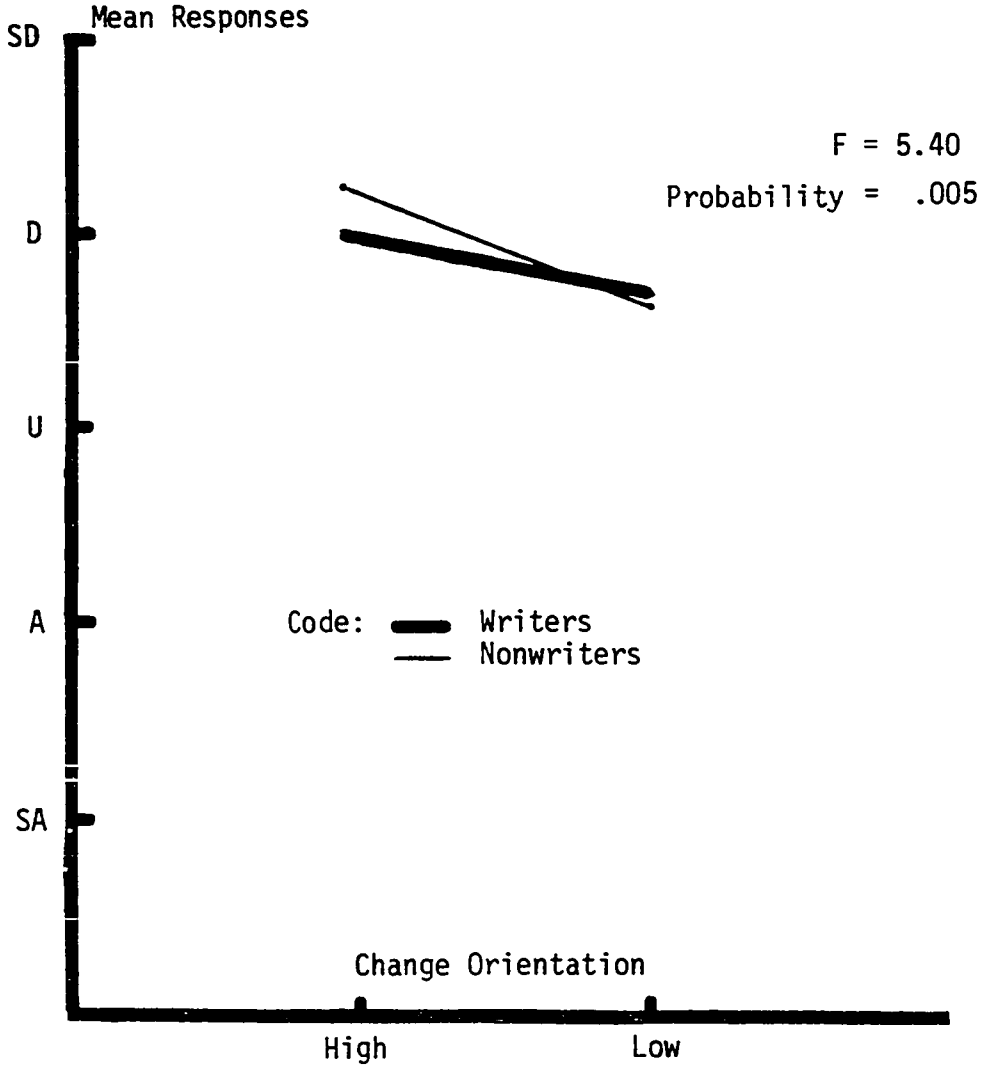


Figure 21. Mean attitude responses of high and low change-oriented writers and nonwriters toward departmental approval as a barrier to implementing the I.D.E.C.C. learning system.

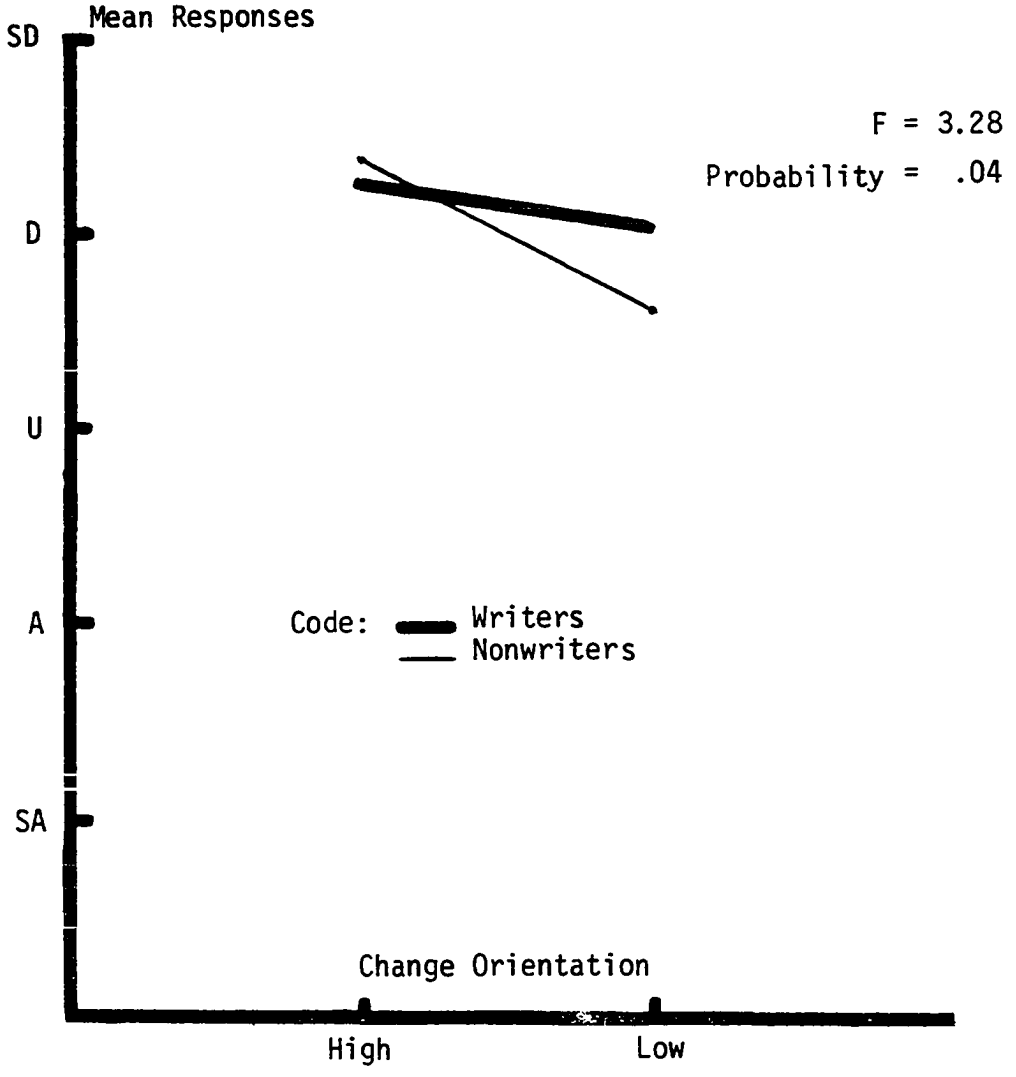


Figure 22. Mean attitude responses of high and low change-oriented writers and nonwriters toward administrator's view of the learning activity package as a barrier to implementing the I.D.E.C.C. learning system.

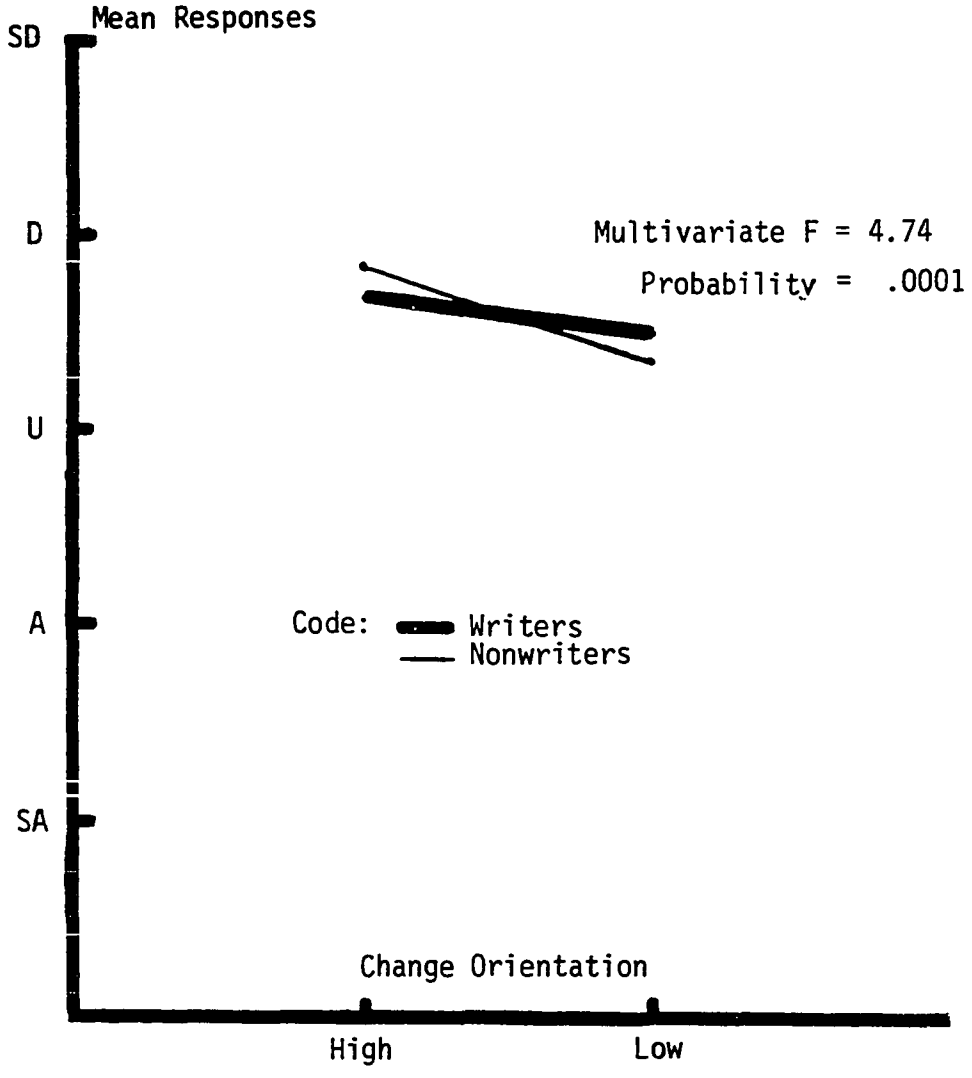


Figure 23. Mean attitude responses of high and low change-oriented writers and nonwriters toward situational work factors as a barrier to implementing the I.D.E.C.C. learning system.

Hypothesis 10: There are no significant interactions among the attitudes of high and low change-oriented teachers with levels of teaching experience in present distributive education position toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

Univariate F tests were completed for all 54 of the perceived barrier factors and multivariate F tests were completed on each of the six categories of perceived barriers as a group. The only category in which significant difference in a univariate test was found was in the value of the innovation category. Significant Multivariate F values were found in the categories of value of the innovation and the consumer.

Value of the innovation as perceived barriers

Table 29 and Table 30 illustrate the univariate F tests for each factor and the Multivariate F test for the factors as a group. The teacher groups responded in a significantly different manner to the statement that I believe in using more individual instruction and less large group instruction to implement the I.D.E.C.C. learning system. The F test produced a value of 2.41 which was significantly different at the .02 probability level. Figure 24 illustrates the difference in attitudes of the low and high change-oriented teachers at various levels of teaching experiences. The low change-oriented teachers with two or less years experience have more positive attitudes toward using individualized instruction. However, the high change-oriented teachers with three or more years experience have more positive attitudes toward individualizing instruction. The Multivariate F test produced a F value of 1.52 which yields highly significantly different attitudes between the high and low change-

oriented teachers' attitudes toward the value of the innovation as a perceived categorical barrier. Figure 25 on page 128 graphically illustrates the more positive attitudes of the high change-oriented teachers toward the value of the innovation.

The consumer as perceived barriers

Although none of the univariate F tests showed any significant differences in the attitudes of high and low change-oriented teachers, the overall Multivariate F value of 1.61 yielded a highly significantly different attitude at the .01 probability level. Table 31 and Table 32 on page 129 show both the univariate F tests for each factor in the consumer barrier category and the overall Multivariate F test and resulting significance level. Figure 26 on page 130 illustrates the mean attitude responses of low and high change-oriented teachers categorized by years teaching experience toward the consumer groups as a barrier to implementing the I.D.E.C.C. learning system. The high change-oriented teachers among all the categories of teaching experience were less concerned about their own self-confidence and students as barriers to implementing the I.D.E.C.C. learning system.

There were only two Multivariate F tests which yielded significant F values. The fifty-four univariate F tests yielded only two significant F values which represented attitudinal differences in the teacher groups. The decision was made to fail to reject the null hypothesis. The high and low change-oriented teachers categorized by levels of teaching experience in their present distributive education program did not perceive the barriers to implementing the I.D.E.C.C. learning system in a significantly different manner.

Table 29. Comparison of high and low change-oriented teachers' attitudes categorized perceived barriers to implementing the I.D.E.C.C. learning system.

Value of the innovation	Levels of teaching experience of hi								
	1 yr.		2 yrs.		3 yrs.		4 yrs.		
	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	LC
Value contrary to the teacher's:									
Competencies as curriculum base	4.13	4.43	4.04	4.31	3.75	4.30	3.76	4.46	3.
Individual instruction	3.87	3.80	3.70	3.62	3.33	3.85	3.31	4.21	3.
Lack of career objective	2.33	2.91	2.68	2.83	2.11	2.77	2.41	2.57	2.
System de-humanizing	3.85	4.37	2.86	4.26	2.58	4.06	3.86	4.18	3.
Resistance to elements of the system	3.74	3.98	3.70	3.93	3.49	3.93	3.45	3.96	3

Table 30. Comparison of high and low change-oriented teachers' attitudes categorize groups as perceived barriers to implementing the I.D.E.C.C. learning syst

Value of the innovation	Levels of teaching experience of h								
	1 yr.		2 yrs.		3 yrs.		4 yrs.		
	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	L
Value of teacher's reference group:									
Fellow teachers	3.11	3.30	2.94	3.43	2.99	3.07	3.10	3.49	3
D.E. leaders in state	4.07	4.41	4.08	4.26	4.31	4.02	4.21	4.54	4

Multivariate $F_{49,4279} = 1.52$ Probability = .011

's' attitudes categorized by years teaching experience toward the value of the innovation as learning system.

eaching experience of high and low change-oriented teachers												
yrs.	4 yrs.		5 yrs.		6-7 yrs.		8-9 yrs.		10 - over		F	Significance
HCO	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	value	level
4.30	3.76	4.46	3.89	4.67	3.92	4.45	4.06	4.56	3.92	4.46	1.03	.41
3.85	3.31	4.21	3.70	4.49	3.57	4.05	3.68	4.04	3.36	3.84	2.41	.02
2.77	2.41	2.57	2.80	3.20	2.38	2.77	3.03	3.11	2.69	2.92	.44	.88
4.05	3.86	4.18	3.89	4.84	3.95	4.20	3.85	4.63	3.69	4.32	1.46	.18
3.93	3.45	3.96	3.42	3.04	3.49	4.18	3.26	3.48	3.31	3.81	1.57	.14

's' attitudes categorized by years teaching experience toward the values of teacher reference .D.E.C.C. learning system.

eaching experience of high and low change-oriented teachers												
yrs.	4 yrs.		5 yrs.		6-7 yrs.		8-9 yrs.		10 - over		F	Significance
HCO	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	value	level
3.07	3.10	3.49	3.44	4.10	3.24	3.37	3.38	3.78	2.86	3.97	1.62	.13
4.02	4.21	4.54	4.13	4.78	4.19	4.36	4.26	4.44	4.11	4.35	1.70	.11

= .011

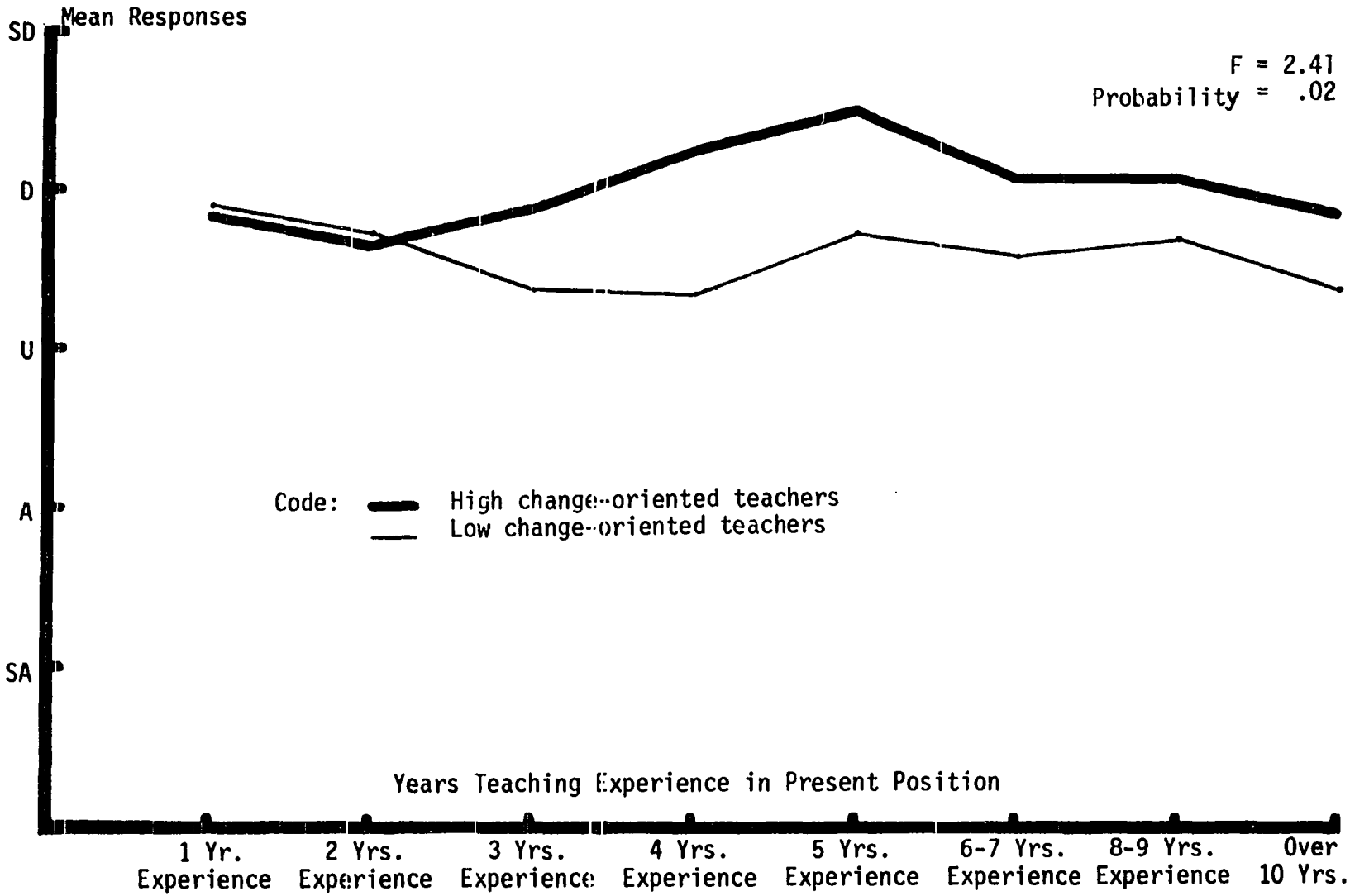


Figure 24. Mean attitude responses of high and low change-oriented teachers categorized by years teaching experience toward individualized instruction as a barrier to implementing the I.D.E.C.C. learning system.

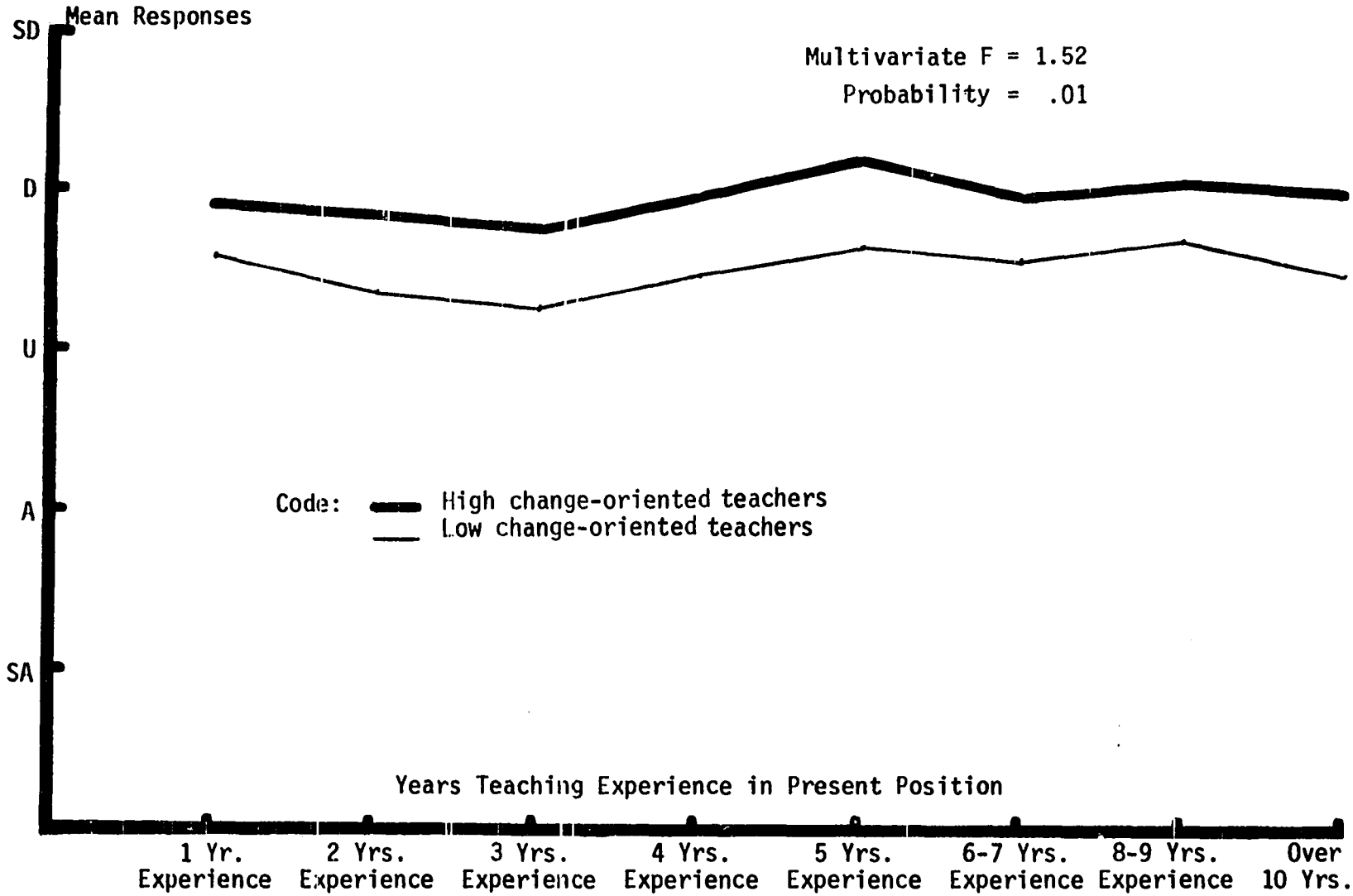


Figure 25. Mean attitude responses of high and low change-oriented teachers categorized by years teaching experience toward the value of the innovation as a barrier to implementing the I.D.E.C.C. learning system.

Table 31. Comparison of high and low change-oriented D.E. teachers' attitudes categori confidence as a perceived barrier to implementing the I.D.E.C.C. learning sy

Consumer Category	Years teaching experience i 1 yr. LCO	1 yr. HCO	2 yrs. LCO	2 yrs. HCO	3 yrs. LCO	3 yrs. HCO	4 yrs. LCO	4 yrs. HCO	LC
Confidence in Own Ability to:									
Schedule competencies	3.72	4.24	3.98	3.88	3.47	4.00	3.66	4.21	3.
Individualize instruction	3.59	3.91	3.72	4.05	3.17	3.90	3.03	3.96	3.
Counsel students	3.59	3.98	3.96	4.00	3.72	3.90	3.41	3.96	3.
Use learning activity packages	3.67	4.28	3.76	4.19	3.61	4.10	3.69	4.11	3
Career counsel	3.70	4.28	3.72	3.95	3.69	4.12	4.00	4.07	3
Explain system	3.87	4.26	4.02	4.14	3.86	3.92	3.79	4.18	4
Obtain financial support	3.63	4.13	3.84	3.88	3.58	3.72	3.31	4.00	3
Evaluate students	3.11	3.37	3.34	3.64	2.86	3.35	3.31	3.50	3
Devise file system	3.22	3.26	3.12	3.45	2.75	3.28	3.28	3.14	2

Table 32. Comparison of high and low change-oriented D.E. teachers' attitudes categor student as a perceived barrier to implementing the I.D.E.C.C learning syste

Consumer Category	Years teaching experience 1 yr. LCO	1 yr. HCO	2 yrs. LCO	2 yrs. HCO	3 yrs. LCO	3 yrs. HCO	4 yrs. LCO	4 yrs. HCO	L
Confidence in Students:									
Attitude	2.72	3.09	2.86	3.17	2.44	2.92	2.66	3.14	
Experience	2.54	2.87	2.88	2.83	2.39	3.02	2.86	2.71	
Motivation	2.43	2.64	2.62	3.00	2.42	2.60	2.62	2.71	
Intelligence	3.33	3.65	3.40	3.60	3.50	3.63	3.21	3.54	
Acceptance of L.A.P.'s	3.22	3.52	3.30	3.62	3.36	3.25	3.07	3.82	

Multivariate $F_{35,3067} = 1.61$ Probability = .01

' attitudes categorized by years teaching experience in present position toward his own D.E.C.C. learning system.

eaching experience in present position												
	4 yrs.		5 yrs.		6-7 yrs.		8-9 yrs.		10 - over		F	Significance
CO	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	value	level
.00	3.66	4.21	3.83	4.33	3.78	4.05	3.91	4.15	3.31	3.95	1.10	.36
.90	3.03	3.96	3.87	4.55	3.38	3.91	3.68	4.04	3.25	4.05	.79	.60
.90	3.41	3.96	3.91	4.36	3.76	3.59	3.82	3.85	3.33	4.16	1.61	.13
.10	3.69	4.11	3.70	4.45	3.78	4.09	4.03	4.07	3.19	4.03	.94	.53
.12	4.00	4.07	3.94	4.67	3.73	4.14	4.00	4.52	3.78	4.30	.95	.53
.92	3.79	4.18	4.07	4.61	3.84	4.34	4.03	4.33	3.61	4.35	1.12	.35
.72	3.31	4.00	3.69	4.49	3.59	4.23	3.79	3.74	3.47	4.11	1.87	.07
.35	3.31	3.50	3.44	4.08	2.86	3.50	3.38	3.43	3.42	3.73	.50	.83
.28	3.28	3.14	2.96	2.63	3.24	3.45	2.79	2.70	3.08	3.41	1.02	.42

s' attitudes categorized by years teaching experience in present position toward the E.C.C learning system.

teaching experience in present position												
.	4 yrs.		5 yrs.		6-7 yrs.		8-9 yrs.		10 - over		F	Significance
CO	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	value	level
.92	2.66	3.14	3.17	3.51	2.68	3.37	3.18	3.33	2.69	3.43	.37	.92
.02	2.86	2.71	3.11	3.65	2.46	3.20	2.82	3.19	2.69	3.05	1.02	.42
.60	2.62	2.71	2.81	3.35	2.46	2.86	2.88	3.07	2.42	2.86	.25	.97
.63	3.21	3.54	3.26	2.57	3.41	3.68	3.03	3.22	3.50	3.70	1.64	.12
.25	3.07	3.82	3.36	4.24	3.22	3.52	3.56	3.89	3.19	3.76	1.93	.06

.01

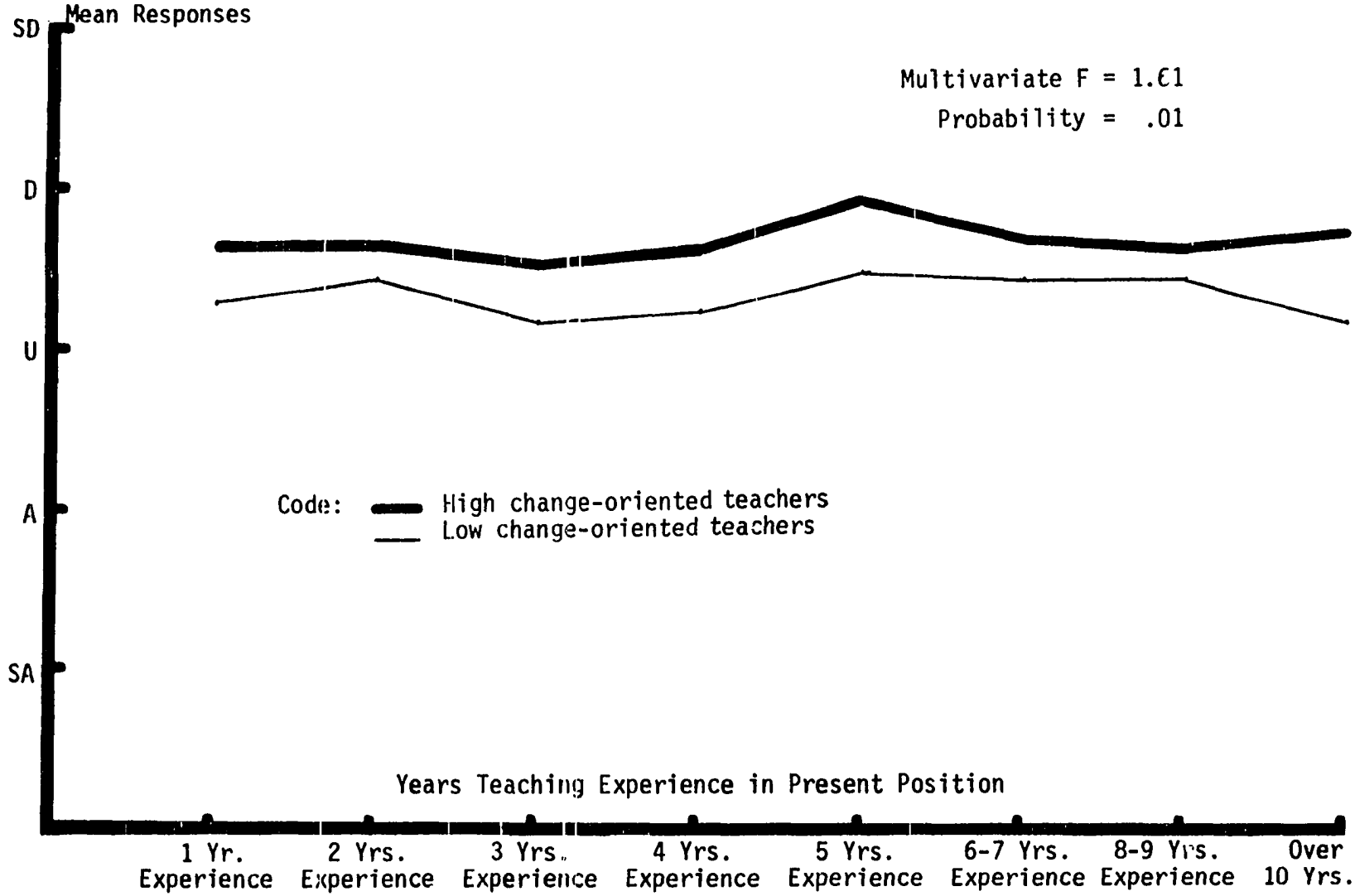


Figure 26. Mean attitude responses of high and low change-oriented teachers categorized by years teaching experience toward the consumer as a barrier to implementing the I.D.E.C.C. learning system.

Hypothesis 11: There are no significant interactions among high and low change-oriented teachers with levels of amount of in-service education received on the learning system toward each factor within the six perceived barriers categories to implementing the I.D.E.C.C. learning system.

The purpose of this hypothesis was to identify differences in attitudes among high and low change-oriented teachers with various levels of in-service training. Multivariate F tests were computed for all six categories of perceived barriers to implementing the I.D.E.C.C. learning system. Univariate F tests were also run on each of the 54 perceived barrier factors. Three of the Multivariate F tests yielded significant differences between the teachers' attitudes. Differences in attitudes were identified in the perceived barrier categories of attributes of the learning system, value of the innovation, and the consumer.

Attributes of the learning system as perceived barriers

Table 33 presents the teachers' attitude responses to the items in the attributes of the learning system perceived barrier category. The Multivariate F value was 1.50 which yielded a significant difference at the .02 probability level. The first significant F value of 4.29 dealt with the teachers' responses to the statement that the reading level of the learning activity packages is too low. Figure 27 illustrates the comparison of the teachers' mean attitude responses toward the reading level being too low. High change-oriented teachers with no in-service were more concerned with the reading level being too low than the low change-oriented teachers with the same amount of in-service. The trend reversed itself for all other levels of in-service training and the high

change-oriented teachers were less concerned with the reading level being too low. There were four other factors which resulted in highly significant attitude differences. The teacher groups perceived the reading level too high, materials that do not relate to the students' on-the-job training, repetition in the learning activity package format, and unclear learning activity package directions in a highly significantly different manner. The univariate tests on these factors produced the same trend in the teachers' responses. Figure 28, 29, and 30 and 31 graphically illustrate this trend. The low change-oriented teachers with no in-service training had highly significantly more positive attitudes than the high change-oriented teachers. The high change-oriented teachers, with any amount of in-service training, perceived fewer barriers due to these factors. The Multivariate F test produced similar results for the teachers' attitudes toward the attributes of the learning system as a collective barrier. Figure 32 on page 139 shows that the low change-oriented teachers with no in-service had more positive attitudes toward the attributes than the high change-oriented teachers. However, the high change-oriented teachers with any amount of in-service training had more positive attitudes toward the attributes of the I.D.E.C.C. learning system than the low change-oriented teachers and were therefore less concerned that the attributes would be a barrier in implementing the system.

Value of the innovation as perceived barriers

The second category of barriers in which significant differences in attitudes of the teacher groups were identified was in the value of the

Table 33. Comparison between high and low change-oriented D.E. teachers' attitudes attributes of the learning system as perceived barriers to implementing t

Attribute of the learning system	None		1-3 days		4-5 days		6-10 days		
	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	
L.A.P. format	3.02	4.06	3.47	3.88	3.30	3.60	3.44	3.84	3
Length and sequence of L.A.P.	2.33	1.33	2.81	2.75	3.15	2.73	2.88	2.53	2
Reading level:									
Too low	2.55	1.58	3.50	3.47	3.67	3.77	3.67	3.79	3
Too high	2.00	1.87	3.07	3.18	3.24	3.51	3.25	3.66	3
Need for recordkeeping	2.29	1.39	3.03	2.84	3.31	2.96	3.09	2.84	3
Materials which relate to on-the-job training	2.24	1.44	3.26	3.49	3.36	3.61	3.39	3.90	
Repetition in format	2.29	1.31	3.20	3.54	3.17	3.25	3.29	3.71	
L.A.P. directions	2.29	1.39	3.29	3.46	3.31	3.67	3.32	3.78	

Multivariate $F_{28,2470} = 1.60$ Probability = .02

ow change-oriented D.E. teachers' attitudes categorized by days of inservice toward stem as perceived barriers to implementing the I.D.E.C.C. learning system.

1-3 days		4-5 days		6-10 days		11 - over		F	Significance
LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	value	level
3.47	3.88	3.30	3.60	3.44	3.84	3.21	3.90	1.72	.14
2.81	2.75	3.15	2.73	2.88	2.53	2.74	3.03	1.77	.13
3.50	3.47	3.67	3.77	3.67	3.79	3.79	3.76	4.29	.002
3.07	3.18	3.24	3.51	3.25	3.66	3.42	3.53	3.59	.007
3.03	2.84	3.31	2.96	3.09	2.84	3.27	2.99	1.17	.32
3.26	3.49	3.36	3.61	3.39	3.90	3.42	3.72	4.52	.002
3.20	3.54	3.17	3.25	3.29	3.71	3.09	3.44	5.60	.0004
3.29	3.46	3.31	3.67	3.32	3.78	3.48	3.84	5.30	.0006

Probability = .02

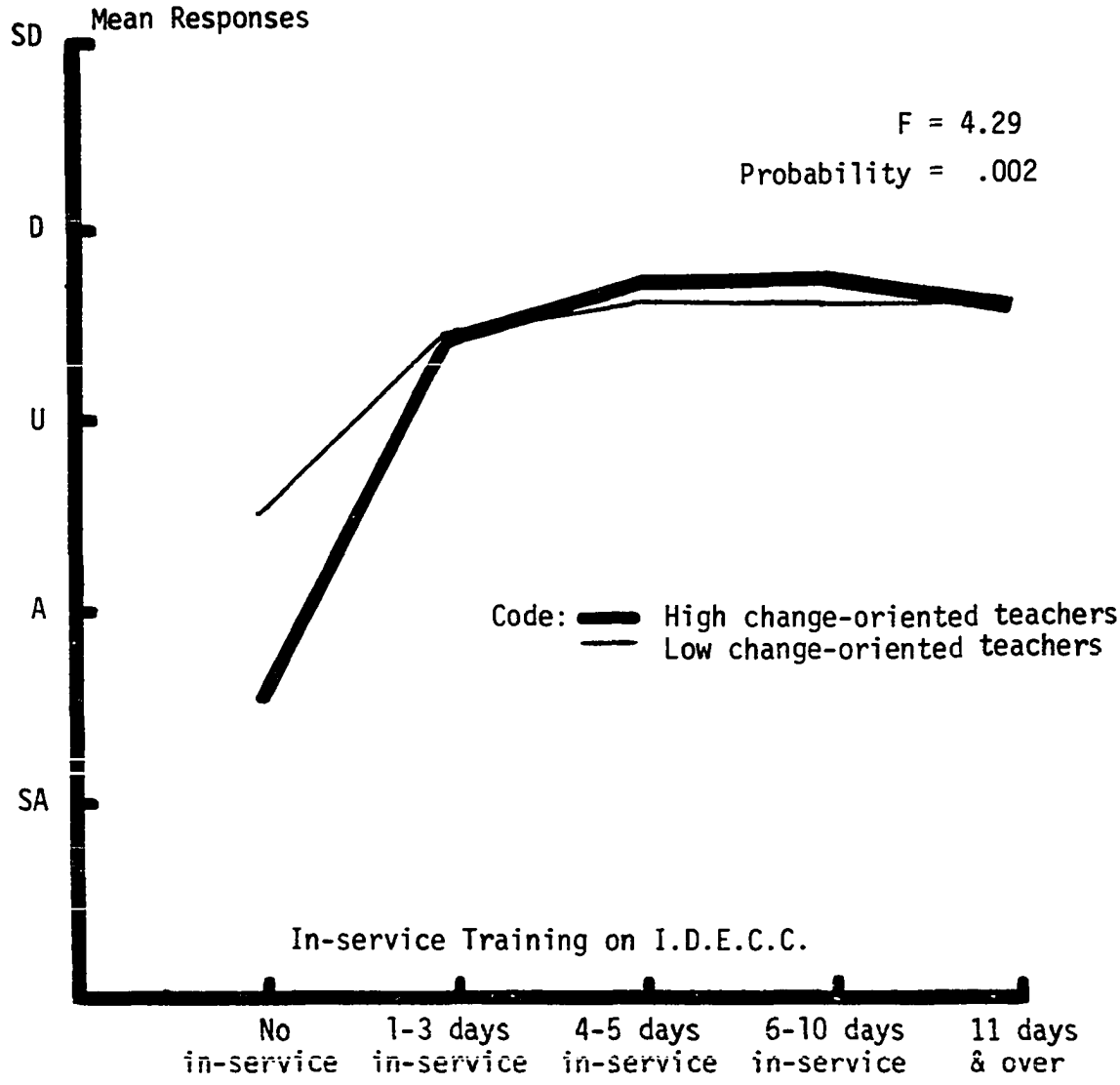


Figure 27. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward too low a reading level as a barrier to implementing the I.D.E.C.C. learning system.

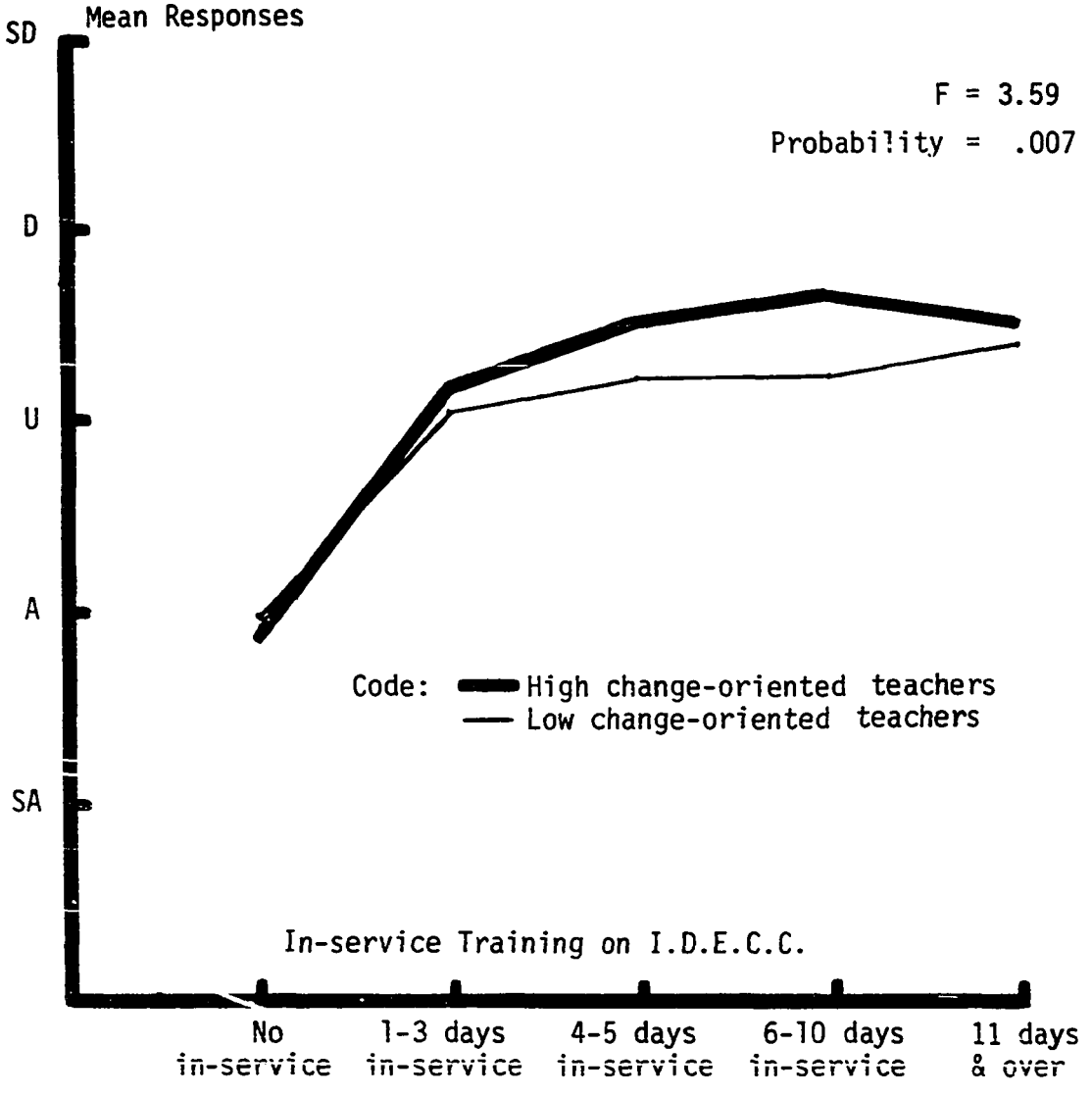


Figure 28. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward too high a reading level as a barrier to implementing the I.D.E.C.C. learning system.

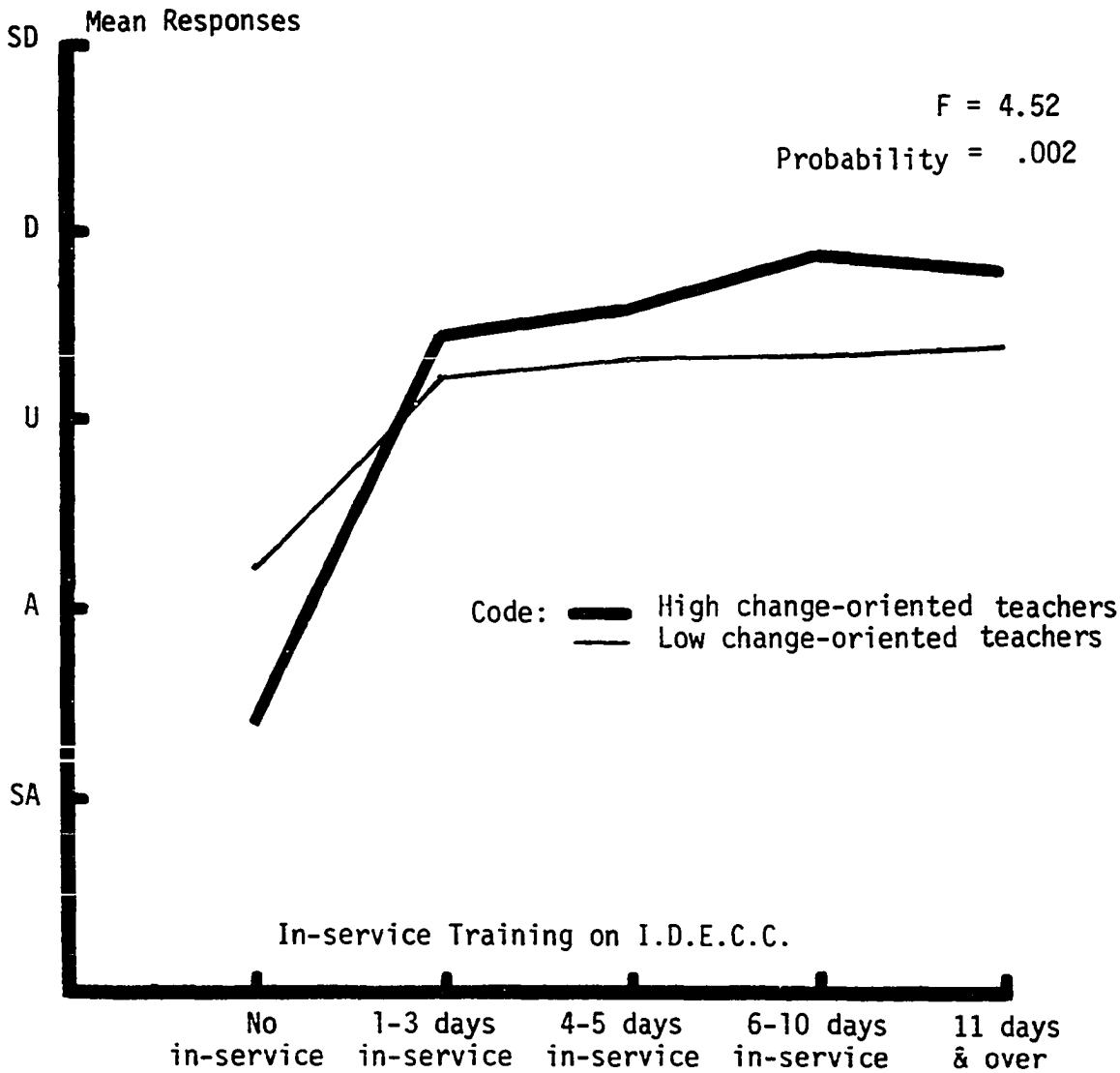


Figure 29. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward materials not relating to on-the-job training as a barrier to implementing the I.D.E.C.C. learning system.

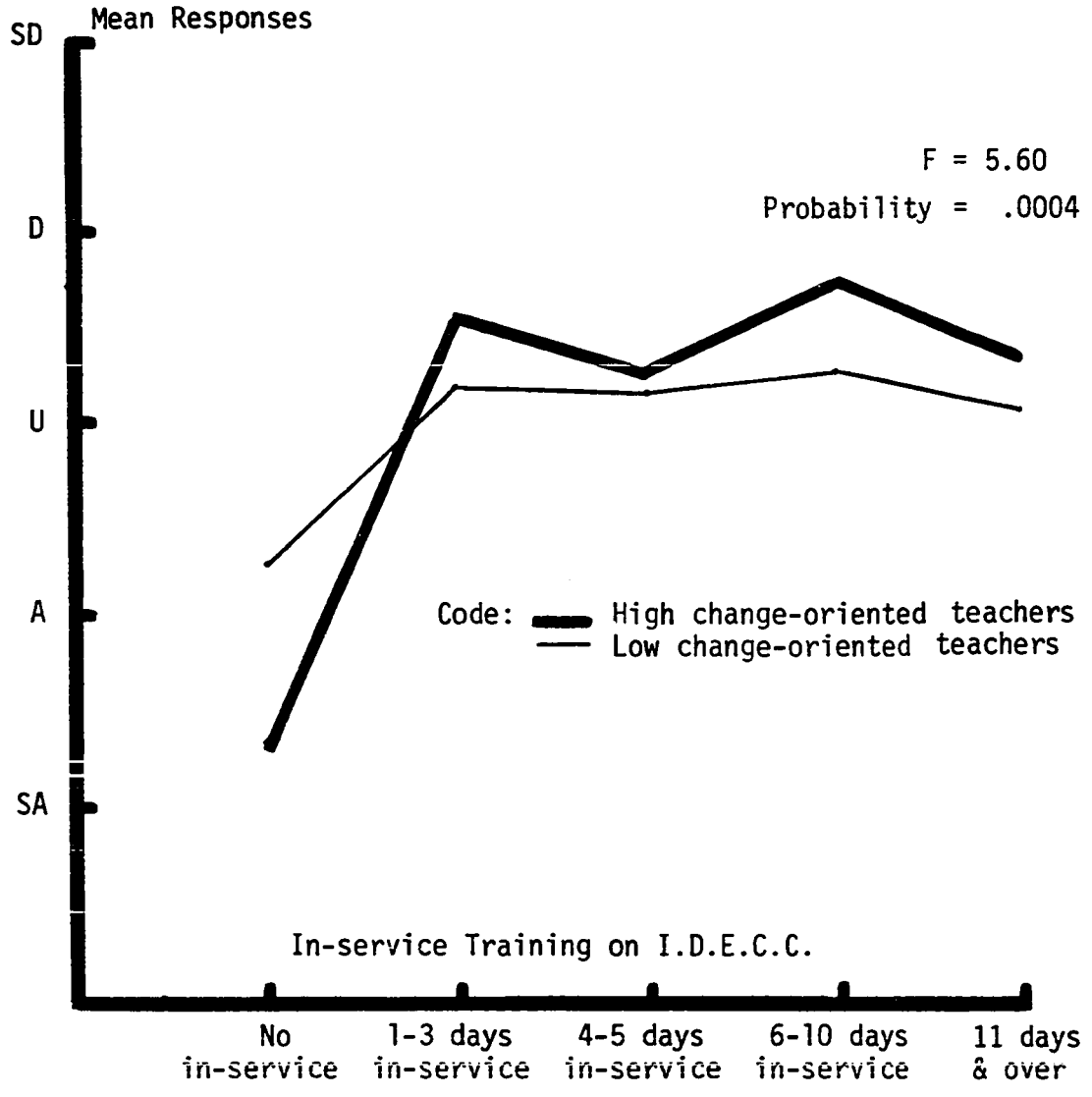


Figure 30. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward repetition in the learning activity package format as a barrier to implementing the I.D.E.C.C. learning system.

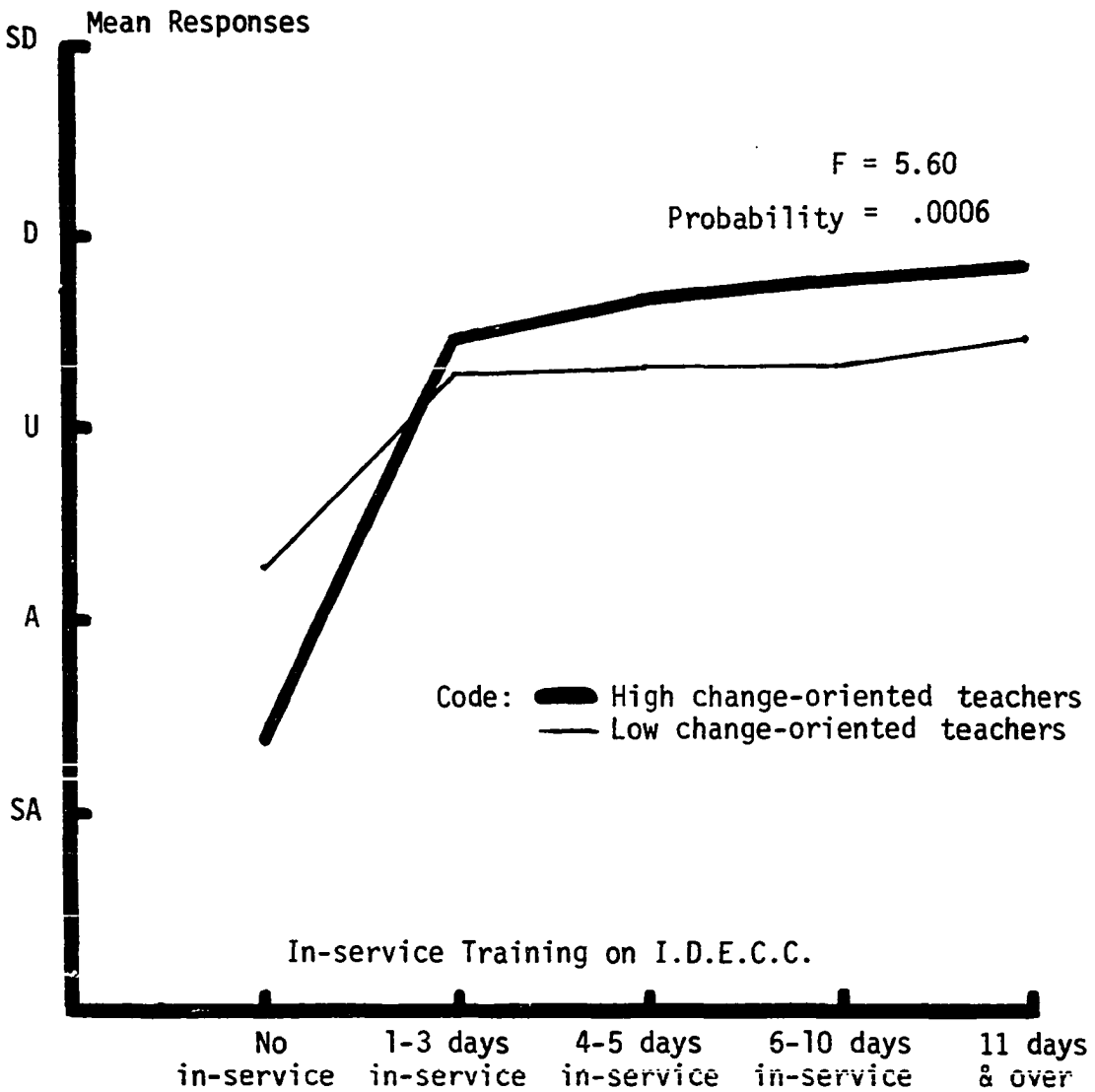


Figure 31. Mean attitude responses of high and low change-oriented teachers categorized by days in-service training toward unclear learning activity package directions as a barrier to implementing the I.D.E.C.C. learning system.

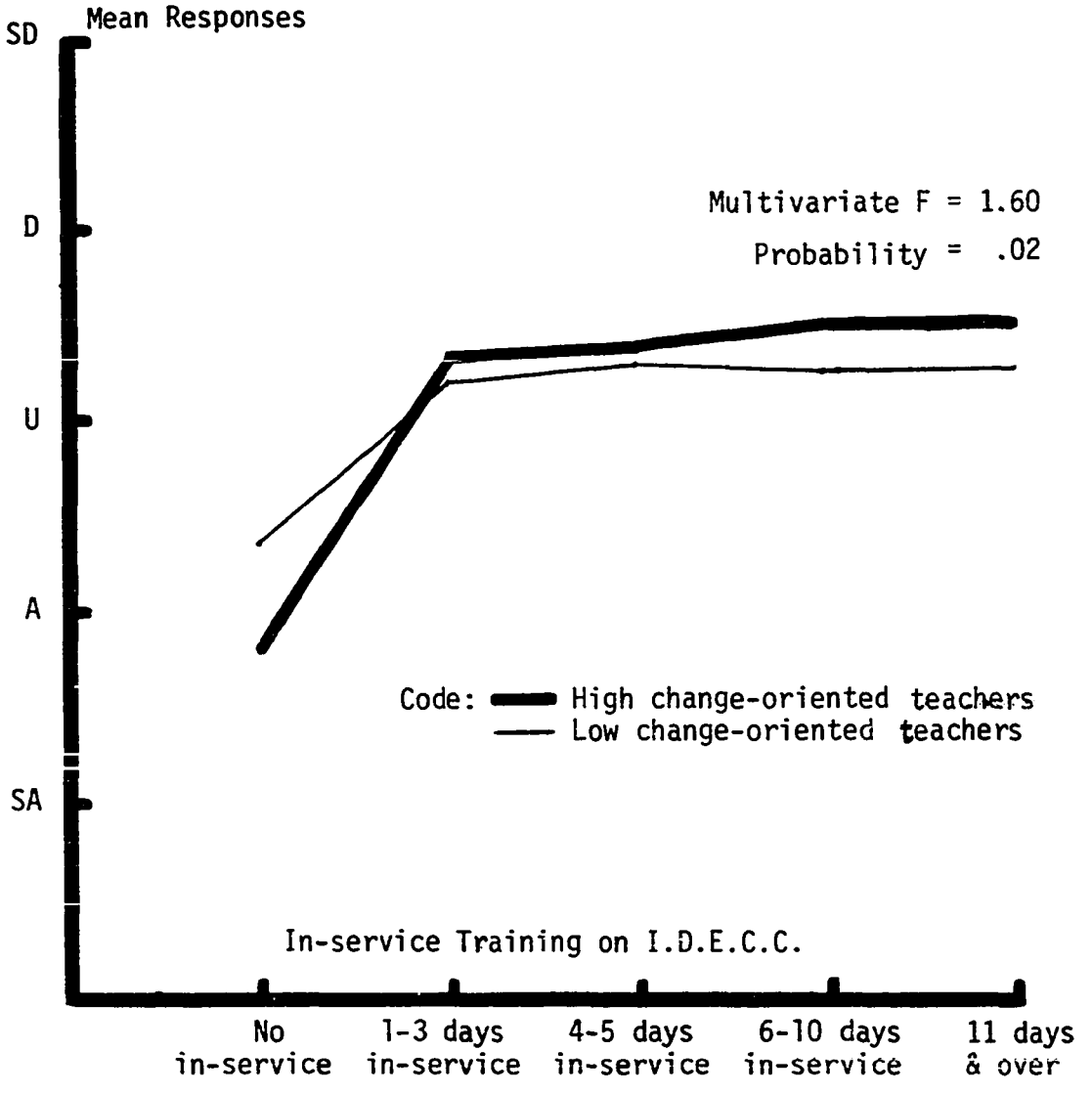


Figure 32. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward attributes of the learning system as a barrier to implementing the I.D.E.C.C. learning system.

innovation. Table 34 and Table 35 on page 141 provide the results of the univariate and Multivariate F tests. Three factors tested resulted in highly significant F values. The factors, in which the high and low change-oriented teachers with various amounts of in-service training had different attitudes toward were; individualizing instruction, the lack of student's career objective, and general resistance to competencies, behavioral objectives, and learning activity packages.

Figure 33, page 142 illustrates the graphic presentation of the mean attitude responses of the teacher groups toward individual instruction as a perceived barrier to implementing the I.D.E.C.C. learning system. The high change-oriented distributive education teachers were more receptive to individualizing instruction than the low change-oriented distributive education teachers at all levels of in-service training. Figure 34 on page 143 illustrates that distributive education teachers' attitude toward the lack of career objective as a barrier to implementing the I.D.E.C.C. learning system. The high change-oriented teachers had less concern at all levels of in-service training that the low change-oriented teachers that the lack of career objective was a barrier to implementing the I.D.E.C.C. learning system. Figure 35 on page 145 illustrates the teachers' attitudes toward the items as a group barrier to implementing the system. The high change-oriented teachers were less concerned about the value of the innovation as a barrier to the low change-oriented teachers.

Table 34. Comparison between high and low change-oriented D.E. teachers' attitudes toward the value of the innovation as perceived barriers to implementing

Value of the innovation	None		1-3 days		4-5 days		6-10 days		1
	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	L
Value contrary to the teacher's:									
Competencies as curriculum base	4.26	5.14	3.84	4.37	3.80	4.21	4.04	4.36	3
Individual instruction	4.16	5.17	3.50	4.04	3.69	3.78	3.60	3.78	3
Lack of career objective	3.26	4.58	2.70	2.75	2.60	2.59	2.21	2.59	2
System de-humanizing	4.17	5.14	3.71	4.39	3.72	4.25	3.75	4.26	3
Resistance to elements of the system	2.55	1.67	3.60	3.75	3.47	4.19	3.88	4.21	3

Table 35. Comparison between high and low change-oriented D.E. teachers' attitudes toward the values of teacher reference groups as perceived barriers to im

Value of the innovation	None		1-3 days		4-5 days		6-10 days		1
	LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	L
Value of teacher's reference group:									
Fellow teachers	3.91	4.69	3.13	3.37	3.14	3.49	3.04	3.34	2
D.E. leaders in state	3.45	4.14	4.03	4.31	4.09	4.14	4.11	4.41	4

Multivariate $F_{28,2470} = 1.90$ Probability = .003

ented D.E. teachers' attitudes categorized by days of inservice training
eived barriers to implementing the I.D.E.C.C. learning system.

	4-5 days		6-10 days		11 - over		F	Significance
	LCO	HCO	LCO	HCO	LCO	HCO	value	level
7	3.80	4.21	4.04	4.36	3.96	4.46	1.41	.23
4	3.69	3.78	3.60	3.78	3.22	3.74	3.52	.008
5	2.60	2.59	2.21	2.59	2.24	2.79	4.08	.003
9	3.72	4.25	3.75	4.26	3.81	4.25	1.33	.26
5	3.47	4.19	3.88	4.21	3.66	4.07	6.80	.0001

ented D.E. teachers' attitudes categorized by days of inservice training
oups as perceived barriers to implementing the I.D.E.C.C. learning system.

	4-5 days		6-10 days		11 - over		F	Significance
	LCO	HCO	LCO	HCO	LCO	HCO	value	level
37	3.14	3.49	3.04	3.34	2.78	3.46	1.73	.14
31	4.09	4.14	4.11	4.41	4.24	4.40	1.81	.12

ity = .003

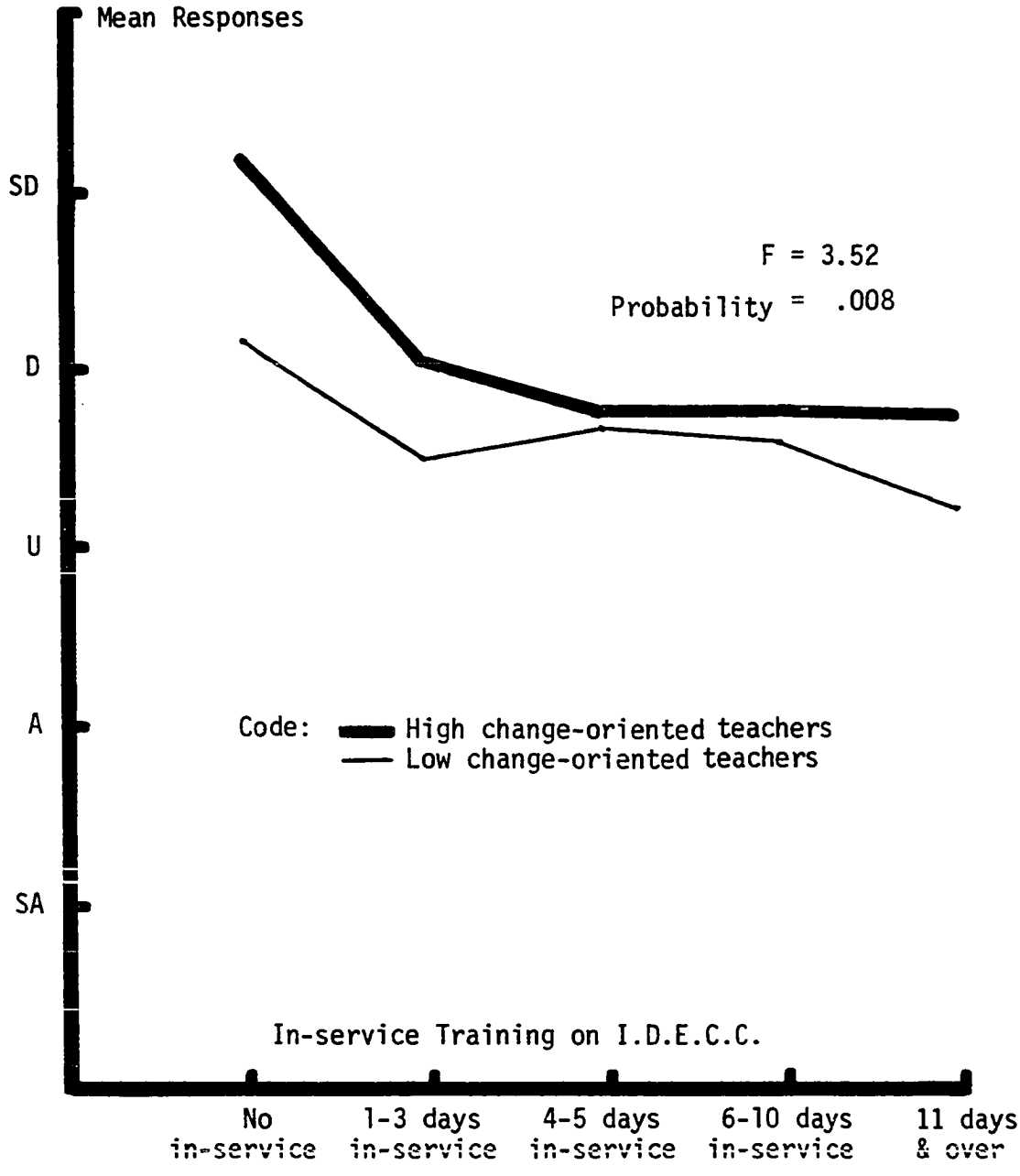


Figure 33. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward individual instruction as a barrier to implementing the I.D.E.C.C. learning system.

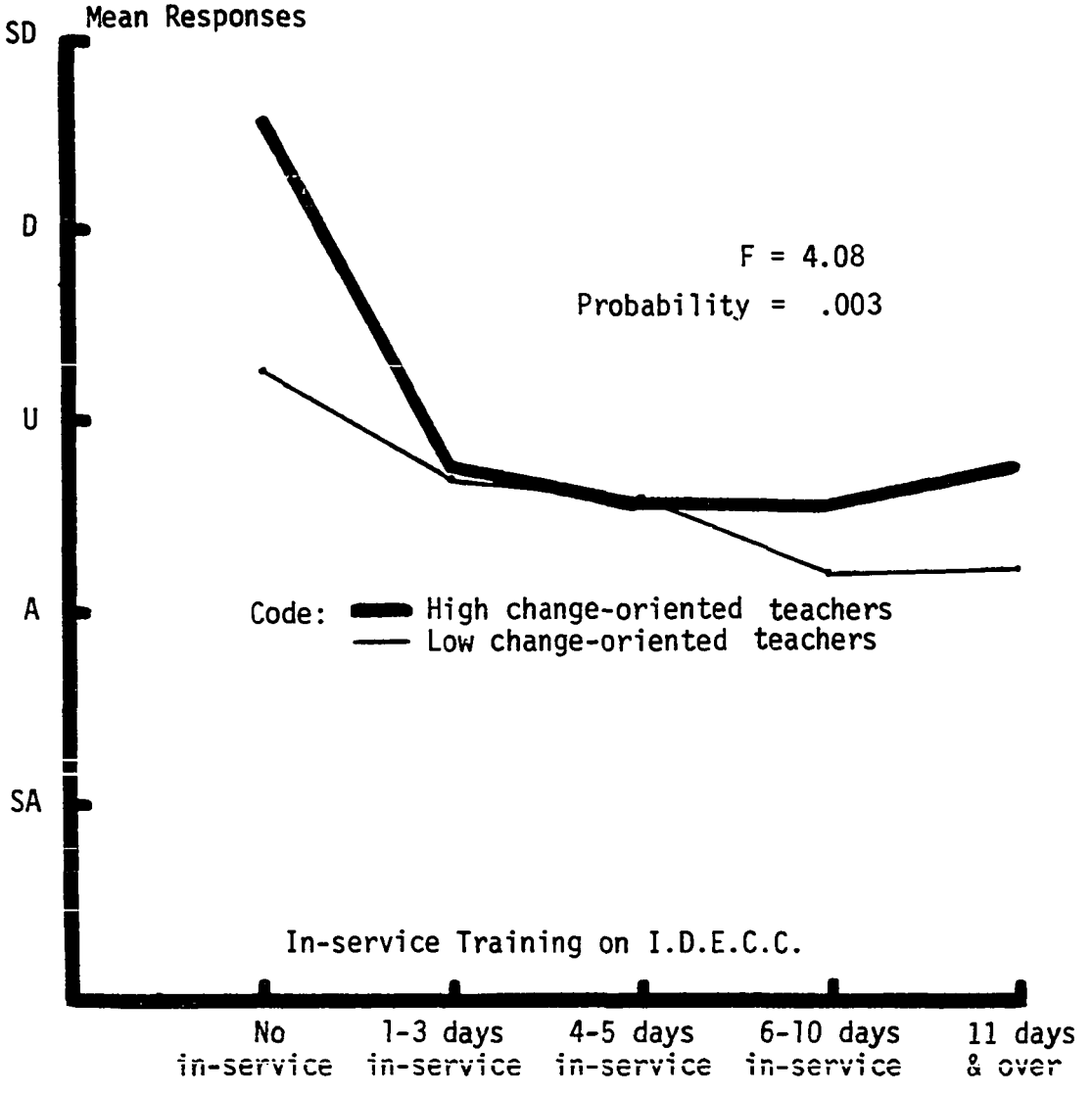


Figure 34. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward the student's lack of career objective as a barrier to implementing the I.D.E.C.C. learning system.

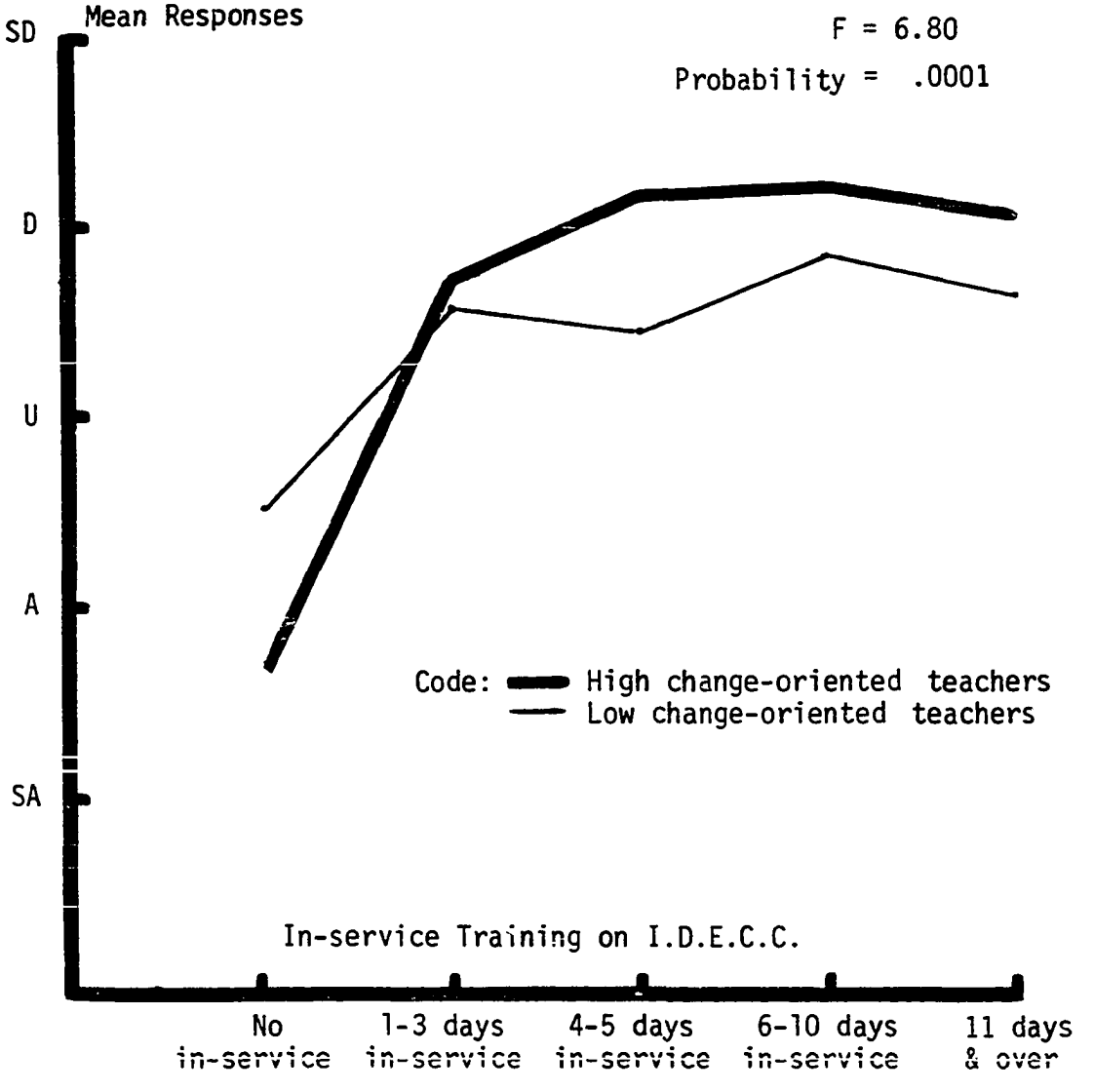


Figure 35. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward resistance to the elements of the system as a barrier to implementing the I.D.E.C.C. learning system.

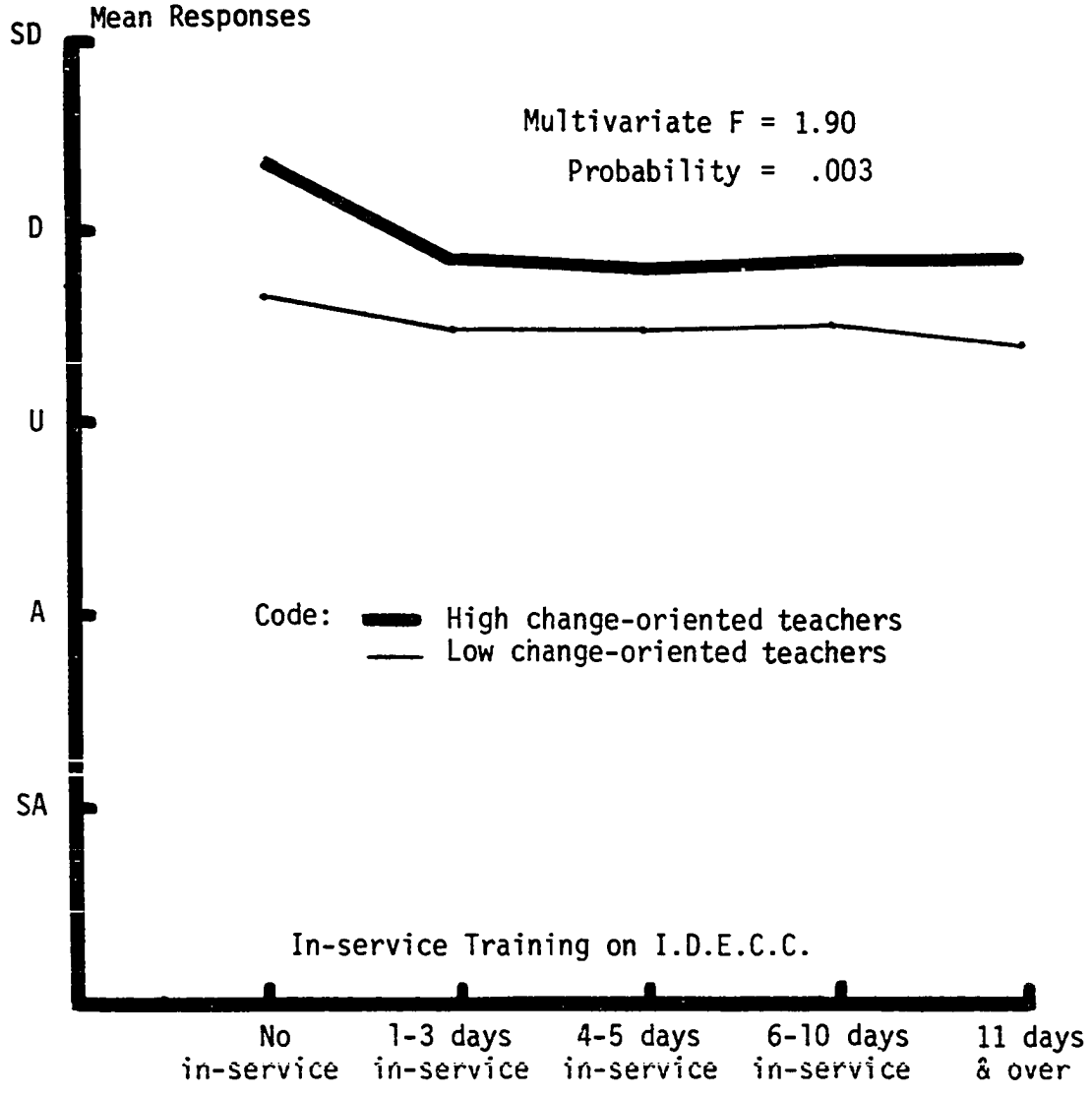


Figure 36. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward the value of the innovation as a barrier to implementing the I.D.E.C.C. learning system.

The consumer as perceived barriers

The last category of perceived barriers in which there were significant attitude differences between the teachers was the consumer groups. Table 36 and Table 37 on page 147 presents the attitudes and high and low change-oriented teachers categorized by days of in-service training toward consumer factors as perceived barriers to implementing the I.D.E.C.C. learning system. Six of the fourteen consumer factors yielded significant F values. The Multivariate F test on both the consumer teacher and consumer student categories resulted in significant F values. The F value for the teacher group was 1.47 which was significant at the .04 probability level and the F value for the student group was 2.02 which was significant at the .005 probability level.

Figure 37, 38, 39, and 40 all relate to teacher self-confidence factors. Figure 37 illustrates the comparison between the attitude responses of the teacher groups toward their self-confidence in using individualized instruction. Figure 38 on page 149 relates to the teachers' self-confidence in counseling students. Figure 39 on page 150 illustrates the teachers' attitudes toward confidence in evaluating students. The teachers' responses to these self-confidence factors followed the same pattern. The high change-oriented teachers were less concerned at all levels of in-service training than the low change-oriented teachers that their ability to use individual instruction, counsel students, and evaluating students were barriers to implementing the I.D.E.C.C. learning system. Figure 40 on page 151 graphically illustrates the teachers' responses to their confidence to devise a file system. The low change-oriented teachers with no in-service training

Table 36. Comparison of high and low change-oriented D.E. teachers' attitudes categ his own confidence as a perceived barrier to implementing the I.D.E.C.C.

Consumer Category	Days of inservice training on I.D.E.C.C. None LCO	None HCO	1-3 days LCO	1-3 days HCO	4-5 days LCO	4-5 days HCO	6-10 days LCO	6-10 days HCO
Confidence in Own Ability to:								
Schedule competencies	4.14	4.97	3.59	3.91	3.60	4.01	3.88	4.22
Individualize instruction	4.12	5.11	3.53	3.66	3.29	4.06	3.73	3.90
Counsel students	4.14	5.11	3.76	3.87	3.59	3.88	3.68	3.74
Use learning activity packages	4.00	4.92	3.67	3.91	3.51	4.00	3.72	3.22
Career counsel	4.43	5.23	3.91	4.16	3.51	4.12	3.70	4.14
Explain system	4.12	4.92	3.86	4.07	3.73	4.13	3.98	4.28
Obtain financial support	4.17	4.86	3.57	3.87	3.48	3.98	3.68	4.02
Evaluate students	3.81	4.97	3.34	3.49	3.00	3.57	3.18	3.34
Devise file system	2.14	1.25	3.21	3.25	3.02	3.43	3.19	3.55

Multivariate $F_{36,2462} = 1.47$ Probability = .04

Table 37. Comparison of high and low change-oriented D.E. teachers' attitudes cate toward the student as a perceived barrier to implementing the I.D.E.C.C.

Consumer Category	Days of inservice training on I.D.E.C.C None LCO	None HCO	1-3 days LCO	1-3 days HCO	4-5 days LCO	4-5 days HCO	6-10 days LCO	6-10 days HCO
Confidence in student's:								
Attitude	3.48	4.58	3.00	4.18	2.71	3.01	2.77	2.98
Experience	3.62	4.67	2.84	3.00	2.45	2.93	2.60	2.88
Motivation	3.55	4.50	2.54	2.82	2.48	2.70	2.46	2.76
Intelligence	2.19	2.26	3.50	3.60	3.60	3.66	3.30	3.90
Acceptance of L.A.P.'s	4.10	4.94	3.21	3.60	3.21	3.52	3.30	3.45

Multivariate $F_{20,1345} = 2.02$ Probability = .005

ge-oriented D.E. teachers' attitudes categorized by days of inservice toward
ed barrier to implementing the I.D.E.C.C. learning system.

Days of inservice training on I.D.E.C.C.									
1-3 days		4-5 days		6-10 days		11 - over		F	Significance
LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	value	level
3.59	3.91	3.60	4.01	3.88	4.22	3.64	3.84	1.21	.31
3.53	3.66	3.29	4.06	3.73	3.90	3.27	4.04	3.26	.01
3.76	3.87	3.59	3.88	3.68	3.74	3.58	3.85	2.45	.04
3.67	3.91	3.51	4.00	3.72	3.22	3.69	4.25	1.25	.29
3.91	4.16	3.51	4.12	3.70	4.14	3.81	4.13	1.67	.15
3.86	4.07	3.73	4.13	3.98	4.28	3.97	4.32	1.34	.25
3.57	3.87	3.48	3.98	3.68	4.02	3.52	4.00	.57	.69
3.34	3.49	3.00	3.57	3.18	3.34	3.07	3.25	3.17	.01
3.21	3.25	3.02	3.43	3.19	3.55	3.39	3.49	4.49	.001

Probability = .04

ıge-oriented D.E. teachers' attitudes categorized by days inservice on I.D.E.C.C.
/ed barrier to implementing the I.D.E.C.C. learning system.

Days of inservice training on I.D.E.C.C									
1-3 days		4-5 days		6-10 days		11 - over		F	Significance
LCO	HCO	LCO	HCO	LCO	HCO	LCO	HCO	value	level
8	3.00	4.18	2.71	3.01	2.77	2.98	2.40	3.07	2.57	.04
7	2.84	3.00	2.45	2.93	2.60	2.88	2.57	2.72	1.98	.10
0	2.54	2.82	2.48	2.70	2.46	2.76	2.30	2.53	1.45	.22
6	3.50	3.60	3.60	3.66	3.30	3.90	3.55	3.69	4.49	.002
4	3.21	3.60	3.21	3.52	3.30	3.45	2.96	3.57	2.06	.08

Probability = .005

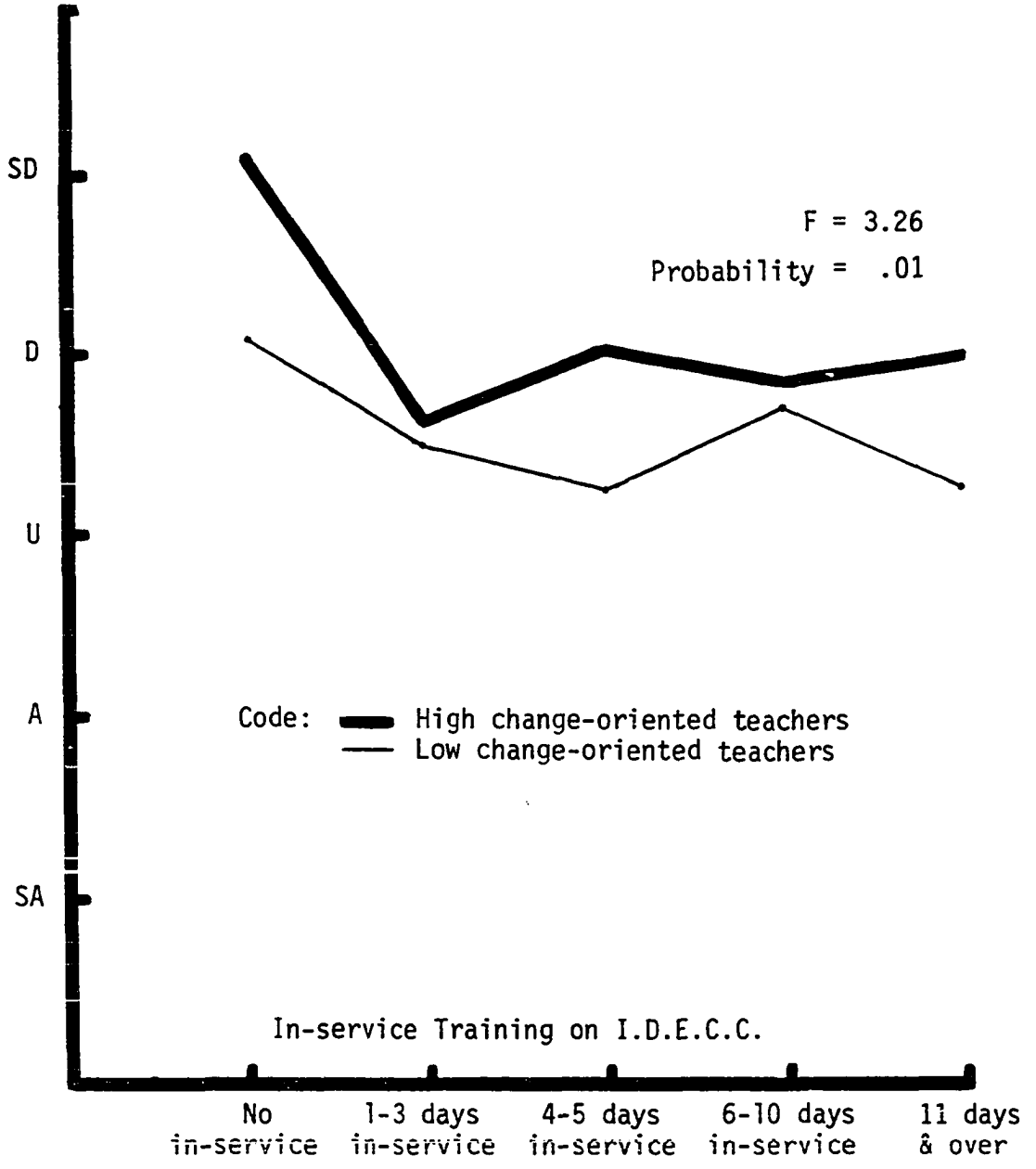


Figure 37. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward teacher's confidence in individualized instruction as a barrier to implementing the I.D.E.C.C. learning system.

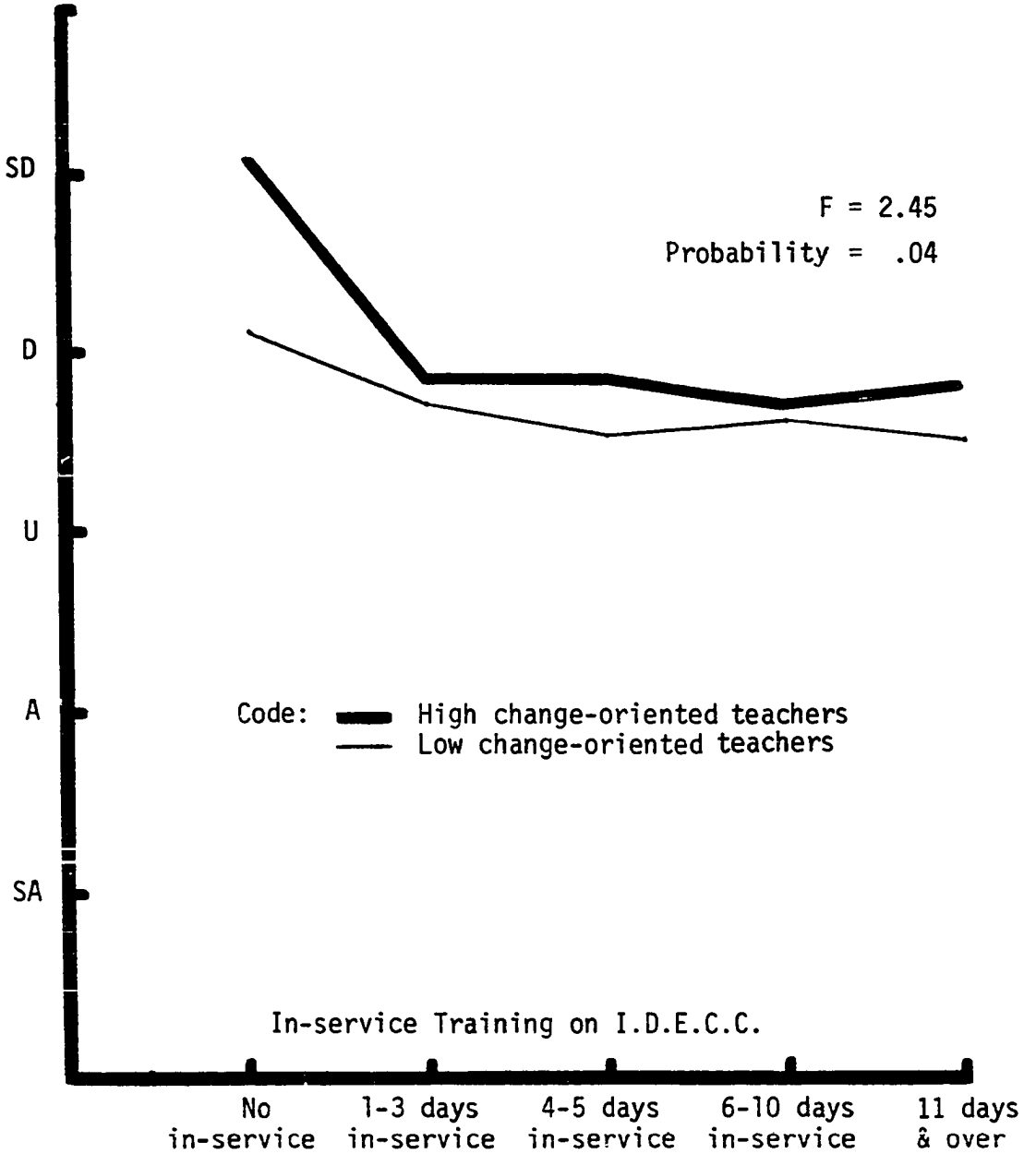


Figure 38. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward teacher's confidence in counseling students as a barrier to implementing the I.D.E.C.C. learning system.

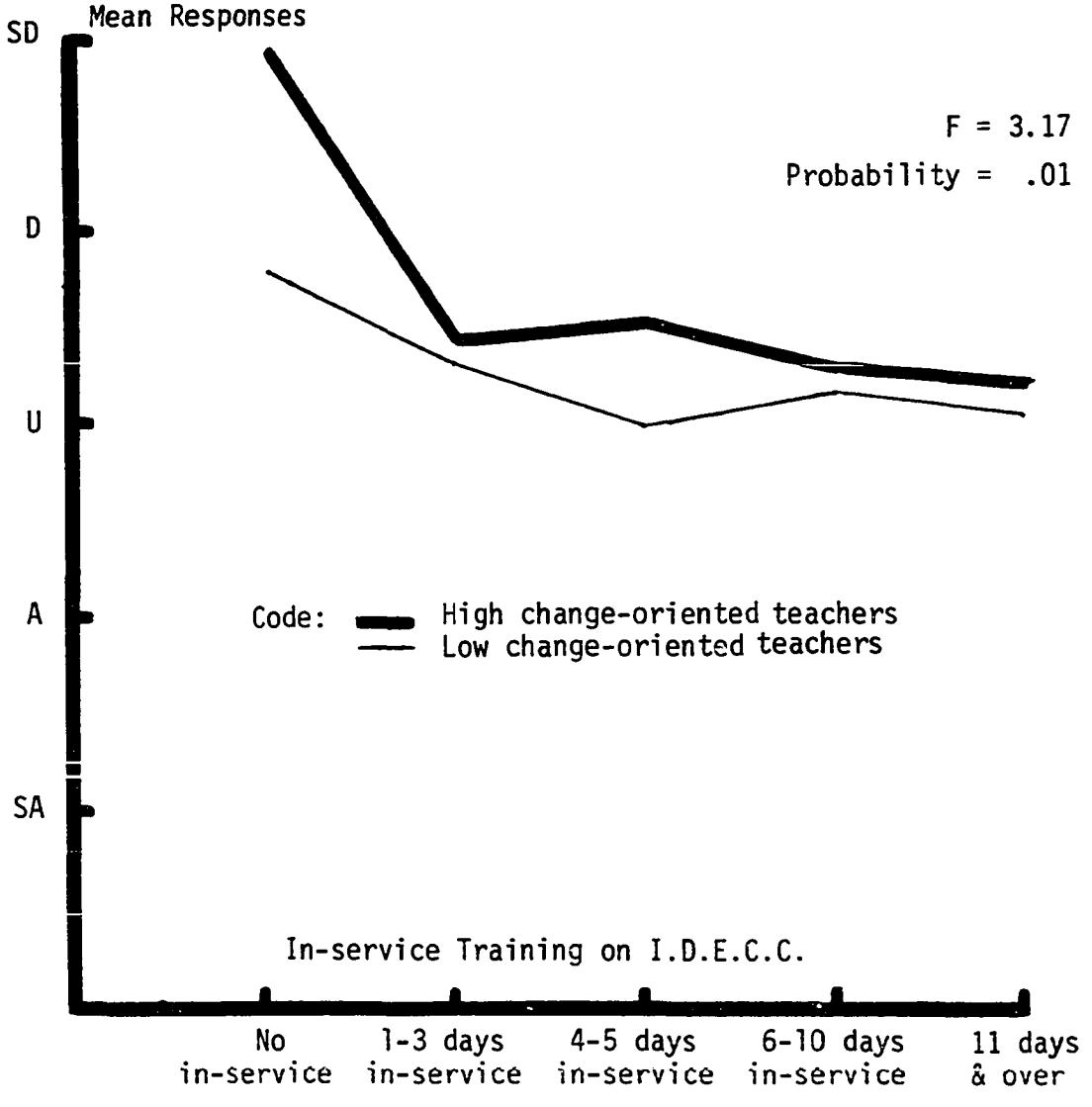


Figure 39. Mean attitude responses of high and low change-oriented teachers categorized by days in-service training toward teacher's confidence in evaluating students as a barrier to implementing the I.D.E.C.C. learning system.

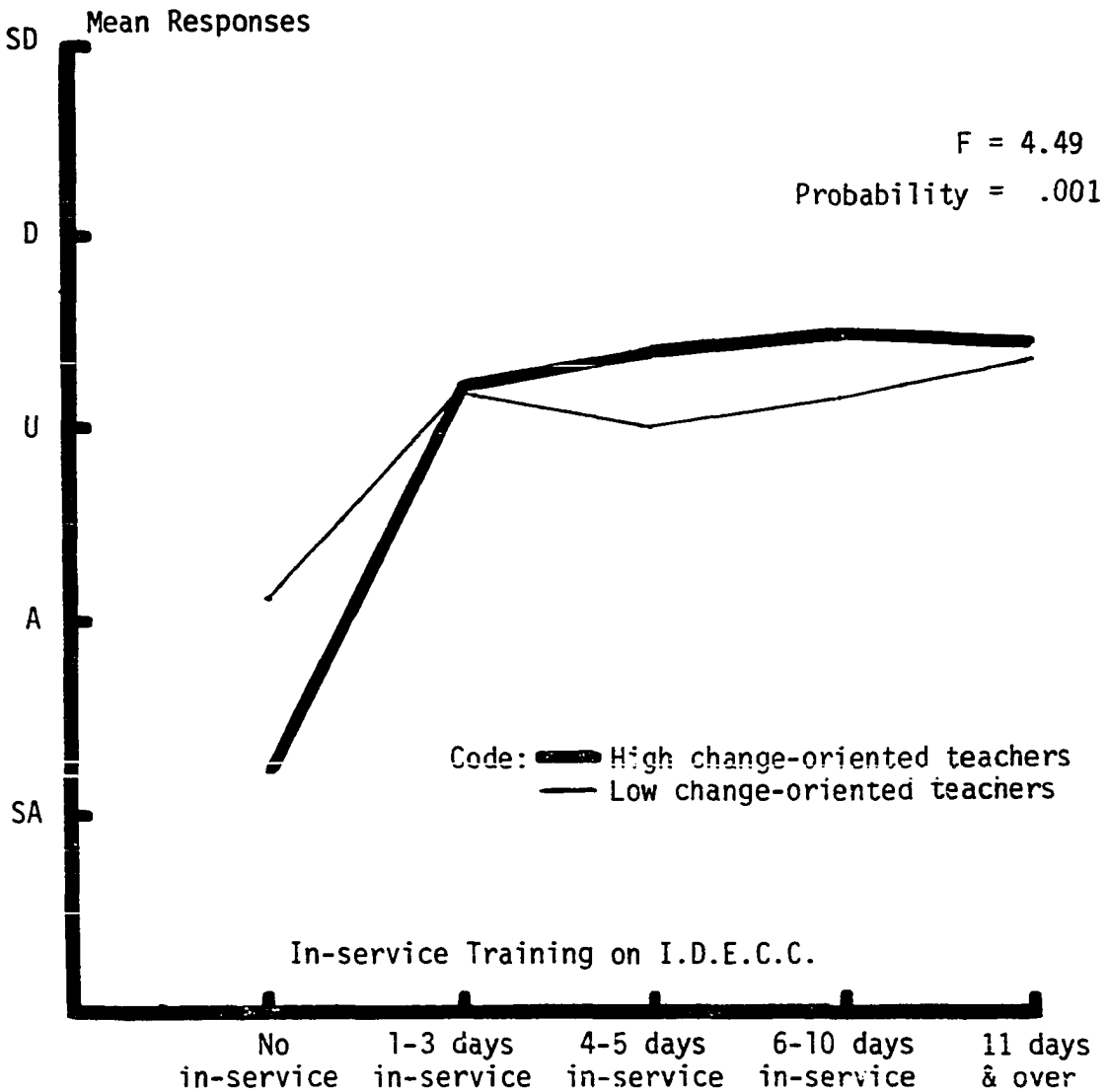


Figure 40. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward teacher's confidence in devising a file system as a barrier to implementing the I.D.E.C.C. learning system.

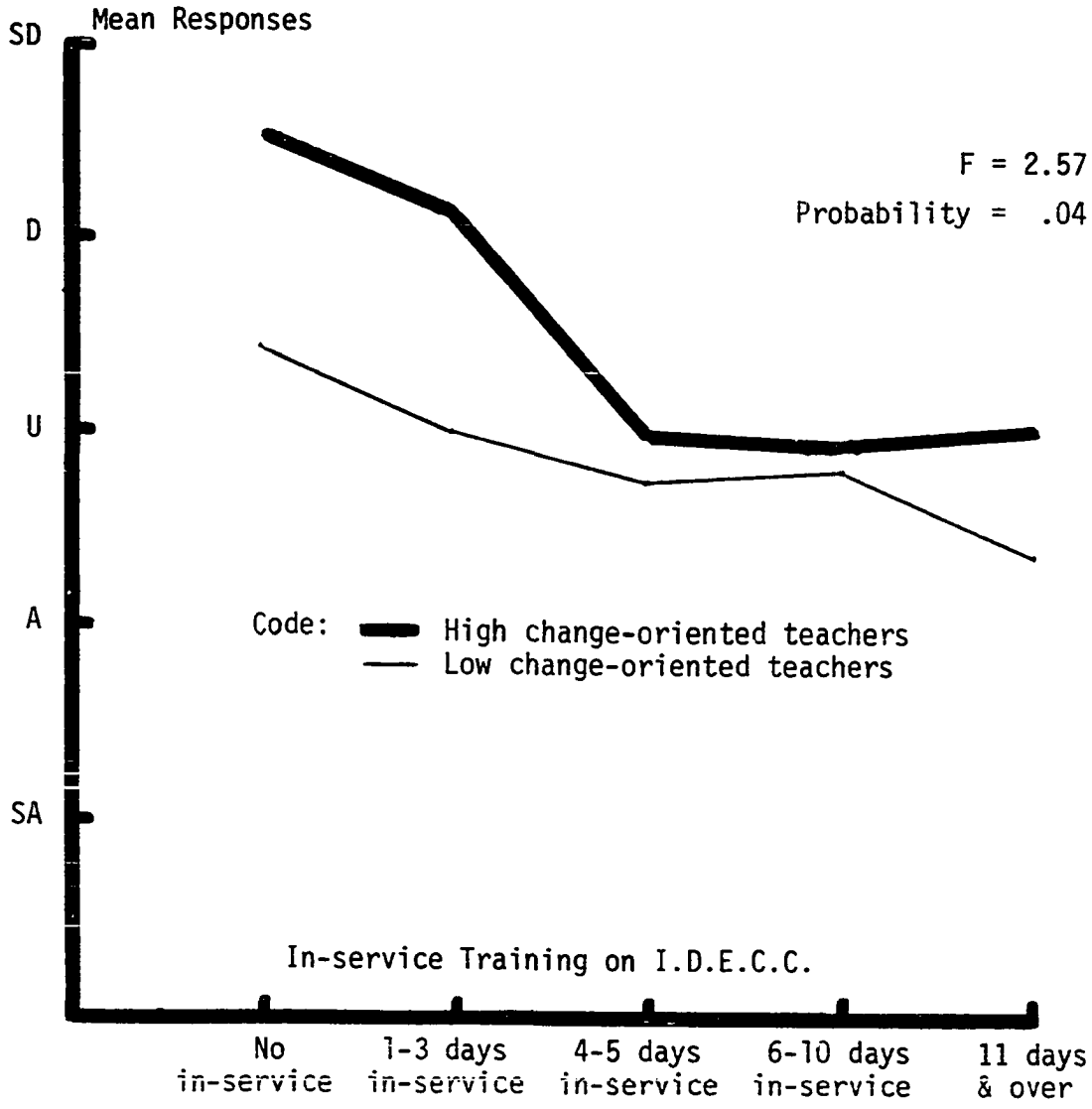


Figure 41. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward student attitude as a barrier to implementing the I.D.E.C.C. learning system.

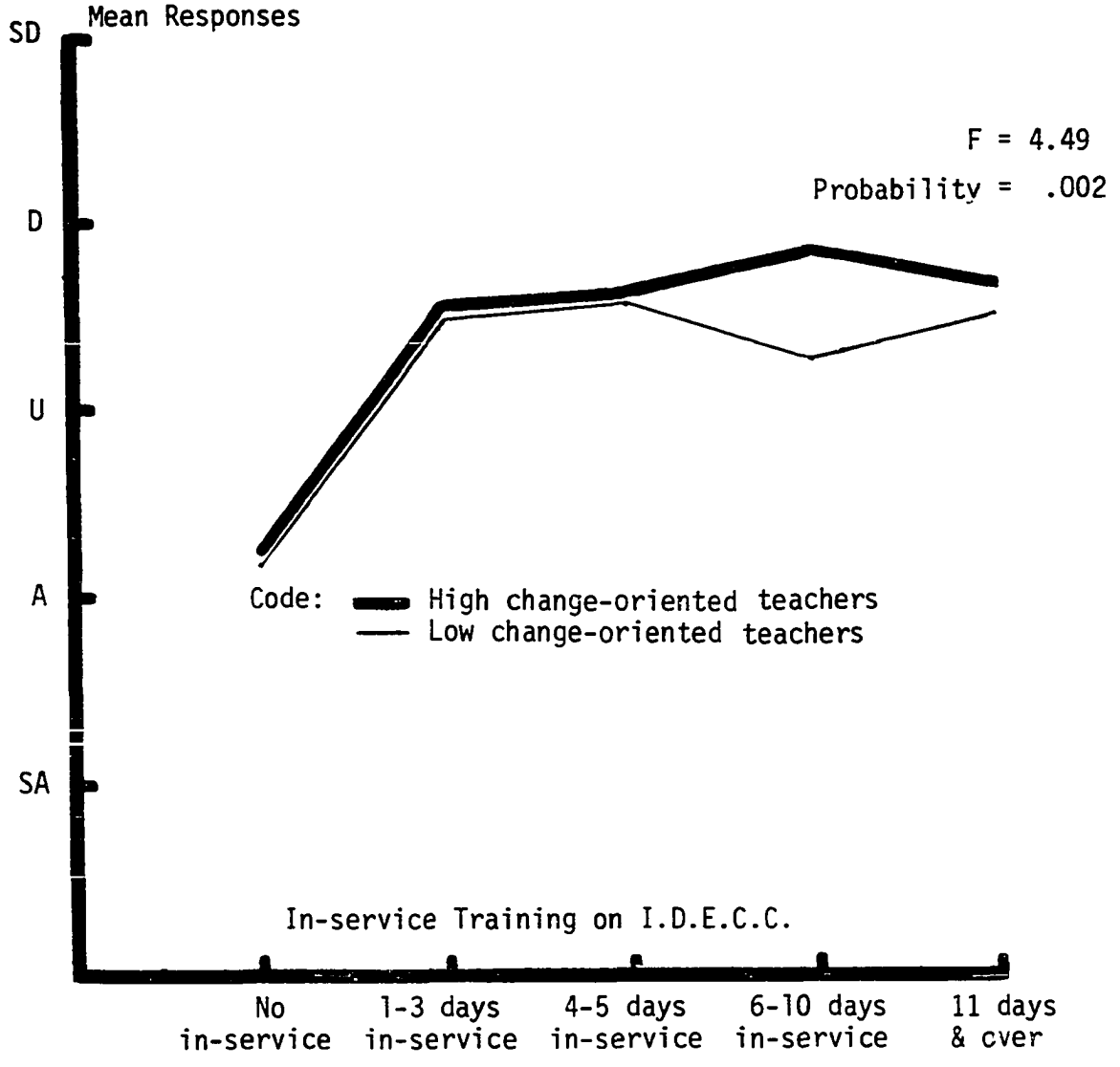


Figure 42. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward student intelligence as a barrier to implementing the I.D.E.C.C. learning system.

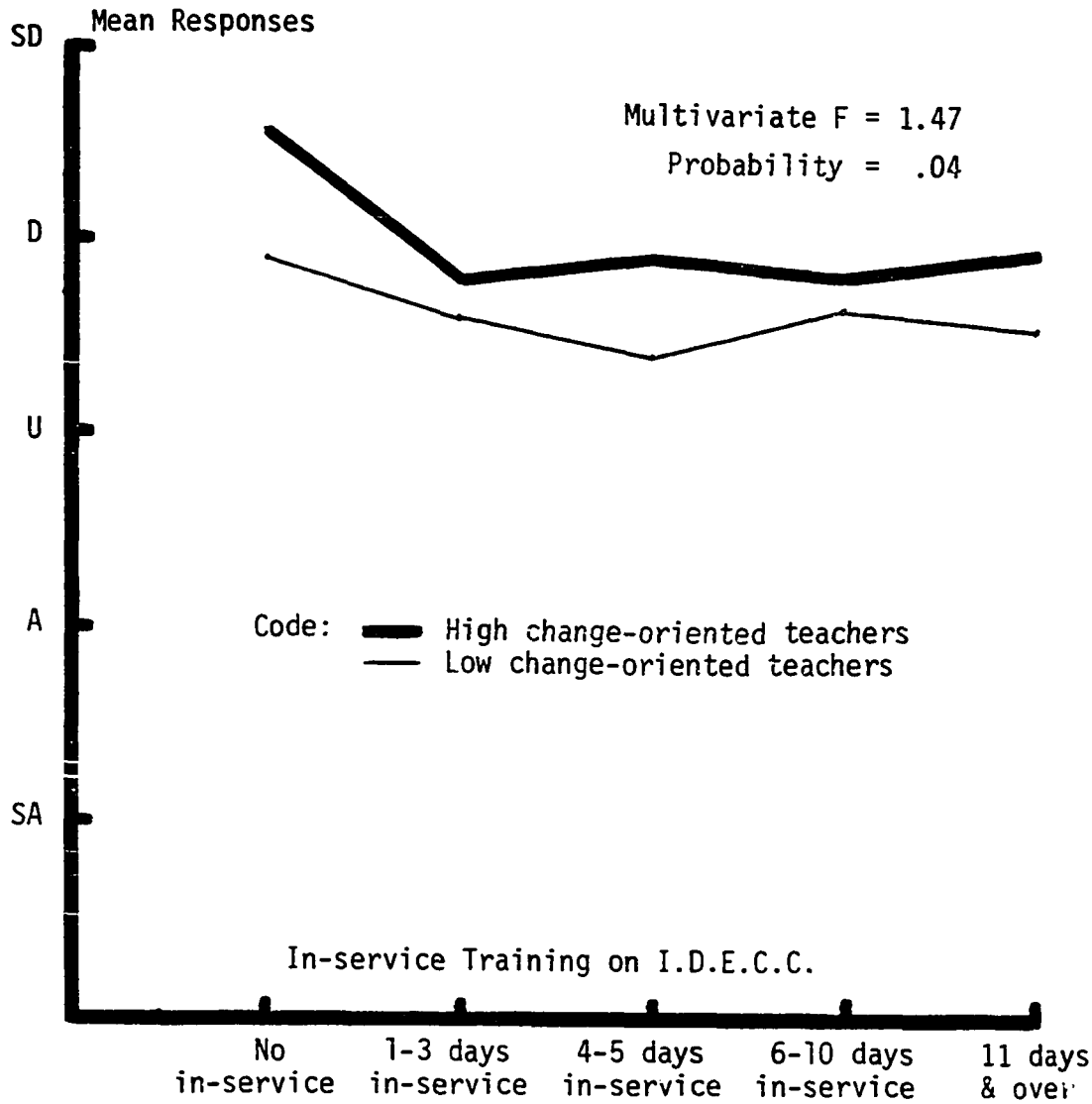


Figure 43. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward self-confidence as a barrier to implementing the I.D.E.C.C. learning system.

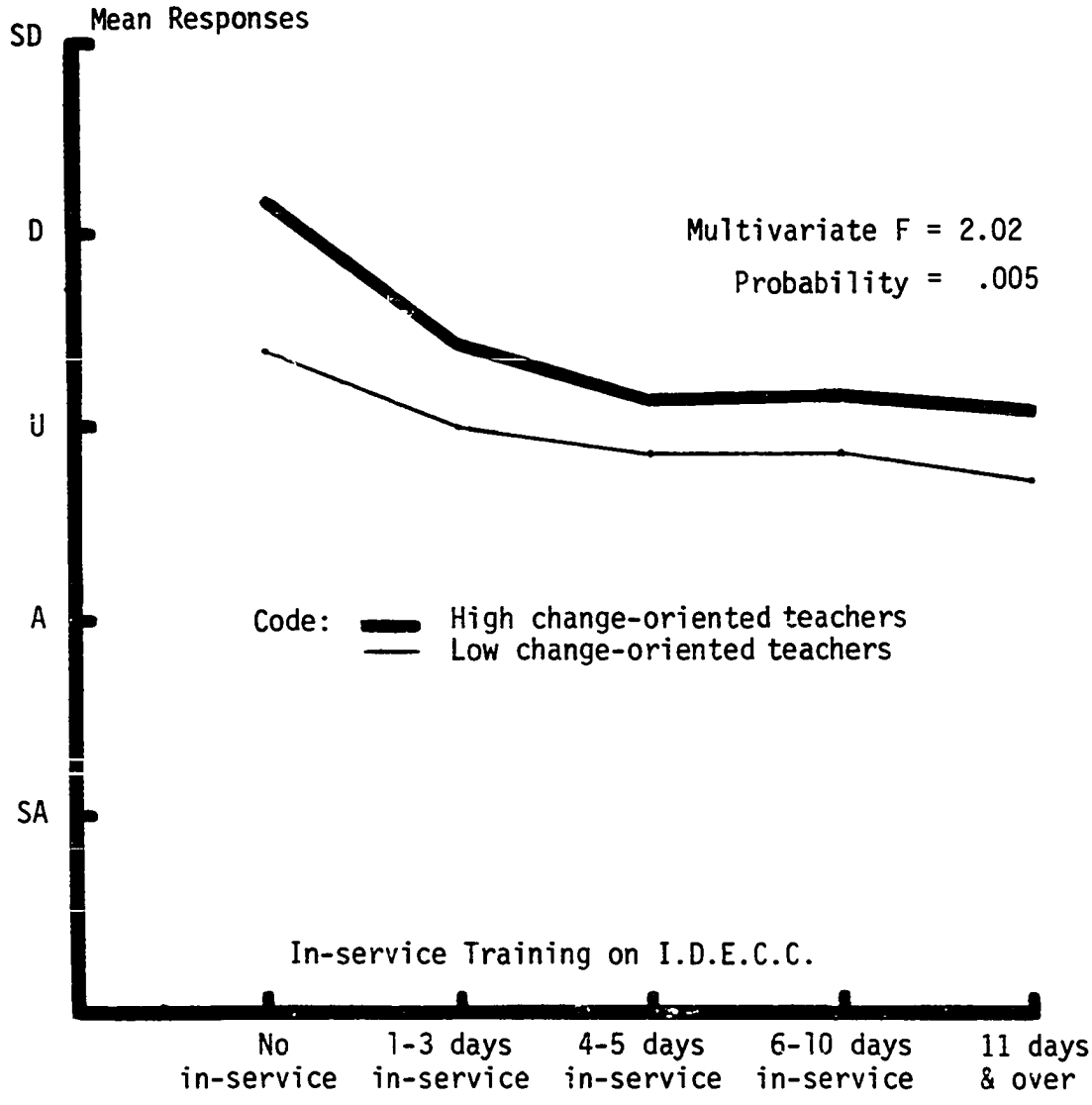


Figure 44. Mean attitude responses of high and low change-oriented teachers categorized by days of in-service training toward the student as a barrier to implementing the I.D.E.C.C. learning system.

were less concerned than the high change-oriented teacher with no in-service training that the file system was a barrier.

The high change-oriented teachers at all levels of in-service training were less concerned than the low change-oriented teachers that devising a usuable filing system was a barrier to implementing the I.D.E.C.C. learning system. Figures 41 and 42 illustrate the teachers' responses to student factors as barriers to implementing the I.D.E.C.C. learning system. Figure 41 on page 152 illustrates that the high change-oriented teachers have less concern than the low change-oriented teachers at all in-service training levels that student attitude is a barrier to implementing the I.D.E.C.C. learning system. Teachers' attitudes toward student intelligence as a barrier are illustrated in Figure 42 on page 153. The high change-oriented teachers at all levels of in-service training are less concerned than the low change-oriented teachers that student intelligence is a barrier to implementing the I.D.E.C.C. learning system. Figure 43 on page 154 illustrates the teachers' attitudes toward their self-confidence as a collective barrier to implementing the I.D.E.C.C. learning system. Figure 44 on page 155 illustrates the teachers' responses to the student as a collective barrier to implementing the I.D.E.C.C. learning system. The high change-oriented teachers at all levels of in-service training were less concerned than the low change-oriented teachers that their own self-confidence or the students were barriers to implementing the I.D.E.C.C. learning system.

Three of the six Multivariate F tests yielded significantly different F values. Only fourteen of the fifty-four factors yielded significant univariate F values. The decision was therefore made to fail to reject

the null hypothesis. The high and low change-oriented teachers categorized by levels of in-service training did not perceive the barriers in a significantly different manner.

Hypothesis 12: There are no significant interactions among the attitudes of high and low change-oriented teachers with levels of the number of students enrolled in the distributive education program toward each factor within the six perceived barrier categories to implementing the I.D.E.C.C. learning system.

The purpose of this hypothesis was to learn if the high and low change-oriented distributive education teachers categorized by the number of students enrolled in the distributive education program perceived the barriers to implementing the I.D.E.C.C. learning system in a significantly different manner. The univariate F tests did not show any significant differences among the attitudes of high and low change-oriented teachers categorized by the number of students enrolled in the distributive education program toward any of the fifty-four perceived barriers within the six categories. Multivariate analysis was also conducted on each of the six categories as a barrier and there were no significant differences in attitudes between the teacher groups. The decision was therefore made to fail to reject the null hypothesis.

Attitudes of all the Distributive Education Teachers Toward the Barriers to Implementing the I.D.E.C.C. Learning System

The findings reported in this chapter have pertained to the attitudes of the distributive education teachers categorized by involvement as a writer or nonwriter or categorized by high or low change orientation. The purpose of this section of the chapter will be to identify the factors which were perceived as barriers by the total sample of 635 distributive

education teachers. This section contains two parts; the first contains the ten factors which the teachers were most concerned with as barriers and the second part provides the teacher's evaluation of ten factors as a major barrier, a minor barrier, or no barrier to implementing the I.D.E.C.C. learning system.

Ten factors which most concerned the teachers as barriers

The third section of the questionnaire contained fifty-four perceived barriers to implementing the I.D.E.C.C. learning system. The factors were divided into six barrier categories of attributes of the learning system, the need for additional resources, value of the innovation, the consumer, the need for in-service education, and situational work factors. Each statement within the categories was written to read as a barrier to implementing the I.D.E.C.C. learning system. Since the responses were coded from 1 for strongly agree to 5 for strongly disagree, the lower numerical mean response reflects more concern that the factor is a barrier. Table 38 lists the ten factors which most concerned the distributive education teachers as barriers to implementing the I.D.E.C.C. learning system.

The factors which teachers perceived as barriers came from four of the six perceived barrier categories. The two categories in which the teachers did not perceive barriers were in-service education and situational work factors. The categories and factors within each category which the teachers perceived as barriers included:

Table 38. The ten factors which most concerned the 635 distributive education teachers as barriers to implementing the I.D.E.C.C. learning system.

Barrier Statement	Mean Response	Standard Deviation
Clerical duties (copying, preparing materials, recordkeeping, etc.) are a barrier to using the I.D.E.C.C. system.	2.42	1.42
The lack of adequate resource materials (books, pamphlets, etc.) is a barrier to using the I.D.E.C.C. learning system in my program.	2.59	1.36
Lack of time to prepare for individualized instruction and/or small group instruction is a barrier to using the I.D.E.C.C. learning system in my D.E. program.	2.70	1.36
Lack of confidence in the learning activity package format (length and sequence) is a barrier in using the I.D.E.C.C. system.	2.72	1.30
The lack of student's career objective is a major barrier to using the I.D.E.C.C. learning system.	2.73	1.41
Lack of student motivation to work on a self-directed, individualized basis is a barrier to using the I.D.E.C.C. system.	2.75	1.30
Time has been a barrier in setting up the files to house the I.D.E.C.C. learning system.	2.86	1.49
The limited experience of students in learning through individualized instruction is a barrier to using the I.D.E.C.C. system.	2.91	1.35
Student attitudes are a barrier to using the I.D.E.C.C. learning system.	2.97	1.27
The need for the development of adequate recordkeeping procedures designed to record student competency development is a barrier to using the I.D.E.C.C. learning system.	2.91	1.30

Attributes of the learning system barriers

The distributive education teachers were concerned with two factors within the attributes of the learning system category of perceived barriers. The attribute of the learning system which most concerned the distributive education teachers was the length and sequence of the learning activity package. The mean response of all the teachers was 2.72. The teachers were also concerned that the need for the development of adequate recordkeeping procedures designed to record student competency development was also an attribute which would inhibit the use of the I.D.E.C.C. learning system. The mean response of all the teachers for this factor was 2.91.

Perceived resource need barriers

There were four resource needs which the distributive education teachers perceived as barriers to implementing the I.D.E.C.C. learning system. The three factors which the teachers perceived as the most inhibiting factors in implementing the I.D.E.C.C. learning system came from this category. The factor which the teachers agreed was most inhibiting dealt with clerical duties. The group mean response of 2.42 meant that the teachers viewed the need for clerical duties as the most inhibiting factor in implementing the I.D.E.C.C. learning system. Respective mean responses of 2.59 and 2.70 reflected the teacher's concern for lack of adequate resource materials and lack of time to prepare for individualized and/or small group instruction as barriers to implementing the I.D.E.C.C. learning system. The mean response of 2.86 meant that teachers were also concerned with the lack of time to set up a file system as a barrier to implementing the system.

Value of the innovation as perceived barriers

There were seven factors dealing with the value of the innovation as barriers to implementing the I.D.E.C.C. learning system. The items were divided into factors which dealt with values of the teacher and teacher reference groups. The factor perceived as a barrier in this category was the lack of the student's career objective. The mean response of 2.73 shows that the teachers were concerned that the student's lack of a career objective was perceived as a barrier to implementing the I.D.E.C.C. learning system.

Consumer factors as perceived barriers

The consumer category was divided into teacher confidence factors and student factors as perceived barriers. Although none of the nine teacher self-confidence factors were considered barriers by the 635 distributive education teachers, three of the five student factors concerned the teachers as barriers. The teacher group was concerned with student motivation to work on a self-directed, individualized basis, student's experience in learning through individualized instruction, and student attitudes as barriers to implementing the I.D.E.C.C. learning system.

Teacher responses to selected factors as a major barrier, a minor barrier, or no barrier to implementing the I.D.E.C.C. learning system.

The last question in Section III of the questionnaire pertained to the teachers' perception of ten selected factors as barriers to implementing the I.D.E.C.C. learning system. The teachers were asked to evaluate each factor as a major barrier, minor barrier, or no barrier.

Major barrier ratings were scored three, minor barriers were scored two, and a no barrier response was scored one. The higher mean response reflected a greater concern by the teachers that the factor was a barrier to implementing and using the I.D.E.C.C. learning system. Table 39 provides the mean response, standard deviation, and per cent of teachers' responses in each barrier classification.

Table 39. The mean attitude responses, standard deviations, and percentage analysis of 635 distributive education teachers toward ten selected factors as barriers to implementing the I.D.E.C.C. learning system.

Barrier	$\bar{X}$	St. Dev.	Major Barrier	Minor Barrier	No Barrier
Availability of resource materials	2.135	.75	28.1%	43.2%	28.7%
Adequate filing system	1.555	.69	11.6%	32.4%	56.0%
In-service education	1.445	.66	9.6%	25.4%	65.0%
Adequate copying supplies	1.862	.83	28.5%	29.2%	42.3%
Confidence in materials in L.A.P.'s	1.563	.66	9.2%	37.8%	52.9%
Administrative support	1.386	.61	6.6%	25.5%	67.9%
Planning time	2.135	.73	34.1%	45.2%	20.6%
Student motivation	2.034	.67	24.4%	54.6%	21.0%
Problem in identifying career objectives of students	2.048	.71	27.8%	49.1%	23.0%
Knowledge of the contents of the learning activity package	1.782	.69	15.3%	47.7%	37.0%

Planning time was considered by the highest percentage of distributive education teacher respondents as a major barrier. Thirty-four per cent of the teachers viewed planning time as a major barrier. Three other factors; adequate copying equipment, availability of resource materials, and problem in identifying career objectives of student's were considered major barriers by over twenty-seven per cent of the respondents. Student motivation was considered a major barrier by over twenty-four

per cent of the teacher respondents. It is interesting to note, however, that student motivation had a higher group mean response than the three previously mentioned factors. The mean response of 2.03 resulted primarily because a greater percentage of teachers, 54.6, viewed student motivation as a minor barrier. The other factor which was considered either a major or minor barrier by at least fifty per cent of the teachers was knowledge of the contents of the learning activity packages. Therefore, six of the ten factors were considered barriers by over fifty per cent of the 635 distributive education teachers. Table 40 lists the six factors considered barriers to implementing the I.D.E.C.C. learning system. The percentage of teachers who considered the factor as a barrier is also reported.

Table 40. Factors considered as barriers to implementing the I.D.E.C.C. learning system by at least fifty per cent of the 635 distributive education teachers.

Perceived Barrier	Percentage of teachers who rated the factor as a barrier
Planning time	79.3
Student motivation	79.0
Problem in identifying career objective of students	76.9
Availability of resource materials	71.3
Knowledge of the contents of the learning activity packages	63.0
Adequate copying supplies	57.7

Summary

The results of the distributive education teachers' responses to statements about perceived barriers to implementing the I.D.E.C.C. learning system were presented in this chapter. The distributive education teachers' attitudes toward fifty-four barriers were reported. Univariate F tests were computed on the attitude responses of the teacher groups toward each of the fifty-four barrier statements. The statements were also clustered into six barrier categories of attributes of the learning system, need for additional resources, value of the innovation, the consumer, need for in-service education, and situational work factors. Multivariate F tests were computed to determine if the teacher groups perceived the collective barrier category in a significantly different manner. The findings were reported in three sections: attitude comparisons between learning activity package writers and nonwriters, attitude comparisons between high and low change-oriented distributive education teachers, and factors which the distributive education teachers perceived as major and minor barriers to implementing the I.D.E.C.C. learning system.

The first section of the chapter contained the results of attitude comparisons between distributive education teachers involved and those not involved as learning activity package writers. Five null hypotheses were tested to determine if the learning activity package writers and nonwriters perceived barriers to implementing the I.D.E.C.C. learning system in a significantly different manner. The tests comparing the attitudes of learning activity package writers and nonwriters yielded

only two significant Multivariate F values from the total of thirty Multivariate F tests computed for the five null hypotheses. Based on the nonsignificant F tests, it was concluded that there was no difference in the attitudes of learning activity package writers and nonwriters toward barriers to implementing the I.D.E.C.C. learning system.

The second major section of the chapter reported the attitude comparisons of high and low change-oriented distributive education teachers. The results of the teachers' responses to the Russell Change Orientation Scale provided a means of separating the distributive education teachers into categories of high and low change-oriented teachers. The distribution of the teacher's summed score on the scale closely approximated the normal distribution and further comparisons between high and low change-oriented teachers could be conducted.

Seven null hypothesis were tested to measure differences between the high and low change-oriented distributive education teachers. The first hypothesis was written to compare the innovativeness or change orientation of the learning activity package writers and nonwriters. There was no significant difference in the writers' and nonwriters' change orientation. The nonwriters' mean summed score on the 21-item Russell Change Orientation Scale, however, reflected a more positive attitude toward change than the learning activity package writers. The null hypothesis that there is no significant difference in the attitudes of high and low change-oriented teachers toward barriers to implementing the I.D.E.C.C. learning system was rejected. The high change-oriented teachers were less concerned than the low change-oriented teachers toward

the I.D.E.C.C. learning system. The Multivariate F value of 4.10 yielded highly significantly different attitudes at the .0001 probability level. The high change-oriented teachers perceived the total of the fifty-four variables in a highly significantly more positive manner than the low change-oriented teachers. Five other null hypotheses were tested to measure attitude differences between high and low change-oriented distributive education teachers among levels of five different demographic factors. Although the decision was made to fail to reject each of the five null hypothesis, the test conducted on the interaction of high and low change-oriented teachers among levels of in-service training on the I.D.E.C.C. learning system yielded three significant Multivariate F values and fourteen significantly different univariate F values. The results of these tests provide interesting information for the purpose of future in-service training efforts on the I.D.E.C.C. learning system.

The attitudes of all the distributive education teachers in the study were reported in the last section of the chapter. The 635 distributive education teachers agreed that clerical duties was a barrier to implementing the I.D.E.C.C. learning system. They were also concerned with the lack of time to prepare instruction and having adequate resource materials to use the learning activity packages. The lack of the student's career objective and student motivation were also perceived as barriers by the distributive education teachers in the study.

CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Purpose

The expressed purpose of this investigation was to identify barriers to implementing the I.D.E.C.C. learning system. The study was also conducted to determine if distributive education teachers who had written learning activity packages had significantly different attitudes than distributive education teachers not involved as writers toward barriers to implementing the I.D.E.C.C. learning system. Comparisons were also made between the attitudes of high and low change-oriented distributive education teachers toward barriers to implementing the I.D.E.C.C. learning system.

Methods and procedures

A review of the literature was made of theoretical constructs and research pertaining to curriculum development in vocational education and studies in change orientation in education. This study was a descriptive research project. Data were gathered by the use of a closed questionnaire developed with the assistance of a jury panel consisting of the national board of directors of the Inter-State Distributive Education Curriculum Project and distributive education teacher-coordinators. The instrument was field-tested by a group of distributive education teachers to determine item clarity and time need to complete the questionnaire. The final questionnaire used with the study population contained three sections: background information, the change orientation scale, and a perceived

barrier attitude scale. The sample for the study was drawn from all the distributive education teachers in ten states who had received a complete set of the 500 I.D.E.C.C. learning activity packages.

The 635 distributive education teacher respondents completed the questionnaire at summer coordinator conferences held in their respective states. The responses to the background information provided demographic data to level the teachers within categories of learning activity package writers or nonwriters, age, years teaching experience, number of days in-service training on I.D.E.C.C., and number of students enrolled in the distributive education program. The teachers' responses to the 21-item Russell Change Orientation Scale in Section II of the instrument provided a means of categorizing distributive education teachers as high or low change-oriented. The distribution of the 635 teachers' summed score on the Change Orientation Scale closely approximated the normal distribution. The median of the distribution of the summed scores was used to divide the distributive education teachers into high change-oriented and low change-oriented categories. Attitude comparisons could then be made between high and low change-oriented distributive education teachers.

Eleven null hypotheses were tested to provide attitude comparisons between: distributive education teachers who had written learning activity packages and distributive education teachers not involved as learning activity package writers. Section III of the questionnaire included 54 attitude statements written as barriers to implementing the I.D.E.C.C. learning system. The teachers' responses to the 54 barrier statements were used as the dependent variables for 11 of the 12 null hypotheses.

The completed questionnaires were coded for computer use. The statistical procedures used to test the hypotheses included univariate and multivariate analysis tests. Data from the computer printouts were transferred to tables for each hypothesis and the tables were used for further analysis.

Findings

The findings presented in Chapter IV were presented under the following headings: comparisons between learning activity package writers and nonwriters, comparisons between high and low change-oriented distributive education teachers, and attitudes of all the distributive education teachers toward barriers to implementing the I.D.E.C.C. learning system.

Attitude comparisons between learning activity package writers and nonwriters. Five null hypotheses were tested to determine if the learning activity package writers had different attitudes than nonwriters toward barriers to implementing the I.D.E.C.C. learning system. Of the 54 statements pertaining to barriers to implementing the I.D.E.C.C. learning system, significant differences between the mean responses of writers and nonwriters were obtained for four barrier statements.

1) Learning activity package writers were less concerned than nonwriters that copy equipment was a barrier.
2) Learning activity package writers were less concerned than nonwriters that copy paper was a barrier.
3) Learning activity package writers were less concerned than nonwriters that student intelligence was a barrier.

4) Learning activity package writers were more concerned than non-writers with the attitudes of distributive education leaders in the state toward using learning activity packages.

Attitude comparisons between high and low change-oriented distributive education teachers. The teachers' responses to the 21-item Change Orientation Scale support earlier findings of Adamsky (1) and Tardanico (60) that the scale did, in fact, discriminate between high and low change-oriented teachers. Therefore, further attitude comparisons could be tested between high and low change-oriented distributive education teachers. Seven null hypotheses were tested to measure attitude differences between the high and low change-oriented teachers. Of the 54 statements pertaining to barriers to implementing the I.D.E.C.C. learning system, significant differences between the mean responses of high change-oriented and low change-oriented teachers were obtained for forty-four statements. Multivariate F tests were conducted on all six of the perceived barrier categories and statistically significant attitude differences were obtained for all six barrier categories. The findings included:

1) High change-oriented distributive education teachers were less concerned than low change-oriented teachers toward attributes of the I.D.E.C.C. learning system as a barrier.
2) High change-oriented distributive education teachers were less concerned than low change-oriented teachers toward resource needs as a barrier. The resource category included factors of equipment, supplies, resource materials, time, and clerical assistance.

3) High change-oriented distributive education teachers were less concerned than low change-oriented teachers toward value of the innovation as a barrier. The value of the innovation category included factors relating to values contrary to the teacher's philosophy and values of the teachers' reference groups.
4) High change-oriented distributive education teachers were less concerned than low change-oriented teachers toward the need for in-service training as a barrier.
5) High change-oriented distributive education teachers were less concerned than low change-oriented teachers toward the consumer as a barrier. The consumer category included factors of teacher confidence and student attributes as barriers.
6) High change-oriented distributive education teachers were less concerned than low change-oriented teachers toward situational work factors as a barrier. The situational work factor category included factors of school organization and administrative support.
7) High change-oriented learning activity package writers had less concern than high change-oriented nonwriters, low change-oriented writers, and low change-oriented nonwriters toward teacher confidence and student factors as barriers.
8) High change-oriented nonwriters had less concern than high change-oriented learning activity package writers and low change-oriented learning activity package writers and nonwriters toward situational work factors as barriers.

9) High change-oriented distributive education teachers at all levels of teaching experience had less concern than low change-oriented teachers with the same amount of teaching experience toward the value of the innovation and the consumer as a barrier.

10) High change-oriented distributive education teachers at all levels of in-service training had less concern than low change-oriented distributive education teachers at the same levels of in-service training toward attributes of the I.D.E.C.C. learning system, the value of the innovation, and the consumer as barriers.

All the distributive education teachers' attitudes toward barriers. The following factors were the barriers which most concerned the distributive education teachers in implementing the I.D.E.C.C. learning system listed in priority order of concern.

1) Clerical duties of copying and preparing materials.
2) Need for adequate resource materials.
3) Lack of time to prepare for individualized and/or small group instruction.
4) Lack of confidence in the length and sequence of the learning activity package.
5) Lack of the students' career objective.
6) Lack of student motivation to work on a self-directed individualized basis.
7) Lack of time to set up a file system.

8) Limited experience of students in learning through individualized instruction.

9) Student attitudes.

10) Need to develop adequate recordkeeping procedures to record student competency development.

Limitations of the Study

This investigation was limited to the problem of investigating teachers' attitudes toward fifty-four barriers to implementing the I.D.E.C.C. learning system. One of the limitations was that the barriers studied may only be a part of the total factors which may affect a teacher's change receptivity. Since the teachers had access to the learning activity packages for less than a year, the study was limited in that their attitudes may change as they have time to use the materials and receive additional in-service training.

The study was also limited to selected distributive education teachers from ten states which had provided the I.D.E.C.C. learning activity packages to their teachers. The study, therefore, was limited by the degree to which the respondents sampled are a representative sample of distributive education teachers.

Discussion

Relationship of findings to other studies

The results of this study supported earlier research efforts which concluded that the factors which facilitate or inhibit the adoption of one innovation may not be the same for other innovations.

Studies by Cawelti (11), Reynolds (47), and Williams (65) found that among significant factors impeding the adoption of an innovation was the lack of funds to purchase additional resources such as supplies and equipment. The distributive education teachers in this study did not view the need for supplies and equipment as a barrier to implementing the I.D.E.C.C. learning system. Lack of time, according to Koppes (35), was one of the most consistent reasons for not implementing educational innovations. Responses from the distributive education teachers supported previous findings in that they were also concerned with time to prepare instruction and set up the file system to house the learning activity packages. Since the I.D.E.C.C. learning system is composed of 13,000 pages of learning activity materials, it is not surprising that the teachers are concerned with lack of time to plan and use the system.

The value of the innovation as perceived by the teachers and teacher reference groups was another barrier studied. Reynolds (47) and Stahl (58) were among several studies supporting a positive relationship between adoption behavior and perceived value of the innovation. The only factor in this category which the distributive education teachers perceived as a barrier was the lack of student's career objective. Therefore, the findings did not support previous research conclusions that the value of the innovation was a barrier.

The consumer category included both teacher's self-confidence and student factors as barriers to change. The category was established based on the theoretical construct developed by Kester and Howard (29). Teachers' responses in this study did not indicate that teacher self-

confidence was a barrier to implementing the I.D.E.C.C. learning system. Although the teachers did not perceive student intelligence as a barrier, they were concerned with student motivation to work on an individualized basis, student experience, and student attitudes as barriers to implementing the system.

Perceived support of administrators had been found in studies conducted by Kievit (32) and Reynolds (47) to be positively related to a teacher's willingness to adopt an innovation. The distributive education teachers in this study did not perceive situational work factors as a barrier to implementing the competency-based learning system. The teachers also were not concerned with the attributes of the I.D.E.C.C. learning system as a barrier.

Implications for future in-service training on I.D.E.C.C.

In-service training was not considered a barrier to implementing the I.D.E.C.C. learning system. Although the teachers did not view in-service training as a barrier, the fact remains that teachers were still concerned that some of the factors, as mentioned in the findings, are perceived as barriers. The hypothesis which tested attitude differences between high and low change-oriented teachers categorized by levels of in-service training provides helpful information to distributive teacher educators and state supervisory personnel responsible for providing training on the I.D.E.C.C. learning system. More specifically the information provides teachers' attitudes among various levels of in-service training toward barrier factors to implementing the system. The teachers' responses shown in Figure 27 through 44 show attitude trends of the teachers.

Attitude trends which seem to appear in many of the findings, are significantly important to in-service training directors. These trends may assist the in-service training directors on I.D.E.C.C. with information to make decisions on:

1) Which barrier factors should be concentrated on during in-service training sessions.
2) How much in-service training appears to be required before the teachers as a group develop positive attitudes concerning the factor.
3) Which barrier factors does it appear that there exists a need for improved in-service training.

The attributes of the I.D.E.C.C. learning system were considered a barrier by both high and low change-oriented distributive education teachers who had not received any in-service training. Figure 32 on page 139 illustrates that the teacher groups with any amount of in-service, however, did not perceive the attributes as a barrier. Teachers' groups with in-service training were not concerned with the learning activity package, its format, directions, and reading level as barriers. The distributive education teachers' responses toward the value of the innovation among the different levels of in-service training did not follow the same trend. This category of perceived barriers should cause the in-service training directors more concern. Figure 36 on page 145 shows the differences in teacher attitudes at various in-service levels. Teachers with no in-service training have positive attitudes toward the category but their attitudes become less positive with additional in-service. The

barrier factor whose response trend among the levels of in-service should concern personnel who direct in-service training is the student's lack of a career objective shown in Figure 34 on page 143. The teachers' responses ranged from no concern at the no in-service training level to agreement that the factor was a barrier after 1-10 days in-service. Based on this trend, consideration should be given to provide in-service training and a deliver system for teachers to assist students in the career selection process. Teachers' attitudes also followed a similar trend for teacher self-confidence factors and the student attitude factor within the consumer barrier category. Student attitudes, based on the attitude response level of the teachers, as shown in Figure 44 on page 155, seemed to be of more concern than teacher self-confidence as shown in Figure 43 on page 154.

In-service training should be provided on techniques which may improve student attitude toward utilizing the learning system. Perhaps in-service training on the techniques to utilize a variety of approaches to instruction provided within the learning activity packages would assist teachers in improving student attitudes.

In addition to utilizing the section on the teachers' attitudes toward barriers among the various levels of in-service training, the ten barrier factors listed in the last section of the findings chapter provides valuable input for making decisions on the curriculum content for in-service training sessions. Planning time was considered a major barrier. In-service training sessions and materials are needed to save the teachers time in planning the curriculum and using the learning

activity packages. Curriculum guides for each of the ten subject matter areas may be useful to the teachers. The guides may include information on major goals of the subject-matter area, competencies and the sequence to cover them, recommended learning activities to utilize, and accompanying evaluation procedures. Since clerical duties was a barrier, in-service training on procedures to simplify the clerical components of utilizing the system should be developed.

Conclusions

Based on the findings of this study, the following conclusions are made:

1) Clerical duties of copying, preparing materials, and record-keeping procedures were of major concern to the distributive education teachers in implementing the I.D.E.C.C. learning system.
2) The distributive education teachers perceived the lack of time to prepare for individualized instruction, study the materials, and set up files as a barrier in implementing the I.D.E.C.C. learning system.
3) The distributive education teachers perceived the lack of the student's career objective as a barrier in implementing the I.D.E.C.C. learning system.
4) The distributive education teachers perceived student motivation, student experience, and student attitudes as barriers to implementing the I.D.E.C.C. learning system.

5) The distributive education teachers who wrote learning activity packages were not more receptive to change than the distributive education teachers not involved as writers.
6) Distributive education teachers who wrote learning activity packages did not appear to have more positive attitudes than teachers not involved as writers toward the I.D.E.C.C. learning system.
7) There were no differences in attitudes toward barriers in implementing the I.D.E.C.C. learning system between learning activity package writers and nonwriters categorized by levels of age, years teaching experience in present distributive education position, or number of students enrolled in the distributive education program.
8) High change-oriented and low change-oriented teachers were normally distributed among the 635 distributive education teachers in the study.
9) High change-oriented teachers were less concerned than low change-oriented teachers toward all six categorical barriers to implementing the I.D.E.C.C. learning system.
10) High change-oriented teachers who wrote learning activity packages had less concern than high change-oriented nonwriters, and low change-oriented writers and nonwriters toward resource needs and the consumer barriers of teacher confidence and student factors as barriers in implementing the I.D.E.C.C. learning system.

11) High change-oriented distributive education teachers at all levels of years teaching experience had less concern than low change-oriented distributive education teachers with the same amount of teaching experience toward the value of the innovation and consumer categories as barriers to implementing the I.D.E.C.C. learning system.

12) High change-oriented distributive education teachers at all levels of in-service training had less concern than low change-oriented distributive education teachers with the same amount of in-service training toward the value of the innovation and the consumer categories as barriers to implementing the I.D.E.C.C. learning system.

13) High change-oriented distributive education teachers with in-service training of 1-3 days, 4-5 days, 6-10 days, and 11 days and over had less concern than low change-oriented teachers at the same levels of in-service training toward attributes of the learning system as barriers to implementing the I.D.E.C.C. learning system.

Recommendations for Additional Research

The adoption and use of educational innovation is a tedious and complex process. There are many factors which affect a teacher's decision to implement or fail to implement an individualized, competency-based learning system. Based on the findings from this study, the following recommendations are made for additional research:

1) A follow-up study utilizing a similar instrument needs to be conducted in I.D.E.C.C. consortium states to understand current attitudes of distributive education teachers towards implementing the learning system.
2) A follow-up study should be conducted to obtain in-depth information on the barrier factors which concerned the distributive education teachers in this study.
3) A follow-up study to measure teachers' attitudes among various levels of in-service training should be conducted to provide an analysis of in-service training on I.D.E.C.C.
4) Additional use of the Russell Change Orientation Scale in research studies with distributive education teachers for further validation and reliability.
5) Research studies concerning the use and effectiveness of the I.D.E.C.C. learning system should be undertaken.
6) Research studies on the adoption of educational innovations which deal with relational analysis rather than the use of the individual as the unit of analysis.

Concluding Statement

This study has provided an analysis of distributive education teachers' attitudes toward utilizing the I.D.E.C.C. learning system. Although the teachers' responses indicated a concern that certain factors were perceived as barriers, the teachers appeared to be receptive to implementing the system. Hopefully, this study can be used to assist in planning the needed in-service training required to overcome the teachers' perceived barriers to implementing the I.D.E.C.C. learning system.

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APPENDIX A. AN I.D.E.C.C. LEARNING ACTIVITY PACKAGE

Closing the Sale
APPROPRIATE TIMING IN SELLING
LAP 53

This learning package is designed to provide information on appropriate timing in every phase of the sales presentation.

PRE-TEST

CLOSING THE SALE

DIRECTIONS: IN THE SPACE BEFORE EACH OF THE FOLLOWING STATEMENTS, PLACE A "T" IF THE STATEMENT IS TRUE OR AN "F" IF THE STATEMENT IS FALSE.

_____ 1. It is the responsibility of the salesperson to approach the customer as soon as possible.

_____ 2. The customer is responsible for the product presentation.

_____ 3. Product presentation usually occurs after the salesperson uses suggestive selling.

_____ 4. The closing of a sale cannot begin until the customer's objections have been met.

_____ 5. Reassurance by the salesperson should be given to the customer only during the product presentation.

_____ 6. Once the customer has purchased a product, the salesperson should begin the opening.

DIRECTIONS

Check with the learning manager to obtain a score for this pre-test. If you have met criterion, go on to the pre-test for your next objective.

If you did not meet criterion, go on to the learning activities for this objective. These learning activities may be found on page number 2.

LEARNING ACTIVITIES

CLOSING THE SALE

OBJECTIVE-A: WHEN YOU HAVE COMPLETED TWO OF THE FOLLOWING ASSIGNMENTS, YOU WILL BE ABLE TO LIST THE PHASES OF A SALES PRESENTATION IN THE PROPER SEQUENCE WITHOUT ERROR.

DIRECTIONS: SELECT AND COMPLETE AT LEAST TWO OF THE FOLLOWING ACTIVITIES:

Individual #1

a. Read the selections listed below from Retailing Principles and Practices, Richert, Meyer, and Haines, 5th edition.
   - Pages 200-202
   - Pages 205-206
   - Pages 209-213
   - Pages 219-224
   - Pages 229-232
b. Write down on paper the various phases of a sales presentation from the material you have read.
c. Write a brief explanation of each phase, explaining which parts of the sales presentation are important and what is important about each part.
d. Submit the paper to your teacher.

or

Individual #2

a. Refer to form #1 on page 4.
b. Follow the directions given on this form.
c. After you have completed this form, submit it to your teacher for evaluation.

or

Group #3

a. Refer to Form #2 on pages 5 - 14 for the transparency presentation which should be given by your teacher.
b. Listen to the presentation given by your teacher on "Sales Presentation."
c. Write down on paper the major points presented.
d. Discuss the major points you listed with those listed by the other students following the presentation.
e. If there is something you do not understand, ask your teacher to clarify it for you.

or ..... continued on page 3

1579 :10B

CONTINUED:

a. Arrange for a guest speaker from a sales department of a local department or variety store.
b. Speaker should discuss the practical uses of the various phases of a sales presentation.
c. Students should take notes.
d. Each student should prepare at least two questions to ask the speaker.
e. These questions should be answered and handed in to the teacher.

FORM #1

CLOSING THE SALE

DIRECTIONS: FROM THE FOLLOWING LIST OF EIGHT PHASES OF A SALES PRESENTATION, CHOOSE FOUR. WRITE A BRIEF DIALOGUE BETWEEN THE SALESPERSON AND THE CUSTOMER THAT WOULD INDICATE THIS PHASE OF THE SALES PRESENTATION. BASE THIS DIALOGUE AROUND A PRODUCT OF YOUR CHOICE, BUT BE SURE TO MENTION THE PRODUCT IN THE DIALOGUE.

1. Approach -

2. Qualifying the customer -

3. Opening of the sale -

4. Determining customer needs -

5. Product presentation -

6. Handling customer objections -

7. Close of the sale -

8. Suggestive selling & reassurance -

When you have completed this form, turn it in to your teacher for evaluation.

WHAT IS

SELLING ?

5

TO ASSIST A CUSTOMER IN MAKING A GOOD BUYING DECISION.

195

THE ACT OF ASSISTING AN INDIVIDUAL IN MAKING A BUYING DECISION.

SELLING
886A

"PRO"

POSSESSES PRODUCT KNOWLEDGE

ENJOYS SERVING PEOPLE

POSSESSES INTEGRITY

CONTINUALLY TRIES TO IMPROVE

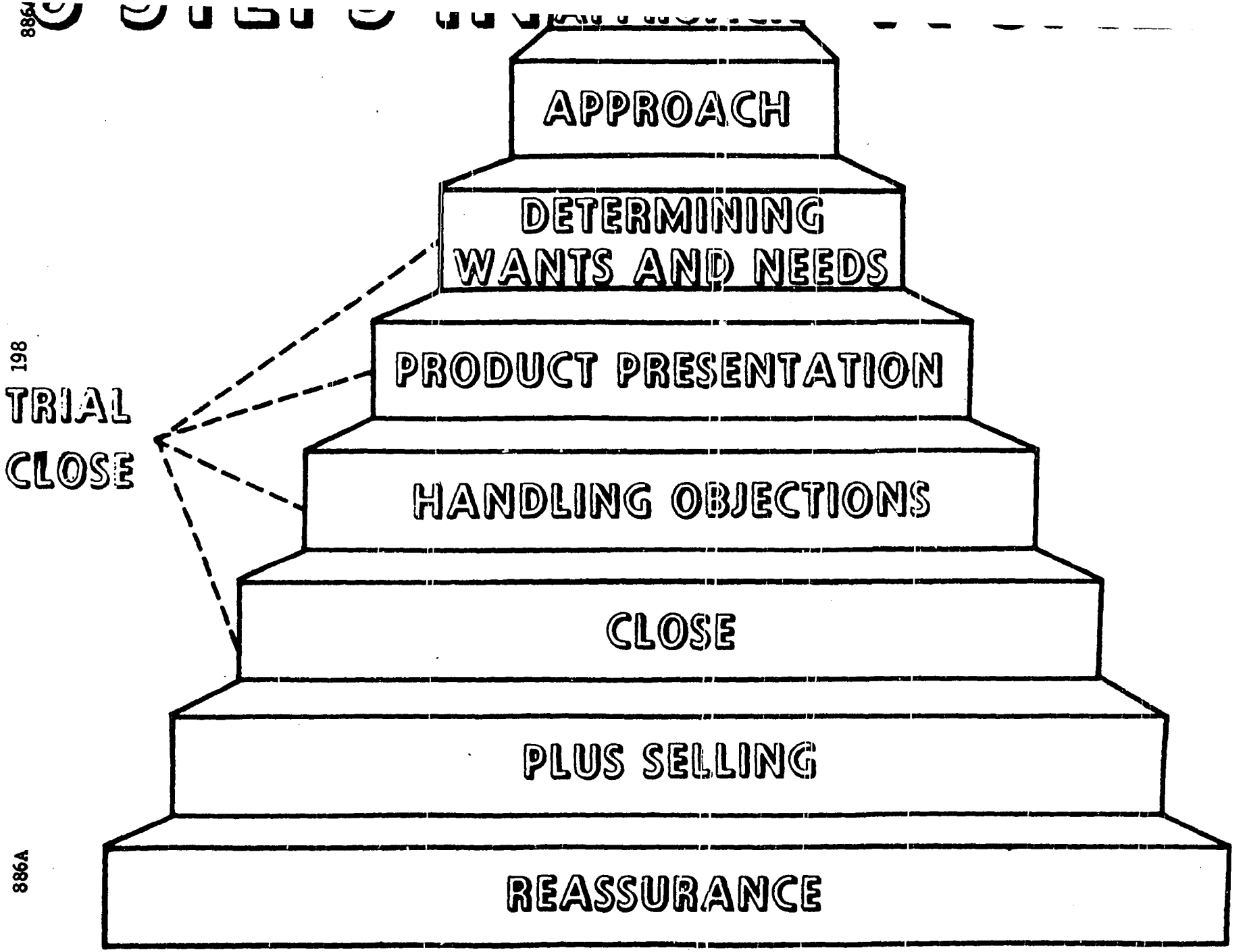
LOYAL AND ETHICAL

CUSTOMER SATISFACTION COMES FIRST

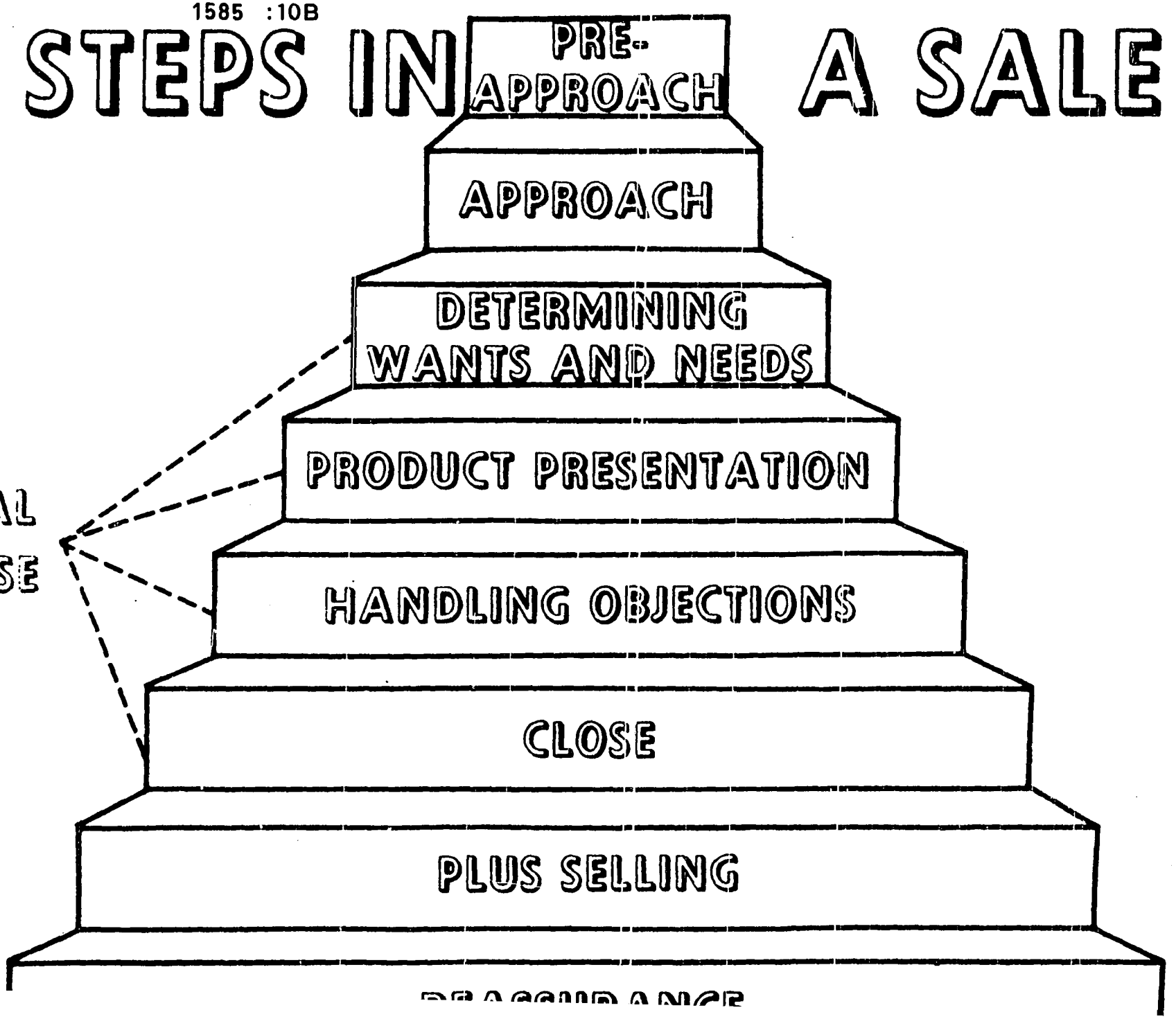
GOALS OF A SALE

"ASSIST CUSTOMER
IN MAKING A GOOD
BUYING DECISION."

GET ACTION!
GAIN CONVICTION
CREATE DESIRE
AROUSE INTEREST
GET ATTENTION


APPROACH
DETERMINING WANTS AND NEEDS
PRODUCT PRESENTATION
HANDLING OBJECTIONS
CLOSE
PLUS SELLING
REASSURANCE
TRIAL CLOSE

8 STEPS IN A SALE



TRIAL CLOSE

SELLING TECHNIQUES

I. APPROACH - MEETING THE CUSTOMER

SELLING
886A

SELLING
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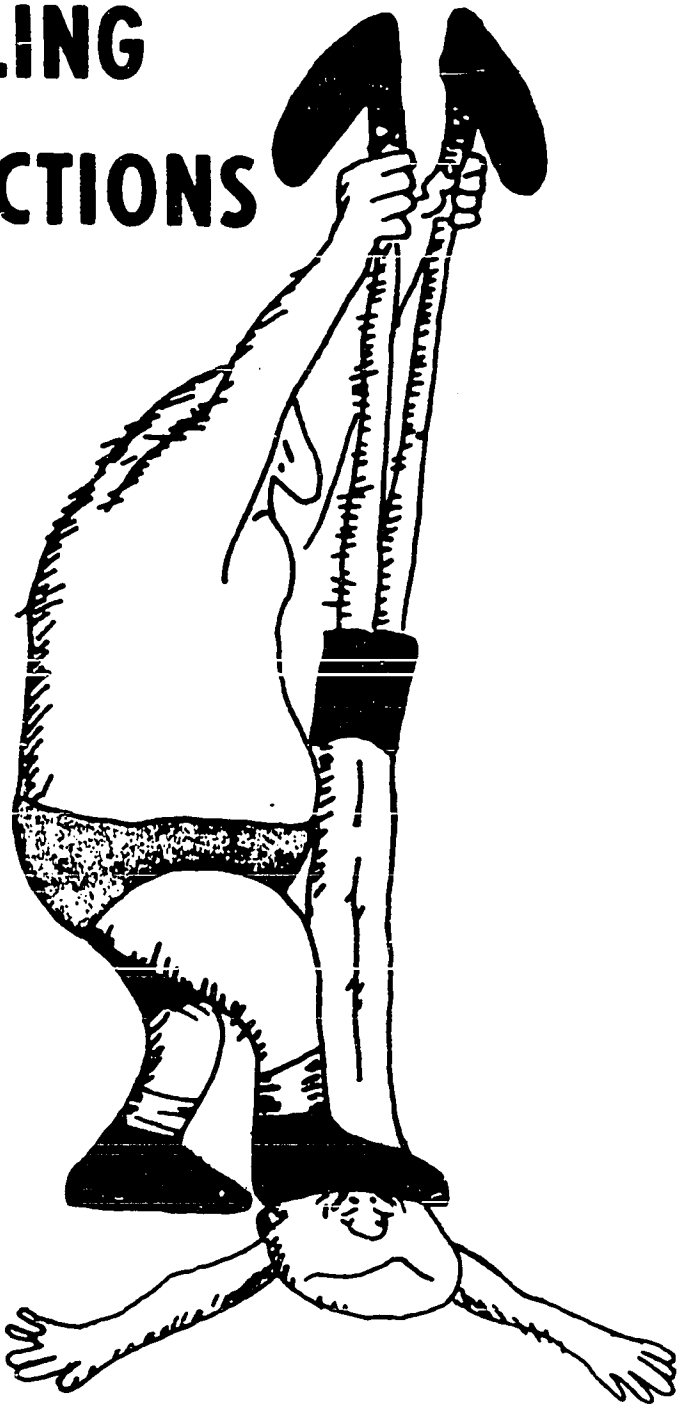
200

SELLING TECHNIQUES

II. PRODUCT PRESENTATION

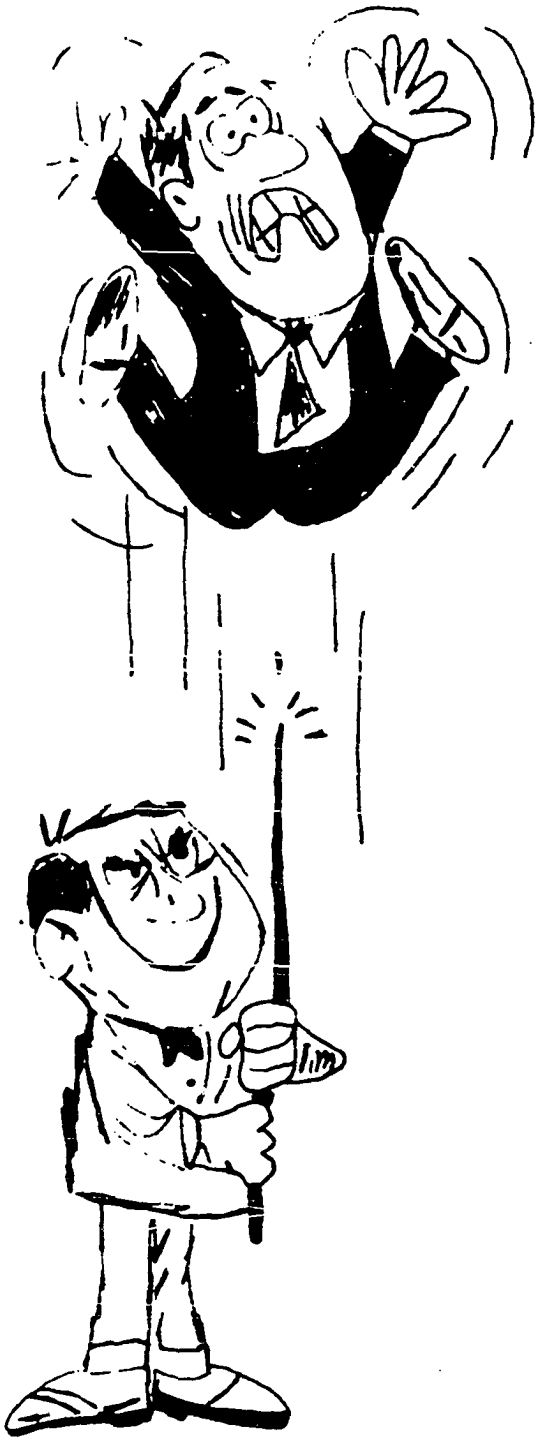
SELLING TECHNIQUES

III. HANDLING OBJECTIONS



SELLING TECHNIQUES

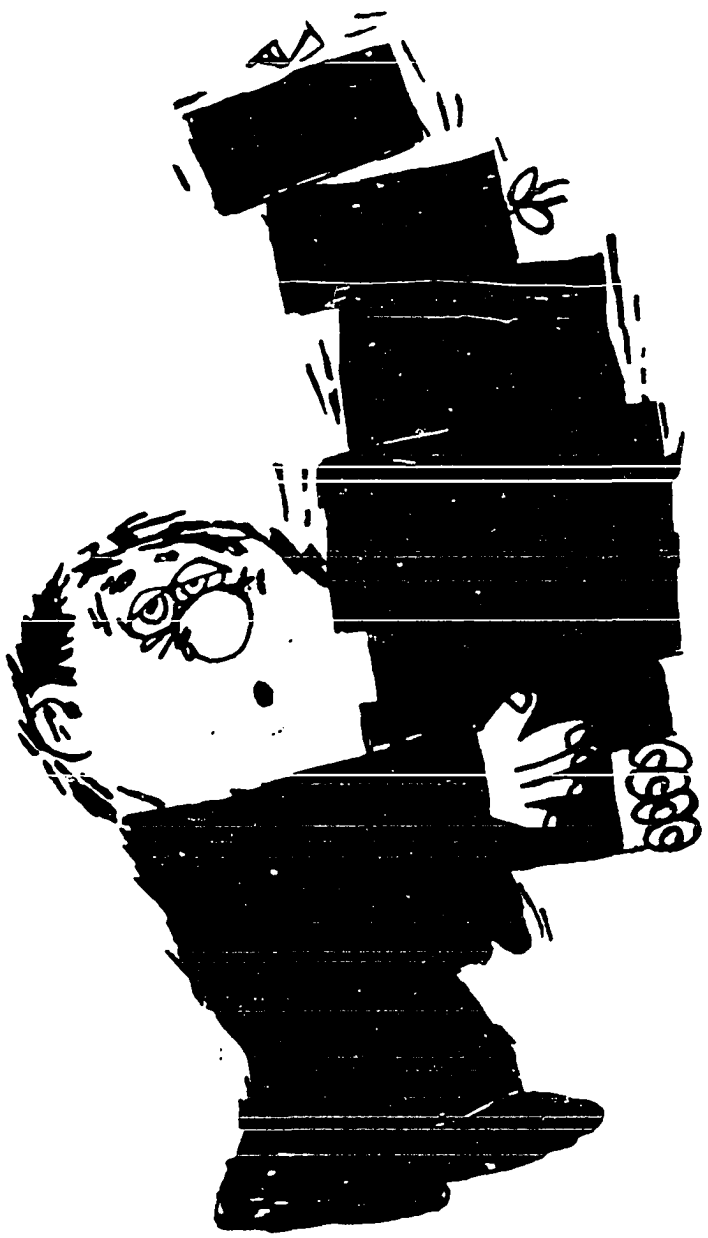
IV CLOSING THE SALE



GET THE POINT?

SELLING TECHNIQUES

V. SUGGESTION SELLING & REASSURANCE



BE ENTHUSIASTIC!

ABOUT THE PRODUCT

PRE-TEST

CLOSING THE SALE

DIRECTIONS: IN THE SPACE BEFORE EACH OF THE FOLLOWING STATEMENTS, PLACE A "T" IF THE STATEMENT IS TRUE OR AN "F" IF THE STATEMENT IS FALSE.

_____ 1. The salesperson is not responsible for approaching every type of customer as promptly as possible.

_____ 2. The manner in which the salesperson handles the approach has a direct effect on the outcome of the sales presentation.

_____ 3. When determining customer needs, the salesperson can make his own job easier by merely asking the customer what he wants.

_____ 4. Once the customer's needs have been determined the salesperson should proceed with the product presentation.

_____ 5. It is necessary for the salesperson to present the product entirely to each customer to stay in practice.

_____ 6. The salesperson should try to slide past the customer objections as best he can and move on as quickly as possible to the close of the sale.

_____ 7. Once the customer has purchased a product, the salesperson's job is completed.

_____ 8. When using suggestive selling, the salesperson would probably benefit more by suggesting closely related items.

1592 :10B

DIRECTIONS

Check with the learning manager to obtain a score for this pre-test. If you have met criterion, go on to the pre-test for the next objective.

If you did not meet criterion, go on to the learning activities found on the following page.

LEARNING ACTIVITIES

CLOSING THE SALE

OBJECTIVE -B: WHEN YOU HAVE COMPLETED AT LEAST TWO OF THE ASSIGNMENTS AND ARE GIVEN A LIST OF THE EIGHT PHASES OF A SALES PRESENTATION, YOU WILL BE ABLE TO LIST AT LEAST TWO STEPS WHICH COULD BE USED TO MOVE FROM ONE PHASE TO THE OTHER FOR EACH OF FOUR PHASES OF YOUR CHOICE.

DIRECTIONS: SELECT AND COMPLETE AT LEAST TWO OF THE FOLLOWING ACTIVITIES:

Individual #1

a. Read pages 207-216 in Retail Selling, Bodle and Corey.
b. Answer questions 1,2, & 3 of the Retail Case Study on page 217.
c. Hand your paper in to your teacher.

or

Individual #2

a. Read pages 213-230 in Salesmanship, Kirkpatrick, 5th edition.
b. Take notes on the selected material as you read it.
c. Hand your notes in to your teacher.

or

Group #4

a. Refer to Form #3 on page 18 .
b. As a group, determine what the answers should be.
c. Discuss these statements as a group.
d. Check your answers with those given on the Form #2, Answer Sheet (Obtain this from your teacher.)

or

Individual #3

a. Refer to Form #4 on pages 19-20.
b. Complete at least two of these forms.
c. When completed, turn in to your teacher or training sponsor for evaluation.

or .....continued on next page.

1593 :10B

CLOSING THE SALE

CONTINUED

Group #5

a. Refer to Form #4 on pages 19-20.
b. Each student complete at least two of these forms.
c. As a group, evaluate and discuss the results of these experiences.
d. Take notes on these discussions.
e. Turn in forms to your teacher for evaluation.

or

Group #6

a. Refer to Form #1 on page 4 for the eight phases of a sales presentation.
b. Each student will prepare a two to three minute presentation dealing with one of these phases of his choice, using a product of his choice.
c. Students will choose a partner to play the part of the customer.
d. A tape recorder should be used to record these mini-presentations.
e. Discuss recordings with other students to determine strengths and weaknesses.
f. Refer to Form #5 on page 21 for an evaluation form to be used by the learning manager for this activity.

FORM #3

ATTITUDE SURVEY

SPECIFIC OBJECTIVE: THE STUDENT WILL REVEAL HIS OPINIONS AND ATTITUDES TOWARD APPROPRIATE TIMING IN EVERY PHASE OF THE SALES PRESENTATION.

Your answers to the following questions represent your opinion about appropriate timing in every phase of the sales presentation. Consider each question carefully. Mark your answers in the following manner: Y-yes, N-no, and U-undecided.

_____ 1. Is a prompt approach important to the customer?

_____ 2. Is a prompt approach helpful to the salesperson?

_____ 3. Is qualifying the type of customer being approached helpful in determining the type of approach to be used?

_____ 4. Should the salesperson attempt to determine customer needs?

_____ 5. Is it important to the customer that his needs are met promptly?

_____ 6. Is product presentation important to the customer if he already knows what he wants?

_____ 7. Is it necessary to meet customer objections before moving on to the close of the sale?

_____ 8. Is suggestive selling helpful only to the customer?

_____ 9. Does the salesperson benefit from using suggestive selling?

_____ 10. Does the customer need reassurance from the salesperson once he has purchased a product?

When you have completed this form, hand it in to your teacher for evaluation.

FORM #4

CLOSING THE SALE

DIRECTIONS: THIS FORM IS TO BE COMPLETED AS ACCURATELY AS POSSIBLE. AS A SETTING USE AN ACTUAL SALES SITUATION IN YOUR TRAINING STATION. OBTAIN PERMISSION FROM YOUR TRAINING SPONSOR TO ENABLE YOU TO SPEND A SHORT PERIOD OF TIME AFTER A SALE TO COMPLETE THIS FORM.

1. The type of customer approached

_____ Male	_____ Friendly	_____ Talkative
_____ Female	_____ Unfriendly	_____ Quiet
	_____ Indifferent	_____ Asked questions

(One item in each column should be checked.)

2. Time required to make the entire sales presentation_____.

3. Product being sold_____.

4. Were the customer's needs determined?_____.

5. Were the customer's needs met?_____.

6. Time required to present the product to the customer_____.

7. List any customer objections to the product:

a.

b.

c.

8. Were these objections taken care of before trying to close the sale?_____. If not why? If so, how was this accomplished?

9. Did you attempt to use suggestive selling?_____

What was suggested?_____

Was an additional sale made?_____

When you have finished this page, go on to Form #4, page 20.

FORM #4

CONTINUED

10. Did you thank the customer?_____

11. Did you reassure the customer of his purchase?_____

12. Did the customer seem satisfied with his purchase?_____

When you have completed this information, hand it in to your teacher or training sponsor for evaluation.

FORM #5

MINI-PRESENTATION

EVALUATION

Did the salesperson:	Yes	No	Indifferent
_____ Appear to act in a friendly manner toward the customer?	_____	_____	_____
_____ Appear to be well-organized?	_____	_____	_____
_____ Allow the customer to participate in the particular phase?	_____	_____	_____
_____ Appear to stimulate interest in the customer for the product?	_____	_____	_____
_____ Appear to handle this particular phase in an adequate manner?	_____	_____	_____
_____ Attempt to move from this phase into the next phase?	_____	_____	_____
_____ Use the proper techniques for this phase of the sales presentation?	_____	_____	_____

PRE-TEST

CLOSING THE SALE

DIRECTIONS: IN THE SPACE BEFORE EACH OF THE FOLLOWING STATEMENTS, PLACE A "T" IF THE STATEMENT IS TRUE OR AN "F" IF THE STATEMENT IS FALSE.

PART I. CONCEPTS

_____ 1. The first step in closing the sale is to secure the agreement from the customer that this is the merchandise he wants.

_____ 2. The salesperson is not concerned with an agreement sentence during the sixth phase of the sales presentation.

_____ 3. Asking the customer the manner of payment for an item is not a very good close to a sale.

_____ 4. A good salesperson can work successfully with one good closing phrase.

_____ 5. Customer confidence in the salesperson is not affected by the organization of product information.

_____ 6. Several trial closes may have to be used before a sale is finally made, due mainly to customer objections.

_____ 7. In presenting product knowledge, it is better to present it in the form of selling points rather than benefits.

_____ 8. A salesperson should always follow the eight phases of the sales presentation and never take short-cuts even when possible.

.....continue to next page for Part II

PRE-TEST CONTINUED

PART II. CLOSING THE SALE

DIRECTIONS: THE PURPOSE OF THIS PART OF THE PRE-TEST IS TO DEMONSTRATE YOUR ABILITY TO USE APPROPRIATE TIMING IN EVERY PHASE OF THE SALES PRESENTATION. SELECT A PRODUCT TO SELL AND A FELLOW STUDENT TO SERVE AS YOUR CUSTOMER. PLEASE STUDY THE FORM AND MAKE SURE YOU ARE PREPARED TO DEMONSTRATE EACH TECHNIQUE PROPERLY BEFORE GIVING YOUR SALES DEMONSTRATION. YOU MAY WISH TO PRACTICE YOUR DEMONSTRATION TWO OR THREE TIMES PRIVATELY BEFORE GIVING IT TO YOUR INSTRUCTOR. WHEN YOU HAVE COMPLETED YOUR SALES PRESENTATION YOUR INSTRUCTOR WILL EVALUATE YOU ON THE FOLLOWING ITEMS.

1600 :10B

APPROACH--MEETING THE CUSTOMER

Did the salesperson use a suitable opening statement or remark? YES_____ NO_____

PRODUCT PRESENTATION

Did the salesperson attempt to qualify the customer? YES_____ NO_____

Did the salesperson use buyer benefits at the proper time during the sales presentation? YES_____ NO_____

Did the sales person allow the customer adequate time to ask questions? YES_____ NO_____

HANDLING OBJECTIONS

	Showed No Interest	Showed Some Interest	Listened with Int.
Did the salesman welcome and listen with interest to all objections raised?			
Did the salesman handle and overcome the objection?	Handled Objection with respect	Was not very respectful	Insulted customer

CLOSING THE SALE

	Trial closes used effectively	Trial closes used	No trial closes used
Did the salesman use trial closes at the right time during the sale?			

During the presentation did the salesperson show the ability to question, observe, and listen in order to complete the sale successfully? YES_____ NO_____

What areas are weak? Questioning____ Observing_____ Listening_____

SUGGESTION SELLING

	Salesman suggested related items	Missed some opportunity for more related items	Missed all opportunity
Did the salesman suggest definite merchandise to go with the customer's first purchase?			

.....continued on next page

PRE-TEST CONTINUED

DIRECTIONS

Check with the learning manager to obtain a score for this pre-test. If you have met criterion, go on to the pre-test for your next objective.

If you did not meet criterion, go on to the learning activities for this objective. These learning activities may be found on the next page.

1601 :10B

LEARNING ACTIVITIES

CLOSING THE SALE

OBJECTIVE-C: WHEN YOU HAVE COMPLETED TWO OF THE FOLLOWING ASSIGNMENTS, YOU WILL BE ABLE TO DEMONSTRATE AN ENTIRE SALES PRESENTATION IN AN ORDERLY AND TIMELY MANNER ACCORDING TO THE STANDARDS PROVIDED BY THE ITEMS ON THE EVALUATION FORM ON PAGE 23.

DIRECTIONS: SELECT AND COMPLETE AT LEAST TWO OF THE FOLLOWING ACTIVITIES:

1602 :10B

Individual #1

a. Read pages 76-81 and pages 83-90 in Fundamentals of Selling, Wingate-Nolan, 9th edition.
b. Referring to the material you have read, write a one page paper expressing your own ideas as to what you feel you can do to develop better mental and verbal characteristics.
c. Submit this paper to your teacher for evaluation.

or

Individual #2

a. Refer to form #6 on pages 27-28.
b. Arrange with your teacher and/or training sponsor to conduct a field interview.
c. Interview should be conducted in a sales department of a department or variety store other than your own training station.
d. Interview should be conducted with a professional salesperson.
e. Complete at least one of these forms and submit it to your teacher or training sponsor for evaluation.

or

Group #3

a. Refer to Form #1 on page 4.
b. Each student choose a different phase of a sales presentation.
c. As a group, write the dialogue for an entire sales presentation.
d. Center dialogue around only one product plus additional products in suggestive selling phase.
e. Use a tape recorder and have two students read the dialogue when completed.
f. Discuss the strengths and weaknesses with your teacher.

or.....continued on next page

CLOSING THE SALE

CONTINUED

Group #4

a. Each student compose an entire sales presentation centered around a product or products of their choice.
b. Student may choose a partner to play the role of the customer.
c. Each phase of the sales presentation should be used and in the proper sequence.
d. A tape recorder should be used to record the sales presentations.
e. Discuss these recordings with other members of the class and your teacher to determine the strengths and weaknesses.
f. Refer to Form #7 on page 29 for evaluation form for this activity.

1603 :10B

FORM #6

FIELD INTERVIEW

CLOSING THE SALE

DIRECTIONS: USE THE FOLLOWING QUESTIONS AS WELL AS ANY OTHERS THAT YOU OR YOUR TEACHER WISH TO ADD TO INTERVIEW A PROFESSIONAL SALESPERSON

1. The type of store where salesperson is employed.

2. The particular type of products this salesperson sells.

3. List three types of approaches that this salesperson uses.

   a.

   b.

   c.

4. List three ways this salesperson determines customer needs.

   a.

   b.

   c.

5. Does he attempt to involve the customer in the sales presentation? If so, list three ways he accomplishes this.

   a.

   b.

   c.

6. What are some signals he looks for from the customer to help him to know when to close a sale? List them below.

   a.

   b.

   c.

7. List three phrases used to close a sale.

   a.

   b.

   c.

FORM #6

FIELD INTERVIEW

CLOSING THE SALE

CONTINUED

8. List three phrases used to aid him in suggestive selling.

   a.

   b.

   c.

9. List three phrases used to reassure the customer of his purchase.

   a.

   b.

   c.

10. Does this salesperson feel that appropriate timing is necessary in every phase of the sales presentation? If so, why?

When you have completed this form, turn it in to your teacher or training sponsor for evaluation.

FORM #7

CLOSING THE SALE

DEMONSTRATION EVALUATION

1. Did the salesperson use a suitable opening statement or remark?_____
2. Did the salesperson attempt to qualify the type of customer?_____
3. Were the needs of the customer determined?_____
4. Did the salesperson use questions to determine needs?_____
5. Did the salesperson express adequate product knowledge?_____
6. Was the product presented in an appropriate manner?_____
7. Was the salesperson friendly and courteous towards the customer?_____
8. Did the salesperson appear to be interested in the customer's needs?_____
9. Were objections properly handled?_____
10. Were customer benefits used?_____
11. Was the closing of the sale smooth and timely?_____
12. Did the salesperson use suggestive selling adequately?_____
13. Was the customer reassured after the purchase?_____
14. Did the salesperson thank the customer?_____
15. Were trial closes used at the proper time throughout the sales demonstration?_____

SELLING

886A

LEARNING MANAGER'S GUIDE TO STUDENT LEARNING ACTIVITIES:

LEARNING ACTIVITY NUMBER	COMMENTS
1	This activity requires the student to research the eight phases of a sales presentation. The student is required to list these phases and give a brief explanation of each as well as the importance of each.
2	This activity is designed to familiarize the student with the various phases of the sales presentation. Given a list of the eight phases, he is required to write a dialogue between a salesperson and a customer which would indicate which phase of the sales presentation he is in. In addition he is to mention a product of his choice in the dialogue. You will be expected to evaluate the student's work. This activity requires the student to use Form #1 on page 4.
3	This activity requires you to prepare a presentation based on Form #2 on pages 5-14 to present to the group. This activity is designed to expose the students to every phase of the sales presentation and how they are related to each other.
4	This activity requires you to arrange for a guest speaker from a local department or variety store. This activity would allow the students to gain first hand knowledge from professional salespersons. The speaker should be a salesperson himself and should discuss the various phases of the sales presentation and how they relate to one another.

SELLING

886B

LEARNING MANAGER'S GUIDE TO STUDENT ACTIVITIES:

LEARNING ACTIVITY NUMBER	COMMENTS
1	This activity is designed to enable the student to get the feel for determining various buying signals from the customer. This is important for him to understand before he can understand the timing of each phase of the sales presentation.
2	This activity is designed to expose the student to the various buying decisions the customer must make. The student should have a good understanding of this process to enable him to see how important his role is in satisfying customer needs. This of course is a major element of the sales presentation.
3	This activity allows the student to become more aware of the various phases of the sales presentation. The student is required to refer to Form #4 on pages 19-20. You are required to evaluate these forms.
4	This activity is designed to attempt to determine the attitudes of the student toward appropriate timing in every phase of the sales presentation. This activity requires the student to use Form #3 on page 18. For the answers to this form, refer to Form #2 Attitude Survey Answer Sheet located on page 34.
5	This activity allows the students as a group to become more aware of the various phases of the sales presentation from first hand observation. This activity requires the student to refer to Form #4 on pages 19 and 20. You are required to evaluate these forms as well as lead a related classroom discussion.
6	This activity is designed to allow the student the opportunity to put into practice the knowledge that he has gained thus far. The student is required to prepare and give a mini-presentation consisting of two or three minutes. They should refer to Form #1 on page 4 and choose one of these phases. The student is required to use a product of his choice. You are required to evaluate these presentations. Refer to Form #5 on page 21 for an evaluation form to be used with this activity.

SELLING

886C

LEARNING MANAGER'S GUIDE TO STUDENT LEARNING ACTIVITIES:

LEARNING ACTIVITY NUMBER	COMMENTS
1	This activity requires the student to research some characteristics of a good salesperson. He is required to express his own ideas as to what he can do to develop these characteristics. You are required to evaluate a one page report made by the student.
2	This activity is designed to allow the student to conduct a field interview and collect first hand information from a professional salesperson. You are required to assist them in arranging an interview with a department or variety store other than his own training station. You are required to evaluate the results of this field interview. Refer to Form #6 on pages 27 and 28.
3	This activity requires the students to work together to compose the dialogue for an entire sales presentation. You are required to ensure that every phase is used and to lead a discussion concerning the strengths and weaknesses of the sales presentations. You are required to obtain a tape recorder for use in this activity.
4	This activity is designed to allow the student the opportunity of preparing an entire sales presentation by himself. Each phase of the sales presentation should be used and in the proper sequence. These presentations should be recorded. You are required to lead a discussion concerning the strengths and weaknesses of these sales presentations. Refer to Form #7 on page 29 for an evaluation form to be used in this activity.

PRE-TEST KEYS

OBJECTIVE LETTER	CORRECT RESPONSES
A	DIRECTIONS FOR GRADING: These six items attempt to measure the student's awareness of the importance of appropriate sequencing of the various phases of the sales presentation. If the student misses any of these items, please sit down with him and explain by examples, why these statements are important to him as a salesperson. CRITERION LEVEL: The student should score a minimum of 5 of 6 correct. 1. T 2. F 3. F 4. T 5. F 6. F
B	DIRECTIONS FOR GRADING: These eight items attempt to measure the student's awareness of the importance of appropriate timing in every phase of the sales presentation. If the student misses any of these items, please sit down with him and explain by examples, why these statements are important to him as a salesperson. CRITERION LEVEL: The student should score a minimum of 7 of 8 correct. 1. F 2. T 3. F 4. T 5. F 6. F 7. F 8. T
C	Part I DIRECTIONS FOR GRADING: These eight items attempt to measure the student's understanding of how every phase of the sales presentation is necessary to the success of the sale. If the student misses any of these items, please sit down with him and explain by examples, why these are important to him as a salesperson. CRITERION LEVEL: The student should score a minimum of 7 of 8 correct. 1. T 2. F 3. F 4. F 5. F 6. T 7. F 8. F **Part II** **DIRECTIONS FOR GRADING: The evaluation of this part of the pre-test should be left up to the discretion of the learning manager.** **CRITERION LEVEL: If the student has not responded adequately, he must complete the learning activities for this objective.**

1610 :10B

FORM #3

ATTITUDE SURVEY

ANSWER SHEET

DIRECTIONS FOR GRADING: These statements were designed to measure the attitudes of the student toward appropriate timing in every phase of the sales presentation.

CRITERION LEVEL: The student should score a minimum of 8 of 10 correct.

This attitude survey has been designed in such a manner so as to relate a positive attitude to the student. Thus all but one of the responses is yes. Numbers 1, 2, 3, 4, 5, 6, 7, 9, and 10 are yes whereas number 8 is no.

POST-TEST

CLOSING THE SALE

DIRECTIONS: LIST BELOW THE EIGHT PHASES OF A SALES PRESENTATION IN THE CORRECT ORDER AND GIVE A BRIEF EXPLANATION OF EACH OF THE PHASES.

1)

2)

3)

4)

5)

6)

1612 :10B

DIRECTIONS

Once you have completed this post-test Part A, go on to the post-test Part B found on the following page.

POST-TEST

CLOSING THE SALE

DIRECTIONS: IN THE SPACE BEFORE EACH OF THE FOLLOWING STATEMENTS, PLACE A "T" IF THE STATEMENT IS TRUE OR AN "F" IF THE STATEMENT IS FALSE.

_____ 1. The manner in which the salesperson handles the approach can often determine the outcome of the sales presentation.

_____ 2. Once the customer has been approached, the salesperson should attempt to qualify the customer.

_____ 3. The customer is responsible for opening the sale.

_____ 4. All customers may be approached effectively in the same manner.

_____ 5. Customer needs should be determined before the product is presented to the customer.

_____ 6. Product presentation can only take place after the customer's needs have been determined.

_____ 7. Customer objections can many times be ignored and a satisfactory sale may still be made.

_____ 8. Handling customer objections is a major phase of the sales presentation.

_____ 9. The responsibility for the closing of the sale is placed upon the customer.

_____ 10. Only the customer benefits from suggestive selling.

_____ 11. Suggestive selling is attempted after the customer has agreed to purchase an item.

_____ 12. Reassurance to the customer occurs after the purchase has taken place.

Once you have completed this post-test Part B, go on to the post-test Part C found on the following page.

POST-TEST

CLOSING THE SALE

DIRECTIONS: IN THE SPACE BEFORE EACH OF THE FOLLOWING STATEMENTS, PLACE A "T" IF THE STATEMENT IS TRUE OR AN "F" IF THE STATEMENT IS FALSE.

PART I. CONCEPTS

_____ 1. The first step in closing the sale is to secure the agreement from the customer that this is the merchandise they want.

_____ 2. The salesperson is not concerned with an agreement sentence during the sixth phase of the sales presentation.

_____ 3. Asking the customer the manner of payment for an item is not a very good close to a sale.

_____ 4. A good salesperson can work successfully with one good closing phrase.

_____ 5. Customer confidence in the salesperson is not affected by the organization of product information.

_____ 6. Several trial closes may have to be used before a sale is finally made, due mainly to customer objections.

_____ 7. In presenting product knowledge, it is better to present it in the form of selling points rather than benefits.

_____ 8. A salesperson should always follow the eight phases of the sales presentation and never take short-cuts even when possible.

.....continue to next page for Part II

PART II

CLOSING THE SALE

DIRECTIONS: THE PURPOSE OF THIS PART OF THE PRE-TEST IS TO DEMONSTRATE YOUR ABILITY TO USE APPROPRIATE TIMING IN EVERY PHASE OF THE SALES PRESENTATION. SELECT A PRODUCT TO SELL AND A FELLOW STUDENT TO SERVE AS YOUR CUSTOMER. PLEASE STUDY THE FORM AND MAKE SURE YOU ARE PREPARED TO DEMONSTRATE EACH TECHNIQUE PROPERLY BEFORE GIVING YOUR SALES DEMONSTRATION. YOU MAY WISH TO PRACTICE YOUR DEMONSTRATION TWO OR THREE TIMES PRIVATELY BEFORE GIVING IT TO YOUR INSTRUCTOR. WHEN YOU HAVE COMPLETED YOUR SALES PRESENTATION YOUR INSTRUCTOR WILL EVALUATE YOU ON THE FOLLOWING ITEMS.

1615 :10B

APPROACH--MEETING THE CUSTOMER

Did the salesperson use a suitable opening statement or remark? YES_____ NO_____

PRODUCT PRESENTATION

Did the salesperson attempt to qualify the customer? YES_____ NO_____

Did the salesperson use buyer benefits at the proper time during the sales presentation? YES_____ NO_____

Did the salesperson allow the customer adequate time to ask questions? YES_____ NO_____

HANDLING OBJECTIONS

Did the salesman welcome and listen with interest to all objections raised?	Showed No Interest	Showed Some Interest	Listened with Interest
Did the salesman handle and overcome the objection?	Handled Objection With Respect	Was not very Respectful	Insulted Customer

CLOSING THE SALE

Did the salesman use trial closes at the right time during the sale?	Trial Closes Used Effectively	Trial Closes Used	No Trial Closes Used

During the presentation did the salesperson show the ability to question, observe, and listen in order to complete the sale successfully? YES_____ NO_____

What areas are weak? Questioning____ Observing____ Listening____

SUGGESTION SELLING

Did the salesman suggest definite merchandise to go with the customer's first purchase?	Salesman suggested Related Items	Missed Some Opportunity For More Related Items	Missed All Opportunity

.....continued on next page

POST-TEST CONTINUED

DIRECTIONS

Once you have completed the post-test Part A, B, and C, turn them in to your teacher for evaluation. If you have completed them all satisfactorily, go on to your next competency. If you have not successfully completed them, go back through and start that section over that you did not pass. If all sections were not passed, redo this entire learning activity package.

POST-TEST KEYS

OBJECTIVE LETTER	CORRECT RESPONSES
A	DIRECTIONS FOR GRADING: These eight phases may have a variety of brief explanations, but the phases and their order should be as listed below. The learning manager should use his own discretion in evaluating these explanations. CRITERION LEVEL: The eight phases should be listed with 100% accuracy as found below. 1. Approach - 2. Qualifying the customer - 3. Opening the sale - 4. Determining customer needs - 5. Product presentation - 6. Handling customer objections - 7. Close of the sale - 8. Suggestive selling & reassurance -
B	DIRECTIONS FOR GRADING: The following 12 items have been designed to evaluate the student performance for this objective of this learning activity package. CRITERION LEVEL: The student should score a minimum of 11 of 12 correct. 1. T 2. T 3. F 4. F 5. T 6. T 7. F 8. T 9. F 10. F 11. T 12. T
C	Part I DIRECTIONS FOR GRADING: These eight items attempt to measure the student's understanding of how every phase of the sales presentation is necessary to the success of the sale. If the student misses any of these items, please sit down with him and explain by examples, why these are important to him as a salesperson. CRITERION LEVEL: The student should score a minimum of 7 of 8 correct. 1. T 2. F 3. F 4. F 5. F 6. T 7. F 8. F Part II DIRECTIONS FOR GRADING: The evaluation of this part of the pre-test should be left up to the discretion of the learning manager. CRITERION LEVEL: If the student has not responded adequately, he must complete the learning activities for this objective.

1617 :10B

APPENDIX B. FIELD TEST EVALUATION INSTRUMENTS

INTERSTATE DISTRIBUTIVE EDUCATION CURRICULUM CONSORTIUM

TEACHER QUESTIONNAIRE

FORM 3 (cc-1) (11-72)

STATE NO. (cc-2-3)	STATE NAME	SCHOOL No. (cc-4-5)	SCHOOL NAME

STREET ADDRESS, P.O. BOX (DRAWER) OR RURAL ROUTE	CITY	ZIP CODE

TEACHER NUMBER (cc-6-7)	TEACHER'S NAME LAST	FIRST	MIDDLE INITIAL

COMPETENCY NUMBER (cc-8-10)	COMPETENCY NAME

LAP TITLE

PART I. (IF THERE IS NOT SUFFICIENT SPACE, ENCLOSE ADDITIONAL SHEETS OR CORRECTED COPIES OF LAP MATERIALS.)

1. THIS COMPETENCY IS A: (CHECK ONE) (cc-15)
   - 1☐ KNOWLEDGE
   - 2☐ SKILL
   - 3☐ ATTITUDE
   - 4☐ DON'T KNOW

2. THE BEHAVIORAL OBJECTIVES ARE ADEQUATELY STATED. (CHECK ONE) (cc-16)
   1☐ YES 2☐ NO

3. THE LAP MATERIALS ARE SUFFICIENT FOR STUDENTS TO MEET THE CRITERIA OF THE BEHAVIORAL OBJECTIVES.
   1☐ YES 2☐ NO (cc-17) IF NO, WHAT IS THE NATURE OF THE DEFICIENCY?

4. THE LEARNING MATERIALS IN THE LAP FOR THIS COMPETENCY ARE SUPERIOR TO THE ONES I NORMALLY USE. (CHECK ONE) (cc-18)
   1☐ YES 2☐ NO IF NO, WHICH ONES ARE INFERIOR?

5. THE LEARNING MATERIALS ARE SEQUENCED IN A MANNER WHICH FACILITATES LEARNING. (cc-19)
   1☐ YES 2☐ NO IF NO, WHAT IS THE NATURE OF THE PROBLEM? (IDENTIFY WHICH OBJECTIVE BY ITS LETTER.)

6. THE NUMBER OF LEARNING ACTIVITIES INCLUDED FOR THIS COMPETENCY ARE: (CHECK ONE) (cc-20)
   - 1☐ TOO MANY
   - 2☐ TOO FEW
   - 3☐ ABOUT RIGHT COMMENTS: _____

7. THE TEST QUESTIONS ARE APPROPRIATE MEASURES OF THE OBJECTIVES. (CHECK ONE) (cc-21)
   1☐ YES 2☐ NO IF NO, WHAT IS THE NATURE OF THE PROBLEM?

8. WAS AT LEAST ONE OF THE READING RESOURCES SUGGESTED AVAILABLE TO YOU? (CHECK ONE) (cc-22)
   1☐ YES 2☐ NO IF NO, WHAT RESOURCES DID YOU USE WHICH DEVELOPED THE COMPETENCY?

9. WERE THESE READING RESOURCES PURCHASED FOR FIELD TESTING? (CHECK ONE) (cc-23)
   1☐ YES 2☐ NO

10. THE FORMAT OF THE LAP MADE IT EASY TO USE. (CHECK ONE) (cc-24)
    1☐ YES 2☐ NO IF NO, WHAT SUGGESTIONS DO YOU HAVE FOR IMPROVEMENT?

11. MY GENERAL ATTITUDE TOWARD THIS LAP IS FAVORABLE. (CHECK ONE) (cc-25)
1 ☐ YES 2 ☐ NO

12. SCHOOL POLICY HAS HAMPERED THE IMPLEMENTATION OF THE LAP METHOD OF INSTRUCTION IN OUR SCHOOL. (CHECK ONE) (cc-26)
1 ☐ YES 2 ☐ NO IF YES, WHAT IS THE PROBLEM?

13. THE TIME REQUIRED FOR STUDENTS TO MASTER THE MATERIAL IS LESS WHEN I USE THE LAP METHOD THAN WHEN I USE MY OWN METHOD.
(CHECK ONE) (cc-27)
1 ☐ YES 2 ☐ NO COMMENTS: _____

14. I PREFER THE LAP METHOD OF INSTRUCTIONS TO THE ONE I CUSTOMARILY USE. (CHECK ONE) (cc-28)
1 ☐ YES 2 ☐ NO COMMENTS: _____

15. THE POST-TEST KEY'S WERE COMPLETE?
(CHECK ONE) (cc-29)
1 ☐ YES 2 ☐ NO IF NO, DESCRIBE DEFICIENCY.

PART II.

1. RANK IN ORDER OF PREFERENCE FROM MOST VALUABLE TO LEAST VALUABLE, THE LEARNING MATERIALS FOR THE COMPETENCY.

MOST VALUABLE	OBJECTIVE A.	OBJECTIVE B.	OBJECTIVE C.
1.			
2.			
3.			
4.			
5.			

2. CAN YOU SUGGEST OTHER AUDIO-VISUAL RESOURCES, MATERIALS, AND NON-READING ACTIVITIES WHICH WOULD BE OF VALUE IN HELPING STUDENTS ACHIEVE THE OBJECTIVE FOR THE COMPETENCY.
(CHECK ONE) (cc-28)
1 ☐ YES 2 ☐ NO IF YES, LIST THEM ACCORDING TO OBJECTIVE. IF A/V RESOURCES ARE SUGGESTED, DESCRIBE THEIR NATURE AND PURPOSE.

3. OTHER COMMENTS OR SUGGESTIONS ABOUT THE LAP.

INTERSTATE DISTRIBUTIVE EDUCATION CURRICULUM CONSORTIUM

STUDENT QUESTIONNAIRE

FORM 4 (cc-1) (11-72)

STATE NO. (cc-2-3)	STATE NAME	SCHOOL No. (cc-4-5)	SCHOOL NAME

STREET ADDRESS, P.O. BOX (DRAWER) OR RURAL ROUTE	CITY	ZIP CODE

TEACHER NUMBER (cc-6-7)	TEACHER'S NAME LAST	FIRST	MIDDLE INITIAL

COMPETENCY NUMBER (cc-8-10)	COMPETENCY NAME

STUDENT NUMBER (cc-11-14)	STUDENT'S NAME LAST	FIRST	MIDDLE INITIAL

INSTRUCTIONS: When you have completed work on a competency, regardless if you passed the post-tests, please answer the following questions by checking the appropriate boxes and give the paper to your teacher.

1. THE DIRECTIONS FOR PERFORMING THE LAP WERE CLEAR AND EASY TO FOLLOW. (cc-15)
   1☐ YES 2☐ NO IF NO, WHAT WAS OF LITTLE OR NO VALUE?

2. THE FOLLOWING READING MATERIAL WAS HARD TO UNDERSTAND.
   1☐ DIRECTIONS (cc-16)
   1☐ ACTIVITIES SECTION (cc-17)
   1☐ HANDOUTS (cc-18)
   1☐ BIBLIOGRAPHY (cc-19)
   IF BIBLIOGRAPHY WAS HARD TO UNDERSTAND IDENTIFY WHICH BOOKS OR MATERIALS.

3. ALL OF THE LEARNING ACTIVITIES FOR THE COMPETENCY WERE WORTHWHILE. (cc-20)
   1☐ YES 2☐ NO IF NO, WHAT WAS NOT OF VALUE?

4. I THINK THIS IS A BORING WAY TO LEARN DISTRIBUTIVE EDUCATION MATERIAL. (cc-21)
   1☐ YES 2☐ NO IF YES, LIST SUGGESTIONS FOR IMPROVEMENT.

5. THE OBJECTIVES OF THE LAP WERE EASY TO UNDERSTAND. (cc-22)
   1☐ YES 2☐ NO IF NO, LIST SUGGESTIONS FOR IMPROVEMENT

6. MY ATTITUDE TOWARD LEARNING THE MATERIAL IN THE LAP BY THE LAP METHOD OF INSTRUCTION IS FAVORABLE. (cc-23)
   1☐ YES 2☐ NO COMMENTS: _____

7. I LEARNED THIS COMPETENCY PRIMARILY THROUGH THE ACTIVITIES OF THE FOLLOWING SECTIONS:
   1☐ INDIVIDUAL (cc-24)
   1☐ SMALL GROUP (cc-25)
   1☐ LARGE GROUP (cc-26)

8. HOW MUCH TIME DID YOU SPEND ON THE COMPETENCY IN MINUTES? (cc-27)
   1☐ 30-60 MINUTES 4☐ 121-150 MINUTES
   2☐ 61-90 MINUTES 5☐ 151-180 MINUTES
   3☐ 91-120 MINUTES 6☐ OTHER

9. IS THIS COMPETENCY REQUIRED FOR YOUR CAREER GOAL? (cc-28)
   1☐ YES 2☐ NO

10. WHILE LEARNING THIS COMPETENCY, DID YOU LEARN OTHER IDEAS OR COMPETENCIES? (cc-29)
    1☐ YES 2☐ NO COMMENTS: _____

STUDENT QUESTIONNAIRE

QUESTIONS 11 AND 12 ARE OPTIONAL.

TO CHECK THE APPROPRIATENESS OF THE COMPETENCY FOR YOUR CAREER GOAL, COPY THE COMPETENCY AND BEHAVIORAL OBJECTIVES FROM THE LAP AND SHOW IT TO A PERSON OR BUSINESSMAN CONNECTED WITH THE JOB AND ASK HIM THE FOLLOWING QUESTIONS.

11. IS THE COMPETENCY APPROPRIATE FOR THE STUDENT'S CAREER GOAL? (cc-30)

1 ☐ YES 2 ☐ NO COMMENTS: _____

12. WILL THE ACHIEVEMENT OF THE BEHAVIORAL OBJECTIVE DEVELOP THE COMPETENCY (KNOWLEDGE, SKILL OR ATTITUDE) IN THE STUDENT? (cc-31)

1 ☐ YES 2 ☐ NO COMMENTS: _____

INTERSTATE DISTRIBUTIVE EDUCATION CURRICULUM CONSORTIUM

STUDENT/CLASS ANALYSIS CHART

FORM 5 (cc-1) (11-72)

STATE NO. (cc-2-3)	STATE NAME	SCHOOL No. (cc-4-5)	SCHOOL NAME

STREET ADDRESS, P.O. BOX (DRAWER) OR RURAL ROUTE	CITY	ZIP CODE

TEACHER NUMBER (cc-6-7)	TEACHER'S NAME LAST	FIRST	MIDDLE INITIAL

COMPETENCY NUMBER (cc-8-10)	COMPETENCY NAME

INSTRUCTIONS: Place a (+) in the 1st trial block if the student met standards and passed all the post tests for all the supporting objectives for this competency. Place a (-) in the 1st trial block if the student did not meet standards and pass all the post tests for all the supporting objectives for this competency. Place a (+) in the second trial block if he passed on 2nd test trial or a (-) if he did not pass. Follow the above procedure for all subsequent tests administered.

Do not record students who passed the pre-test.

cc-11-14	THIS LINE FOR DATA PROCESSING USE ONLY	CODES	+ = 1 - = 0	+ = 1 - = 0	+ = 1 - = 0	+ = 1 - = 0	+ = 1 - = 0	+ = 1 - = 0	+ = 1 - = 0	MINUTES	1	2
		CARD Cols.	15	16	17	18	19	20	21	22-24	25	26

STUDENT NUMBER	STUDENT'S NAME	POST TESTING TRIALS 1st	2nd	3rd	4th	5th	6th	7th	TIME SPENT ON LAP'S	D.E. STUDENT YES	NO
	TOTAL NUMBER OF STUDENTS THAT PASSED POST-TESTS (TOTAL +'s)										
	TOTAL NUMBER OF STUDENTS THAT DID NOT PASS POST-TESTS (TOTAL -'s)										
	TOTAL NUMBER OF STUDENTS THAT TOOK POST-TESTS (TOTAL +'s & -'s)										
	THIS LINE FOR DATA PROCESSING USE ONLY — TOTAL (1)	27-8	29-30	31-2	33-4	35-6	37-8	39-40			
	TOTAL (-)	41-2	43-4	45-6	47-8	49-50	51-2	53-4			
	TOTAL	55-6	57-8	59-60	61-2	63-4	65-6	67-8	69-72	73-4	75-6

APPENDIX C. LETTERS SENT WITH QUESTIONNAIRE TO DISTRIBUTIVE EDUCATION TEACHERS

UNI

UNIVERSITY OF NORTHERN IOWA · Cedar Falls, Iowa 50613

Department of Business Education
and Office Administration
AREA 319 273-2780

Dear :

We are conducting a study to determine distributive education teachers' attitudes toward implementing the I.D.E.C.C. learning system. The purpose of the study is to learn distributive education teachers' feelings so that materials and in-service training can be provided to make it easier for you to utilize the system.

Please complete the enclosed questionnaire so that we may better understand your needs. There are no "right" or "wrong" answers to each statement. We are interested in your true feelings as they apply to using the I.D.E.C.C. system in your Distributive Education program.

It is very important that you respond to every item in the questionnaire. We sincerely appreciate your response and will use the responses to determine areas where additional materials and in-service training should be provided. The study is also being used as a research effort in partial fulfillment of the Ph.D. requirements at Iowa State University.

Please return your completed questionnaire in the enclosed self-addressed envelope. Thank you for your assistance, it is sincerely appreciated.

Sincerely,

Roger Ditzenberger

Roger Ditzenberger, Teacher Educator
Distributive Education

Enclosure

UNIVERSITY OF NORTHERN IOWA · Cedar Falls, Iowa 50613

Department of Business Education
and Office Administration
AREA 319 273-2750

Dear :

The response to our questionnaire on distributive education teachers' attitudes toward implementing the I.D.E.C.C. learning system was very good. Realizing that distributive education teachers have extremely busy schedules, we thought a reminder letter to the nonrespondents was appropriate.

It is extremely important that we receive your response so that we may better understand the teachers' attitudes toward using the I.D.E.C.C. learning system. The responses will be compiled to gain information on how to provide materials and in-service training to make it easier to use the I.D.E.C.C. learning system. There are no "right" or "wrong" answers to each statement. We are interested in your feelings toward implementing the I.D.E.C.C. learning system in your D.E. program.

Please return your completed questionnaire in the enclosed self-addressed envelope. Thank you for your interest and cooperation, it is sincerely appreciated.

Sincerely,

Roger Ditzenberger

Roger Ditzenberger, Teacher Educator
Distributive Education

Enclosure

APPENDIX D. JURY PANEL'S EVALUATION FORMS

Rating Sixty-three Attitude Statements as Barriers

Directions: Please read each of the sixty-three items on the barrier list very carefully. Rate each statement using the following code:

5 - very appropriate as a potential barrier
4 - appropriate as a potential barrier
3 - some appropriateness a a potential barrier
2 - little appropriateness as a potential barrier
1 - not appropriate as a potential barrier

1. ___	22. ___	43. ___
2. ___	23. ___	44. ___
3. ___	24. ___	45. ___
4. ___	25. ___	46. ___
5. ___	26. ___	47. ___
6. ___	27. ___	48. ___
7. ___	28. ___	49. ___
8. ___	29. ___	50. ___
9. ___	30. ___	51. ___
10. ___	31. ___	52. ___
11. ___	32. ___	53. ___
12. ___	33. ___	54. ___
13. ___	34. ___	55. ___
14. ___	35. ___	56. ___
15. ___	36. ___	57. ___
16. ___	37. ___	58. ___
17. ___	38. ___	59. ___
18. ___	39. ___	60. ___
19. ___	40. ___	61. ___
20. ___	41. ___	62. ___
21. ___	42. ___	63. ___

Clustering Sixty-three Items of Section III into Categories

Directions: Please read each of the sixty-three items in Section III and place the item in one of the six categories. The categories represent broad areas under which each item may be placed. If an item does not belong in one of the categories provided, please create a category for that item.

Perceived Attribute of the I.D.E.C.C. Learning System

Perceived Need for Additional Resources

Perceived Value of the Innovation (Values of the teacher or reference group)

Perceived Need for In-service Training

Teacher confidence in own ability or student as a barrier

Situational work factors as a barrier

Other categories as needed

Jury Panel's Clustering of the Perceived Barriers to Implementing and Using the I.D.E.C.C. Learning System

I. Innovation
   A. Perceived Attributes of the I.D.E.C.C. Learning System
      (Section III-Items 12, 15, 28, 34, 36, 39, 40, 43)

II. Perceived Need for Additional Resources to Adopt Innovation
   (Section III)
   A. Equipment
      (Item 3a, 3b, 3c, 3d)
   B. Supplies
      (Items 4a, 4b, 4c, 4d, 4e, 4f, 4g, 4h)
   C. Reference Materials
      (Items 5, 41)
   D. Time
      (Items 9, 16, 33)
   E. Clerical Assistance
      (Item 25)

III. Perceived Value of the Innovation
   A. Values Contrary to the Teacher's Philosophy
      (Section III-Items 7, 11, 22, 32, 35)
   B. Perceived Values of Teacher Reference Groups
      (Section III-Items 26, 45)

IV. Perceived Need for In-service Training
   A. In-service Training Need
      (Section III-Items 17, 42)

V. Consumer
   A. Perceived Teacher Confidence in Own Ability
      (Section III-Items 6, 8, 10, 14, 19, 20, 21, 27, 44)
   B. Students Perceived as a Barrier
      (Section III-Items 23, 24, 29, 37, 38)

VI. Situational Work Factors
   A. Perceived Support of Administrators
      (Section III-Items 1, 2, 31)
   B. The D.E. Facilities as a Perceived Barrier
      (Section III-Item 18)
   C. The D.E. Schedule as a Perceived Barrier
      (Section III-Item 30)

APPENDIX E. QUESTIONNAIRE USED IN THE STUDY

I. BACKGROUND INFORMATION

1. Age _____ 2. State _____

3. Number of years experience in present distributive education teaching position. _____

4. Were you involved in writing learning activity packages for the Inter-State Distributive Education Curriculum Consortium?
   _____ Yes
   _____ No

5. How many days in-service training have you received in a workshop or course specifically set up to provide information to use the Inter-State Distributive Education Curriculum (I.D.E.C.C.)?
   _____ Number of days
   _____ None

6. How many students are enrolled in your D.E. program? (If you are one teacher in a multi-teacher program, please count only the number of students you are responsible for in terms of providing classroom instruction, on-the-job training, and D.E.C.A.)
   _____ Number of students

7. Have you received a set of the learning activity packages developed by the Inter-State Distributive Education Curriculum Consortium?
   _____ Yes
   _____ No

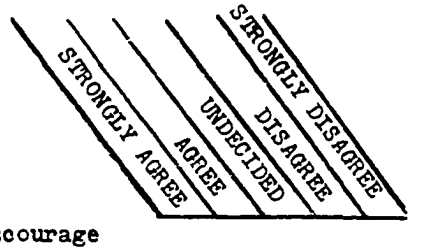
II. DISTRIBUTIVE EDUCATION CURRICULUM APPROACHES

Instructions:

The purpose of this section of the opinionnaire is to obtain some general information from distributive education teachers. We are interested in your personal opinion. There are no right or wrong responses, so do not hesitate to respond to each statement frankly. We have tried to cover many different and opposing points of view; you may find yourself strongly agreeing with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statement, you can be sure that many other people feel the same as you do. Please be sure you DO NOT OMIT ANY STATEMENT.

You are asked to respond by circling the appropriate letter, using the following code:

Strongly Agree	SA
Agree	A
Uncertain	U
Disagree	D
Strongly Disagree	SD



1. Teachers should conduct classes without assistance and discourage others from helping. SA A U D SD

2. I find that individualized instruction using behavioral objectives is valuable in helping the student succeed. SA A U D SD

3. I do not work well enough with others to make differentiated team teaching work. SA A U D SD

	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
4. I think the use of behavioral objectives with individualized learning experiences should help students develop to their potential.	SA	A	U	D	SD
5. Early occupational education may stimulate a better attitude toward school work in later years.	SA	A	U	D	SD
6. Vocational education can do little to alleviate the problems of disadvantaged people.	SA	A	U	D	SD
7. Use of differentiated team teaching would allow a more varied content in lessons.	SA	A	U	D	SD
8. I think there's no harm in starting occupational preparation for young school children.	SA	A	U	D	SD
9. I accept the idea that individualized instruction using behavioral objectives allows students to experience success more often.	SA	A	U	D	SD
10. Schools can't do much to develop positive attitudes toward work.	SA	A	U	D	SD
11. I'm convinced that differentiated team teaching is a waste of time.	SA	A	U	D	SD
12. Vocational teachers can make a real contribution to occupational education at the elementary level.	SA	A	U	D	SD
13. I would greatly dislike being a member of a differentiated teaching team.	SA	A	U	D	SD
14. I believe it is more important to work with an entire class than to spend a lot of time with individuals.	SA	A	U	D	SD
15. I believe that increased emphasis on adult vocational programs would eventually reduce inner-city unemployment.	SA	A	U	D	SD
16. Students can benefit little from occupational education in the elementary grades.	SA	A	U	D	SD
17. Teaching teams allow a teacher to spend more time developing creativity, responsibility, and habits of inquiry in students.	SA	A	U	D	SD
18. I uphold the differentiated team teaching concept as permitting a natural exchange of ideas.	SA	A	U	D	SD
19. We now have more vocational programs than we need for the disadvantaged.	SA	A	U	D	SD
20. There is no need in the elementary curriculum for the addition of occupational education.	SA	A	U	D	SD
21. I say that differentiated team teaching is asking too much of established teachers.	SA	A	U	D	SD

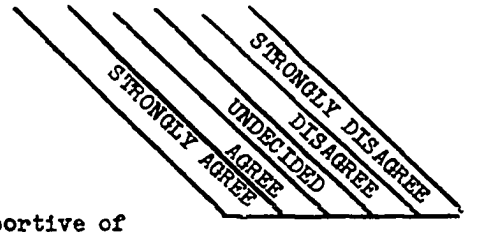
III. IMPLEMENTING AND USING THE INTER-STATE DISTRIBUTIVE EDUCATION CURRICULUM CONSORTIUM

Instructions:

The purpose of this section is to identify your feelings about using the Inter-State Distributive Education Curriculum Consortium project in your D.E. program. There are no wrong answers to each statement, so do not hesitate to respond to each statement frankly.

You are asked to respond by circling the appropriate letter, using the following code:

Strongly Agree	SA
Agree	A
Uncertain	U
Disagree	D
Strongly Disagree	SD



1. The administration in my school has been philosophically supportive of the I.D.E.C.C. project. SA A U D SD

2. Departmental approval has aided in implementing and using the I.D.E.C.C. project. SA A U D SD

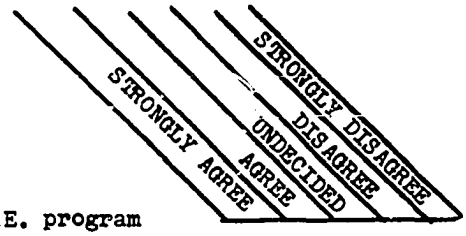
3. Administrative financial support for the following equipment has aided in implementing and using the I.D.E.C.C. learning system:
   a. Adequate file cabinets to house the materials. SA A U D SD
   b. Overhead projector to use transparencies. SA A U D SD
   c. Copying equipment to make copies of pages of the learning activity packages. SA A U D SD
   d. Audio-visual equipment needed to individualize instruction. SA A U D SD

4. Administrative financial support for the following supplies has aided in implementing and using the I.D.E.C.C. learning system:
   a. File folders to house each learning activity package. SA A U D SD
   b. Thermofax or spirit duplicator masters to provide originals for multiple copies. SA A U D SD
   c. Copy paper to run multiple copies of learning package materials. SA A U D SD
   d. Transparency film to make transparencies for classroom use. SA A U D SD
   e. File tabs available from the Ohio State D.E. Materials Laboratory to identify each learning activity package file. SA A U D SD
   f. Extra divider pages available from the Ohio State D.E. Materials Laboratory SA A U D SD
   g. Pre- and post-test keys for each subject-matter competency. SA A U D SD
   h. Student competency record forms available from the Ohio State D.E. Materials Laboratory SA A U D SD

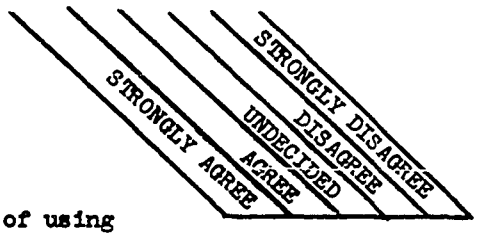
5. Administrative financial support for the books, records, filmstrips, etc., has aided in implementing and using the I.D.E.C.C. learning system. SA A U D SD

6. I am confident in my ability to effectively hand-schedule or use a computer printout to set up the I.D.E.C.C. learning system. SA A U D SD

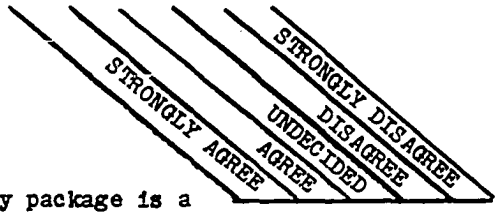
7. I believe that competencies should be the curriculum base for the I.D.E.C.C. learning system. SA A U D SD



8.	I do not feel confident in individualizing instruction in my D.E. program through the I.D.E.C.C. learning system.	SA	A	U	D	SD
9.	Time has been a barrier in setting up the files to house the I.D.E.C.C. learning system.	SA	A	U	D	SD
10.	I am not confident in my ability to counsel D.E. students on an individual basis to effectively use the I.D.E.C.C. learning activity packages.	SA	A	U	D	SD
11.	I believe in using more individualized instruction and less large group instruction to implement the I.D.E.C.C. learning system.	SA	A	U	D	SD
12.	The learning activity package format and the way the materials are sequenced is easy to understand.	SA	A	U	D	SD
13.	I believe that the most appropriate method of filing each learning activity package is to separate the student's materials from the teacher's materials.	SA	A	U	D	SD
14.	I do not understand how to use each section of the learning activity package.	SA	A	U	D	SD
15.	Lack of confidence in the learning activity package format (length and sequence) is a barrier in using the I.D.E.C.C. system.	SA	A	U	D	SD
16.	Lack of time to prepare for individualized instruction and/or small group instruction is a barrier to using the I.D.E.C.C. learning system in my D.E. program.	SA	A	U	D	SD
17.	I have received enough in-service training to adequately plan, implement, and use the I.D.E.C.C. learning system in my D.E. program.	SA	A	U	D	SD
18.	The facilities in my D.E. program are not adequate enough to implement the I.D.E.C.C. learning system.	SA	A	U	D	SD
19.	I am confident in my ability to provide career counseling for each D.E. student to identify career interests and goals in marketing and distribution.	SA	A	U	D	SD
20.	I am confident that I can explain the I.D.E.C.C. learning system to my school administrators to obtain their philosophical approval.	SA	A	U	D	SD
21.	I am confident that I can explain the I.D.E.C.C. learning system to my school administrators to obtain needed financial support.	SA	A	U	D	SD
22.	The lack of student's career objective is a major barrier to using the I.D.E.C.C. learning system.	SA	A	U	D	SD
23.	Student attitudes are a barrier to using the I.D.E.C.C. learning system.	SA	A	U	D	SD
24.	The limited experience of students in learning through individualized instruction is a barrier to using the I.D.E.C.C. system.	SA	A	U	D	SD
25.	Clerical duties (copying, preparing materials, record keeping, etc.) are a barrier to using the I.D.E.C.C. system.	SA	A	U	D	SD



26.	Distributive education teachers generally view the practice of using learning activity packages negatively.	SA	A	U	D	SD
27.	My inability to develop evaluation procedures to assign grades to students has been a barrier to using the I.D.E.C.C. learning system.	SA	A	U	D	SD
28.	The reading level of the materials in the learning activity packages is too low.	SA	A	U	D	SD
29.	Lack of student motivation to work on a self-directed, individualized basis is a barrier to using the I.D.E.C.C. learning system.	SA	A	U	D	SD
30.	The schedule of my distributive education program is a barrier to implementing the I.D.E.C.C. system.	SA	A	U	D	SD
31.	Administrators in my school view the practice of using the I.D.E.C.C. learning activity packages negatively.	SA	A	U	D	SD
32.	The I.D.E.C.C. learning system by nature of its learning activity package approach is de-humanizing.	SA	A	U	D	SD
33.	The lack of time to study the I.D.E.C.C. materials keeps me from using the materials.	SA	A	U	D	SD
34.	The need for the development of adequate record keeping procedures designed to record student competency development is a barrier to using the I.D.E.C.C. learning system.	SA	A	U	D	SD
35.	My general resistance to competencies, behavioral objectives, and learning activity packages is a barrier to using the I.D.E.C.C. system.	SA	A	U	D	SD
36.	The reading level of the materials in the learning activity packages is too high.	SA	A	U	D	SD
37.	The level of student intelligence in my D.E. program is a barrier to using the I.D.E.C.C. system.	SA	A	U	D	SD
38.	Students in my school view the practice of using the I.D.E.C.C. learning activity packages favorably.	SA	A	U	D	SD
39.	The directions in the learning activity packages are unclear and make them difficult to use in my D.E. program.	SA	A	U	D	SD
40.	The inability of the learning materials to relate to students' on-the-job training is a barrier to using the I.D.E.C.C. system in my program.	SA	A	U	D	SD
41.	The lack of adequate resource materials (books, pamphlets, etc.) is a barrier to using the I.D.E.C.C. learning system in my program.	SA	A	U	D	SD
42.	The lack of sufficient resource assistance and advice is a barrier to implementing the I.D.E.C.C. learning system in my D.E. program.	SA	A	U	D	SD



43. The repetition of the same format in each learning activity package is a barrier to using the I.D.E.C.C. learning system. SA A U D SD

44. Lack of ability or resource ability to devise a usable filing system for the learning activity packages is a barrier to implementing the system. SA A U D SD

45. Distributive education leaders in the state view the practice of using learning activity packages favorably. SA A U D SD

46. Read each item in the following list and categorize them in the column to the immediate right of each item as being either:

NB NO BARRIER
B MINOR BARRIER
MB MAJOR BARRIER

ITEMS

1. Availability of resource materials _____
2. Adequate filing system _____
3. In-service education _____
4. Adequate copying supplies _____
5. Confidence in materials in L.A.P.'s _____
6. Administrative support _____
7. Planning time _____
8. Student motivation _____
9. Problem in identifying career objectives of students _____
10. Knowledge of contents of the learning activity packages _____
11. Others (please list) _____

47. Have you filed the learning activity packages (please check one)

_____ Have filed all the L.A.P.s
_____ Have filed about 75% of the L.A.P.s
_____ Have filed about 50% of the L.A.P.s
_____ Have filed about 25% of the L.A.P.s
_____ Have filed one or two subject-matter sections of the L.A.P.s
_____ Have not filed any of the L.A.P.s

48. Please read <u>all</u> of the following statements about the Inter-State Distributive Education Curriculum (I.D.E.C.C.) learning system very carefully before you respond. THEN <u>CHECK</u> THE <u>ONE STATEMENT WHICH BEST REFLECTS YOUR ATTITUDE TOWARD I.D.E.C.C.</u>

_____ I am aware of the Inter-State Distributive Education Curriculum learning system.
_____ I am interested in learning more about I.D.E.C.C.
_____ I am not interested in learning more about I.D.E.C.C.
_____ I am interested in attempting to implement I.D.E.C.C. in my D.E. program.
_____ I have used a part of the I.D.E.C.C. system and plan to continue its use.
_____ I have used a part of the I.D.E.C.C. system, and I was unhappy with the results and plan to use a different approach than I.D.E.C.C.
_____ I plan to organize more of my curriculum and instruction using the I.D.E.C.C. materials.
_____ I plan to pre-plan my curriculum and instruction next fall using the I.D.E.C.C. learning system and its materials as a base for my D.E. program.
_____ I believe strongly enough in the I.D.E.C.C. to try to convince other teacher-coordinators to use the learning system.
_____ I plan to use the I.D.E.C.C. learning system CONSISTENTLY as a foundation for my D.E. program.
_____ I include the utilization of the I.D.E.C.C. learning system when expressing my philosophy of program operation and believe very strongly in its value for my D.E. program.