IMPACT OF THE ACCOUNTING EDUCATION CHANGE COMMISSION'S RECOMMENDATIONS ON ACCOUNTING INSTRUCTION

by

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Dissertation submitted to the Faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

IN

VOCATIONAL AND TECHNICAL EDUCATION

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September 12, 1997
Blacksburg, Virginia

Key words: Accounting instruction, Change, Accounting Education Change Commission, Innovation, Diffusion

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(ABSTRACT)

The purpose of this study was to examine the changes in accounting instruction recommended by the Accounting Education Change Commission (AECC) at 11 grant recipient schools and 11 similar non-grant recipient schools randomly selected. The AECC suggested that accounting education should include more communication skills, interpersonal skills, and critical-thinking and problem-solving skills. The AECC also recommended that more emphasis be placed on teaching rather than research.

To measure implementation of the recommended changes, a four part Accounting Instruction Change Scale was developed. The pilot study, (n = 34) revealed that the AICS did not distinguish among the four factors considered. This finding was confirmed in the actual study. Surveys were mailed to 438 subjects, 249 to grant school and 189 to non-grant school accounting faculty, of which 163 surveys were returned, 146 were usable. Using Cronbach's alpha, the reliability of the overall Accounting Instruction Change Scale, as determined by the pilot study, was .92. Reliability, using the Cronbach's alpha, for the final study data was .91.

Significant differences were found between respondents and non-respondents for both grant and non-grant schools. Differences in work experience, instruction in educational psychology, and instructional methodology were found to be significant. There were also significant differences between the early respondents and the late respondents in instruction in educational psychology and instructional methodology. Significant differences between the early non-grant school respondents and the late non-grant school respondents were also found in the length of time teaching accounting, length of time at the current institution, and age. These significant differences indicate the sample respondents are a unique group, and any inferences made from this sample to the general population should be made with caution.

For the correlations of all variables, Predisposition to Change, Adoption-Proneness, refereed publications, non-refereed publications, work experience, educational psychology,

instructional methodology, membership in professional organizations, gender, and age, the correlations ranged from a high of .497 between the Adoption-Proneness Scale and the Accounting Instruction Change Scale to a low of .001 between age and instruction in educational psychology. In the full Regression Model, the variables included accounted for 40.8% of the variance in the AICS. The regression analysis shows the Predisposition to Change Scale scores and Adoption Proneness Scale scores to be significant explanatory variables concerning predicting the score of the Accounting Instruction Change Scale score. No other significant variables surfaced in the regression analysis indicating institutional membership did not predict AICS score.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude and appreciation to the many people who contributed encouragement, information, suggestions and guidance for this study. I am most grateful to my committee members, Dr. Daisy Stewart, who was always cheerfully encouraging, Dr. Curtis Finch, who offered many constructive suggestions for organization and statistics, Dr. Larry Killough, who planted the seed for this study, and Dr. Nevin Frantz, who was always kind in pulling information out of my head. They were always there for my major exams, in spite of the bad weather, which seemed to be worst at the time of my exams. I am also grateful to Dr. Konrad Kubin, who, although he was not on the committee throughout the whole process, offered encouragement throughout. I am particularly indebted to my committee chairperson, Dr. B. June Schmidt, for her many hours of reading, her helpful suggestions, her firm but gentle pushing when I started to lag, and always patient forbearance when I brought things to her at the last minute.

I would also like to acknowledge and thank my panel of experts, Dr. Doyle Williams, of the University of Arkansas, Madhuri Sarin, CMA, of West Virginia University Institute of Technology, and Norman Hinkle, CPA, of College of West Virginia. Also, I would like to thank all the accounting faculty from the West Virginia and southwestern Virginia colleges and universities that took part in my pilot study and provided me with helpful suggestions. Further, I thank all the accounting faculty across the country who took part in this study, and those non-respondents who took the time to talk to me after the study was done, especially those who returned my calls.

A special thanks to Marsha Rucker, secretary to the Dean of the College of Business, Humanities, and Science, at West Virginia University Institute of Technology, for her help in getting my survey forms and letters copied for both mailings. Also thanks to Dr. Kenneth Bailey, Dean of the College of Business, Humanities, and Science, for allowing me to make copies there, and for his consistent encouragement. I would like to thank Cathy Stevenson of the WVUIT Fayette Extension Center for all the consoling she administered during my complaints of not having enough time to get everything done. A special thanks to Sister Janice Rospert for all her prayers, without which I would not have completed this research.

Thanks, too, to my fellow graduate students who always took time to offer encouragement and support, especially Margaret Moore, Kendra Boggess, and Jacobeth Thabade.

Most of all I would like to thank my children, who probably had to make the most concessions during this process. Thanks to my oldest daughter, Amanda Strong, for coming to visit from Iowa and bringing my grandson, Jacob, to see me. It was not easy to get all that spoiling into a total of three weeks over the last few years. Thanks to my second oldest daughter, Natalie Shepard, who had to offer shelter from the storm on several occasions when the weather was severe. Even though she could not "entertain" me because she had to study, she cheerfully opened her apartment to me. Thanks to my third oldest daughter, Carolyn Perry, who had to arrange for me to stay at her dorm when I was doing the pilot study, and for being patient when I could not go to Wheeling to bring her home from college when her finals were completed. Thanks to my oldest son, J.D. Perry, III, who had to obtain rides from teammates to get to soccer practice when I had to go to Virginia Tech for class, meetings, or exams. Thanks to my youngest son, Willy Perry, who uncomplainingly shared the computer with me, even when it meant he could not play his computer games until after this project was complete. Thanks to my youngest daughter, Katie Perry, who rode with me to Virginia Tech on many occasions during her summer vacations, to keep me company, as well as to keep from being beaten on by her brothers.

And last, but not least, thanks goes to my husband, Jim, who washed a few extra loads of laundry, fixed a few more meals, washed a few more dishes, and ran the kids to school, work, soccer games, basketball games, cheerleading practice, girl scout meetings, and boy scout meetings. He also helped me get the first mailing out by sealing envelopes and putting postage on the enclosure envelopes and the mailing envelopes.

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IMPACT OF THE ACCOUNTING EDUCATION CHANGE COMMISSION'S RECOMMENDATIONS ON ACCOUNTING INSTRUCTION

CHAPTER 1

INTRODUCTION

In 1989 and 1990, the Accounting Education Change Commission (AECC) awarded twelve grants to a total of thirteen institutions of higher learning. Two of the grants were awarded to community colleges, one grant was awarded to a two school co-operative program, and the other grants were awarded to four-year colleges and universities. The purpose of the grants was to implement changes in accounting instruction to include more communication skills, more interpersonal skills, more critical thinking-problem solving skills, and to emphasize the importance of instruction.

This study involved surveying faculty at grant schools and comparable non-grant schools to examine changes in instruction, if any, due to the recommendations of the AECC. Changes in instruction recommended by the AECC included: increased communication skills, through more written and oral assignments; increased interpersonal skills, through more group work or team projects; increased critical thinking and problem solving skills, through unstructured, open-ended questions; and increased preparation for instruction, through preparation of class presentations and assignments and instructional publications.

For the study respondents completed a predisposition to change instrument and an adoption-proneness instrument to predict the extent these factors affected changes made in accounting teaching methods over the last five years. The outcomes also addressed whether more changes occurred in the teaching process in the accounting programs of the grant schools than in the accounting programs of the non-grant schools.

Background

In 1984, the American Accounting Association (AAA) appointed a committee to study the "future structure, content, and scope of accounting education." (AAA Future Committee, 1986, p. 169). The purpose of this committee was to determine how to attract the best students to the accounting profession, and at the same time, provide students with a quality education and the accounting profession with well-educated entry level accountants. This committee, called the "Bedford Committee" after its chairman, Norton Bedford, first studied the accounting education process as it was. They then determined what the shortcomings were and proposed changes that should be made to the accounting education process. The committee based its report on the following conclusions:

1. The accounting profession is expanding, entering a new era with new functions within organizations and within society and with new expectations of those who enter it (Part 1).
2. The current state of most professional accounting education programs is inadequate to meet the needs of this expanded profession (Part II).
3. The future scope, content, and structure of accounting education, in all its phases, must undergo reassessment and redirection to meet the needs of the expanded accounting profession and the future accounting professional (Part III). (AAA Future Committee, p. 172)

Accounting professionals have complained that "many accounting graduates do not know how to communicate, cannot reason logically, and have limited problem-solving ability . . ." (AAA Future Committee, 1986, p. 177). The Bedford Committee members came to the conclusion that the method of teaching accounting did not allow for creative thinking. Students were not using critical thinking skills to solve problems. They were doing rote work

with set solutions and not using thinking skills. Some of the skills the Bedford Committee determined to be needed were: learn how to listen, learn how to communicate, learn how to become aware of the needs of others, learn how to negotiate, learn to understand management requirements and learn how to relate information of a technical nature to the general public (AAA Future Committee, p. 178). They also determined that accounting education should not just address the technical skills required by the accounting profession, but also the ethical skills of the accounting professional.

The Bedford Committee stated: "The emphasis must be on preparing graduates for career-long professional learning" (AAA Future Committee, 1986, p. 179). The accounting education program should include development of an understanding of the nature and skills of logical reasoning, a capacity for critical thinking and problem-solving, effective communication and interpersonal skills, as well as an appreciation of ethical standards and conduct (AAA Future Committee, p. 180). The Bedford Committee felt that to achieve these skills, an accounting student needed to have a broader liberal arts educational background.

The major accounting firms (the Big Eight in 1989, now the Big Six) prepared a report, called the "White Paper," specifying their needs in an entry level accountant. In this report, they also expressed a monetary commitment of $4 million to "support the development of stimulating and relevant curricula . . . that are responsive to the needs of the profession" (Arthur Anderson & Co., Arthur Young, Coopers & Lybrand, Deloitte Haskings & Sells, Ernst & Whinney, Peat Marwick Main & Co., Price Waterhouse, and Touche Ross, 1989, foreword). The purpose of this "grant" was to foster a partnership of faculty and practitioners to enhance the accounting education program.

In the White Paper, the profession stressed the need for changes in the accounting education curricula. The authors stated that they did not want to make the changes in the curriculum, but they would indicate what skills were necessary for entry level accountants. They reiterated the sentiments of the Bedford Committee, that accounting graduates did not

have the skills necessary to be successful. They lacked interpersonal skills, communication skills (both oral and written), and critical thinking and problem solving skills.

One of the concerns of the committee was the rapid disillusionment of the entry level accountants. New accountants have limited information concerning the level of overtime needed, the number of deadlines, budget constraints, diminished family time, job stress, and less than anticipated financial reward. Thus, they are disillusioned when they enter the profession (AAA Future Committee, 1986; Arthur Anderson, et al., 1989; Accounting Education Change Commission, 1993a). Because of these concerns, the major accounting firms committed four million dollars, part of which was offered as grants to colleges and universities willing to make changes in their accounting curricula to encompass the skills needed by entry level accountants. The other part of the funding was to be used by the Accounting Education Change Commission (AECC) to provide information concerning the necessary changes in accounting programs through publications and presentations.

The AECC undertook determining what changes the accounting curriculum needed that would address concerns of the committee. The request for proposals prepared by the AECC indicated that the purpose of the grant program was ". . . to foster changes in the academic preparation of accountants consistent with the goal of improving their capabilities for successful professional accounting careers" (Accounting Education Change Commission, 1990c). The AECC assessed the applications for grant money and selected the grant recipients based on the criteria established for changes to be made in their accounting curriculums.

The AECC prepared two position statements and five issues statements related to accounting education. Position Statement No. One (AECC, 1990a) dealt with the objectives of education for accountants. The AECC determined that the overall accounting education program ". . . should prepare students to **become** professional accountants, not to **be** professional accountants at the time of entry to the profession" (AECC, p. 1). The major objective of accounting education is to instill life-long learning skills. Position Statement

No. Two (AECC, 1992a) dealt with the importance of the first course in accounting. "The course shapes their perceptions of (1) the profession, (2) the aptitudes and skills needed for successful careers in accounting, and (3) the nature of career opportunities in accounting" (AECC, pp. 1-2).

The Issue Statement No. 1 (AECC, 1990b) dealt with the need for higher education administration to reorder priorities for reward and promotion. Issue Statement No. 2 (AECC, 1991) dealt with the need for accounting education and professional examinations to be separated. The AECC stressed the need for accounting graduates to complete their education before applying to take the professional examination (AECC, 1991). Issue Statement No. 3 (AECC, 1992b) introduced the recognition of the importance of two-year college accounting programs in the process of accounting education. The improvement of the early employment experience was the subject of Issue Statement No. 4 (AECC, 1993a). Issue Statement No. 5 listed five characteristics of effective teaching. They are: to effectively design curricula and develop courses; to make effective use of course materials; to use effective presentations; to make use of well chosen pedagogical methods and assessments; and to guide and advise students (AECC, 1993b).

Accounting education has traditionally been administered through a lecture and structured problem presentation. What the Bedford Report, the White Paper, and the AECC are advocating is a change in this method of presenting the accounting curriculum. The three groups are advocating the use of interactive teaching to include more classroom discussion, more group projects and more unstructured problems for students to take active part in the decision making process. The emphasis is to change from a passive learning environment to an active learning environment. It is important, then, that accounting faculty make changes in the methods they use to teach accounting courses.

Even though accounting faculty may state an intention to make a change in teaching methods, there may be resistance. Kahaney (1993) said,

> . . . real change involves a) the ability to articulate a problem, to make what is implicitly happening explicit; b) access to a benevolent authority (a text, a teacher) that reflects the shape of the resistance back to the changemaker; and c) a community in which change can take place and in which the new behavior can be practiced and reinforced. It seems that when one of these elements is missing . . . then change can sometimes appear to take place, but it is never long-lasting. Three weeks or a year later, changemakers are back to their old habit patterns, patterns they thought they had permanently transformed. (pp. 192-193)

To make the changes more permanent, faculty members in accounting programs have to be receptive to changes in their accounting programs as well as able to adopt innovations in their instructional methods. They need to be able to synthesize the information concerning the changes, as well as know the changes are being accepted by their group affiliations. "Ultimately, however, changes in accounting education cannot take place without the support of accounting faculty. Whether or not accounting faculty will support such change largely depends on whether or not they agree with the need for change" (May, Windal, & Sylvestre, 1995, p. 21).

Accounting Curriculum Change History

Accounting education has traditionally been a curriculum of lecture and well-defined, one-solution problem solving. The AECC considered this method to be restrictive and not conducive of learning or critical thinking. The AECC wanted students to be given more unstructured problems, with no set solutions, rather than the traditional curriculum. The AECC stressed the need for a liberal arts background in accounting education. This actually reverts to the accounting curriculum specified at the turn of the century. "The leaders of the early profession believed accounting required a wide range of knowledge and minds trained to think analytically and critically" (Nelson, 1995, p. 62). But with recent increases in the technical knowledge, students have become more narrowly educated.

Many professionals advocated the requirement of postgraduate education. The reasons given for this requirement is that accounting should not be any less professional than medicine or law. These programs required a general undergraduate education and specialization in graduate school. "However, a five-year program does not necessarily remedy the deficiencies identified by the profession" (Nelson, 1995, p. 68). The accounting profession has elaborated that extending the accounting courses is not a solution to the problems as evidenced in the accounting graduates of today. They stressed the need for a broad liberal education before acquiring the accounting courses. "Rather than additional accounting courses, the profession would prefer to see additional courses in humanities, fine arts, communication, the sciences, etc." (Nelson, 1995, p. 68).

Some of the factors that inhibit change in the accounting curriculum are the cost of changing the program, too much textbook dependency, a lack of faculty reward systems to motivate change, and the influence of the CPA exam, accreditation, regulatory bodies, and the complex business environment (Nelson, 1995). There has been little incentive to change for several reasons: accounting faculty may not realize the value of a liberal education, technical training is easier to do, student evaluations may be a factor in the reluctance to adopt change in accounting curriculum, and accounting faculty are unprepared to teach in a non-technical manner (Nelson, 1995).

Rationale for the Study

The AECC has granted monetary awards to a total of 12 accounting programs that encompass thirteen colleges and universities. Ten of the grants were awarded to four year colleges and universities. The other two grants were awarded to community colleges. The grants were awarded in 1989 and 1990. The AECC was to be in existence for five years, the term of the major accounting firms' commitment. The AECC ceased existence June 30, 1996. The institutions selected received funding, starting in 1989 and 1990. All grants were, thus, completed in 1994 and 1995.

Some of the grant programs have been described and discussed in professional publications, while others have not. To date, publications have included discussions of the changes in the accounting programs themselves, not individual accounting faculty members' acceptance of the changes in the programs. For this study, input was sought from faculty at all the grant schools, except for the community colleges. Through the study, the faculty's acceptance of changes that support those proposed by the AECC and funded through the grants was examined. Further, changes in teaching adopted during the same time period by faculty at randomly selected comparable non-grant schools was examined. Because of the AECC's promotion of instructional changes through published pamphlets and guest appearances at many colleges and universities across the country, other than the selected grant schools, many non-grant schools have also been made aware of the desired changes in accounting programs. Also, as part of the grant requirements, changes in the grant school accounting programs are expected to have generalizability to other accounting programs.

The AECC has acted as a change agent in introducing the changes in accounting education that the profession has indicated were necessary for entry level accountants. Outcomes of this study should support the Diffusion of Innovation theory through the adoption processes of the accounting faculty in accepting the changes recommended by the AECC. Accounting faculty members of the grant schools should have more exposure to the proposed changes, and therefore be more likely to adopt the changes. The grant school accounting faculty should also be more likely to demonstrate the characteristics of innovators, or early adopters.

As a change agent, the AECC had the responsibility to act as a transmitter of requirements of entry level accountants from the accounting profession to various institutions of higher learning as well as providing information to those institutions. The "Big Eight" provided funding to the AECC to stimulate interest in the change process by accounting faculty. The AECC had the responsibility to choose which of the interested parties would provide the most support for the changes recommended.

The results of this study will contribute to the general knowledge base of research on change by providing current research on the diffusion of innovations in an academic setting. The study will also provide information about perceived changes made in accounting faculties' teaching methods in four-year grant schools and comparable four-year non-grant schools. By knowing which changes have been readily accepted and implemented in accounting instruction, the accounting profession can focus on those changes that have been recommended by the AECC but have not been implemented in accounting instruction to stimulate the acceptance of these changes.

Purpose

The purpose of this study was to examine the self-reported perception of accounting faculty's incorporation of the teaching methods recommended by the AECC in grant schools and non-grant schools and to determine which, if any, of those changes were perceived to be included in accounting faculty members' teaching methods. Further, faculty receptiveness to change as measured by the Predisposition to Change Scale and the Adoption-Proneness Scale was also examined.

The two research questions the study addressed follow:

1. Is faculty acceptance of change, as indicated by the score on the Predisposition to Change Scale, the Adoption-Proneness Scale, and selected demographic variables, related to perceived changes in their instruction in teaching of accounting courses over the past five years?
2. To what extent do selected variables predict changes in accounting instruction as perceived by accounting faculty?

Limitations

Three limitations applied to this study: (a) The faculty members and institutions included in this study were not all randomly selected, therefore, generalizability of results beyond the study sample should be made with caution. (b) Only four-year colleges were studied. The two community colleges awarded grants were excluded from this study. (c) The

faculty perception of change was assessed through self-reported assessment of changes in behavior. Change in attitudes were not measured directly. Further, no effort was made to view the changes first hand.

Terminology

Some of the terms used in this study have other, more common, generic meanings, but for this study they will be defined as follows:

School is used generically for schools or colleges of business in four-year colleges and universities, which may or may not include a graduate program.

Institution is used generically for schools or colleges of business in four-year colleges and universities, which may or may not include a graduate program. The term "institution" is used interchangeably with "school."

Faculty denotes accounting educators employed at four-year institutions of higher learning.

Profession is the accounting profession including those individuals from CPA firms of all sizes and from industry (business or private companies).

Change is as defined in Webster's New World Dictionary (Guralnik, Ed., 1986), to take the place of something else, to substitute; to cause to become different, alter, transform, or convert; to become different, alter, or vary; to become different. In this study, change is operationally defined as the implementation of recommendations made by the AECC, when referring to change in accounting programs.

Resistance to Change is traditionally used as not changing, altering, transforming or converting; becoming different. In this study, resistance to change will be evidenced by a low score on the Predisposition to Change Scale, and operationally defined as the reluctance to introduce the additional skills recommended by the AECC into the accounting courses.

Receptivity to Change is traditionally used as willing to change, alter, transform or convert, become different. In this study, receptivity to change will be evidenced by a positive score on the Predisposition to Change Scale, and operationally defined as a readiness to adopt introduction of the additional skills recommended by the AECC into the accounting courses.

Attitude toward change is traditionally defined as the willingness to accept or reject implementation of something new. In this study, attitude toward change is operationally defined as receptivity or resistance to the introduction of the skills recommended by the AECC into the individual accounting faculty's courses.

Summary

The AECC and the accounting profession have called for changes in accounting instruction. To encourage changes in the curriculum, the largest accounting firms pledged grant money, to be administered by the AECC, to colleges and universities interested in making changes to the curriculum. The institutions made application to the AECC outlining the changes that were planned. The changes recommended by the AECC for accounting instruction include increased communication skills, increased interpersonal skills, increased critical thinking and problem solving skills, and increased preparation for instruction.

The accounting profession acknowledged a need for changes in accounting education through the appointment of a committee to study the structure, content, and scope of accounting education. The purpose of the Bedford Committee was to determine how to attract the best students to the accounting profession, provide students with a quality education, and provide the accounting profession with well-educated entry level accountants. The Bedford Committee determined that accounting instruction should not address the technical skills required by the accounting profession alone, but should also address the ethical skills of the accounting professional. The White Paper, prepared by the Big Eight Accounting Firms (now Big Six), also stressed a need for changes in the education of entry level accountants.

The AECC addressed some of the concerns of the accounting profession through the preparation of two position statements and five issues statements related to accounting education. The AECC determined that the overall accounting education program "... should prepare students to **become** professional accountants, not to **be** professional accountants at

the time of entry to the profession" (AECC, 1990a, p. 1) The AECC stated the major objective of accounting education is to instill life-long learning skills.

Accounting education has traditionally been a curriculum of lecture and well-defined, one-solution problem solving. This traditional method of teaching accounting is restrictive and not conducive to learning, critical thinking, or problem solving. Another change that is advocated by some accounting professionals and educators is a more liberal arts education. Some of the factors that inhibit change in accounting curriculum are the cost of changing the program, textbook dependency, lack of faculty reward systems to motivate change, the influence of the CPA exam, accreditation, regulatory bodies, and the complex business environment (Nelson, 1995).

The AECC acted as a change agent in introducing the changes in accounting education that the profession indicated were necessary for entry level accountants. As a change agent, the AECC had the responsibility to transmit information to institutions of higher learning of the requirements needed by entry level accountants.

The purpose of this study was to examine the self-reported perception of accounting faculty's incorporation of the teaching methods recommended by the AECC in grant schools and comparable non-grant schools.

CHAPTER 2

REVIEW OF LITERATURE

To support the research questions and procedures used in answering them, the review of literature was be divided into five main classifications. The classifications for review of literature are: (a) conceptual framework (b) attitude toward change theories, (c) attitude formation and change theory, (d) faculty perceptions, (e) improvements that have been made in accounting instruction, and (f) changes that should be made in accounting instruction.

Conceptual Framework

Pradl (1993) indicated that change offers a number of inherent contradictions. He states that these contradictions occur because of the way individuals interpret and relate to change. An individual's group dynamics, as well as personality, influence the way an individual reacts to change. Resistance to change of any kind is a natural, normal first response to change. It is trading the known for the unknown. Implementing change involves risks.

> The question we need to consider is what actually happens to us when we are in the process of becoming *different.* First and foremost this means we must give up for a time the certainty of control. To be out of control is to be thrust into a world in which we begin to doubt our present knowledge. Yet "not knowing" feels uncomfortable, so we try to avoid ambiguity and indeterminacy, try to see the world in black and white terms. (Pradl, 1993, p. xii)

Diamond (1993) reiterated this sentiment with his statement that teachers do not voluntarily risk conceptual confusion even when the proposed change appears to have been recommended by the administration. Once a way of teaching has become familiar and

meaningful, it is difficult to change to some unknown method. If change is to happen, it can only happen when there is a framework or perspective within which it can take place.

The diffusion of innovation theory provides the basis for the conceptual framework of this study. Through the use of the diffusion of innovation theory, the adoption of new teaching methods for accounting courses can be explained. Before the diffusion process can begin, a problem has to be perceived, research as to a solution must be initiated, an innovation has to be invented, then it has to be developed and commercialized. Once the commercialization process is started, the innovation is transferred to a diffusion agency and then communicated to potential adopters. Once the first adoption occurs, the diffusion process begins (Rogers, 1995).

The perception of a problem with accounting instruction began with the writers of the Bedford Report and the White Paper. Several studies were carried out to determine what was needed to improve the accounting profession, especially the experiences of entry level accountants. Through the studies, the accounting profession determined that changes should be made in the accounting education curriculum. The major accounting firms committed funding for the establishment of the change agent, the Accounting Education Change Commission. The suggestions for changes in the accounting education curriculum were then communicated to the various higher education institutions through the AECC. The AECC's recommendations for changes in the presentation methods of the accounting curriculum provided the basis for the items included in the Accounting Instruction Change Scale developed for this study.

Attitude toward Change Theory

To adequately discuss a change theory, one must also discuss attitude toward change. Theories concerning the development and change of attitudes have had an important role in the development of social psychology (Kiesler, Collins, & Miller, 1968). Kiesler, Collins, and Miller said that there is no single definition of attitude that is acceptable to all attitude researchers. Heneson, Morris, and Fitz-Gibbon (1978) described the concept of attitude as ".

. . a tool that serves the human need to see order and consistency in what people say, think and do, so that given certain behaviors, predictions can be made about future behaviors" (p. 11). Heneson, Morris, and Fitz-Gibbon also indicated that attitude is not something that can be measured like the heart-rate, but is inferred through words and actions. "So ubiquitous is the tendency to infer attitudes from behavior that Fletcher and Ward (1988) have termed it a pervasive cognitive characteristic of Western culture" (Allison, Mackie, Muller, & Worth, 1993, p. 151). This study too, will infer attitude from behavior, through the analysis of self-reported changes in behavior.

There are several factors that have an important bearing on the formation of attitudes. The individuals' own personalities, the groups they are affiliated with, and how the changes are presented to them are all factors in how well individuals will respond to change. How well an individual perceives the presenter or persuader, as well as how strongly embedded the attitude is, will determine the amount of acceptance or resistance to change (Crott & Werner, 1994). Even when a change is seen as being an improvement, there will be resistance and regression if the change is implemented on top of existing structures (Kahaney, 1993).

Some of the factors that contribute to acceptance or resistance to change are age, gender, attitude, social standing, culture, job satisfaction, and education (Trumbo, 1958; Trumbo, 1961; Halloran, 1967; Dohmann, 1970; Kirton & Mulligan, 1973; May, Windal, & Sylvestre, 1995; Rogers, 1995).

The findings of this study should support the Diffusion of Innovation theory, in that the accounting faculty of the grant schools should show characteristics of innovators and early adopters, whereas, the accounting faculty of the non-grant schools should show more of the characteristics of the early majority or even late majority. According to Rogers (1995), innovators are venturesome. They have a strong interest in new ideas. Early adopters have more opinion leadership in their social system than do innovators. The early majority are more deliberate while the late majority are skeptical. The AECC operated in the role of the change agent by disseminating information to academia through the grants, publication of

pamphlets and articles, and by making presentations at various institutions of higher learning.

Age

Controversy exists concerning the way age affects a person's receptivity of change. Trumbo (1958), an industrial psychologist who researched acceptance of change, found that age enhanced the receptivity to change. The older individuals had longer job security and therefore felt more secure to make changes. However, Halloran (1967) and Kirton and Mulligan (1973), social psychologists, found that older individuals were less innovative than younger individuals.

Oscarson (1976) also found that age is positively related to adoption-proneness. He found that older vocational teachers were more adoption-prone than younger vocational teachers. However, Oscarson also found that those who had been in their positions longer tended to be less adoption-prone than those who had not been in their positions as long. This apparent contradiction can be explained by the fact that many vocational teachers tend to enter teaching at a later age than teachers of other subjects, so older vocational teachers who were recently hired were more adoption-prone than those who started teaching earlier in life.

Rogers and Shoemaker (1971, p. 354), summarized the results of 228 studies on age as a factor in acceptance of change and found that 19% indicated earlier adoption of innovation by younger individuals, 48% showed no relationship between age and adoption of innovation, and 33% showed that earlier adopters were older individuals.

Gender

Researchers have agreed on receptivity of change by gender. Trumbo (1958), Halloran (1967), and Dohmann (1970) all found that men were more receptive to change than were women. Trumbo attributes this to the sociability of women. He found that women were more resistant to change because they would be moved out of their social reference groups if they accepted change. Men, he said, were not as bound by social ties, and, therefore, more receptive to change. Several studies (Aneke, 1996; Lewis, 1994; &

Younkins, 1984) included gender in the demographic data collected, but did not discuss any similarities or differences between genders.

Social Standing

Halloran (1967) and Dohmann (1970) found that social standing had no real affect on receptivity to change. Social standing was generally defined as the status and occupation of the individual's father. Rogers and Shoemaker (1971, p. 357) summarized 354 studies relating to innovation and social standing and found that 68% of the studies supported the viewpoint that earlier adopters had higher social standing and 32% did not support the social standing affect on receptivity to change.

Job Satisfaction and Education

Trumbo (1958; 1961) and Jacobson, Trumbo, Cheek, and Nangle (1959) found that individuals who were not satisfied with the aspects of their current occupation were more likely to be receptive to change. Job satisfaction tended to be an indicator of receptivity of change. Those satisfied with their jobs would be resistant to change, while those not satisfied with their jobs would be receptive to change.

> The way in which an employee responds to changes in his job will be a function of his need structure. He will perceive the change in relation to those aspects of the job most important to him. If the change poses a threat in actual or perceived — to the important aspects of the job, it will be resisted. If it is perceived as potentially facilitating or enhancing of important job factors, hence potentially satisfying to his wants and needs, it will be accepted (Trumbo, 1958, p. 16).

Besides Trumbo, Dohmann (1970), and Halloran (1967) also found that those individuals with greater education (beyond college) tended to be more receptive to change than those who did not have as much education. Rogers and Shoemaker's (1971, p. 354) summary of 275 studies revealed that 74% of the studies support the findings that individuals

with more education tend to be more receptive to change. The remaining 26% do not support the findings that individuals with more education are more receptive to change.

Investment in Change

Outcomes of several studies show that individuals need to have an investment in change before that change will be successfully implemented. Kahaney (1993) found that only 4 of 22 professors taking part in a seminar to implement changes in teaching methods, were able to make important changes suggested in the seminar. Sixty percent were able to make only minor changes and 20% were not able to make any changes. "Even when a new way of teaching or learning seems to be better, the laying of new patterns onto old, pre-existing structures dooms many people to failure. This may help explain why so much of what passes for reform is so rarely long-lasting" (p. 193). The results of repeat seminars were about the same. Before a change can be accepted, it must be seen as something necessary.

Vaughan (1993) studied 100 elementary school teachers. Eighty-seven percent of the teachers needed more than an introduction to the rules of classroom management to control disruptive students. She found that individual instruction provided more reinforcement, but was still not sufficient to enact change. The context of the environment had to be changed before those elementary school teachers could change their methods of classroom management.

As with elementary education, for changes to occur in the accounting departments of colleges and universities across the country, it will be necessary to have agreement among accounting faculty as to the amount and type of change that is needed (May, et al., 1995). Faculty reaction to change has to be considered in implementing changes in accounting education, ". . . including a natural resistance to change, personalizing the change, and fearing the effects of change on teaching evaluations" (Mintz, 1993, p. 94). Accounting faculty have to be given enough information, time to synthesize the information, and support, in order for the changes to take effect.

Attitude Formation and Change Theories

There are several theories of attitude formation as well as several theories on how change is adopted. The first theories of attitude were concerned with reaction time. Later theories investigated the aspect of attitudes as feelings, then as part of an individual's experiences (Allport, 1968). Allport went on to suggest there are

> . . . four criteria for an attitude: (1) it must have definite orientation in the world of objects (or values), and in this respect differ from simple and conditioned reflexes; (2) it must not be an altogether automatic and routine type of conduct, but must display some tension even when latent; (3) it varies in intensity, sometimes being regnant, sometimes relatively ineffective; (4) it is rooted in experience, and therefore is not simply a social instinct (p. 19).

Halloran (1967) stated ". . . an individual's attitudes do not develop and persist in a vacuum and that the group affiliations of the individual help to determine the formation of his attitudes" (p. 39). He also said that the groups an individual affiliates with help to determine his or her attitudes. The reference groups serve two functions, a comparative function and a normative function.

Some researchers think that to change an individual's attitude, he or she should be provided with information about the proposed change. However, Halloran (1967), Kahaney (1993), and Vaughan (1993) said that although information plays a part in the change of attitude, it is rarely the determining factor in the change. ". . . [C]ommunications are most likely to be effective and attitudes most likely to change (a) when a message which relates to the individual's needs and wants is presented in such a way and at such a time that it is reinforced by related events, (b) when the change is 'guaranteed' social support, and (c) where channels of action or obstacles to action are pointed out" (Halloran, 1967, p. 59).

The Diffusion of Innovations Model explains the rate at which new innovations are adopted. It is a method of communication of innovations that makes use of change agents to communicate the new ideas to the target population. There are five characteristics of diffusion of innovation, they are: relative advantage, compatibility, complexity, trialability, and observability (Rogers & Shoemaker, 1971; Rogers, 1983; Rogers, 1995). The characteristics are defined as follows:

(1) *Relative advantage* - the greater the perceived relative advantage of an innovation, the more rapid its rate of adoption will be.
(2) *Compatibility* - the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters.
(3) *Complexity* - the degree to which an innovation is perceived as difficult to understand and use.
(4) *Trialability* - the degree to which an innovation may be experimented with on a limited basis.
(5) *Observability* - the degree to which the results of an innovation are visible to others (Rogers & Shoemaker, 1971, pp. 15-16)

These five characteristics were important in explaining 49% to 87% of the variance in the rate of adoption by individuals, who may be classified as innovators, early adopters, early majority, late majority, and laggards (Rogers, 1995). Innovators are viewed as risk takers, eager to try new ideas and the ability to understand and apply complex technical knowledge. Early adopters are individuals who are viewed as opinion leaders in their communities. They serve as role models for their social system. The early majority is seen as deliberate. They are more cautious and deliberate in their adoption of new innovations. The late majority are viewed as skeptical. They may adopt a new innovation because it becomes an economic

necessity rather than a willing decision. The laggards are the last to adopt an innovation. They tend to cling to the "way things were" (Rogers, 1995).

The characteristics of the adopter categories are summarized in three main classifications. The main characteristics are the socioeconomic status, the personality variables, and the communication behavior. Innovators and early adopters generally have a higher socioeconomic status than early majority, late majority or laggards. Innovators and early adopters tend to be less dogmatic or fatalistic than early majority, late majority or laggards. Innovators and early adopters are more socially active than are early majority, late majority, or laggards (Rogers & Shoemaker, 1971). Rogers and Shoemaker said "Adopter distributions tend to follow an S-shaped curve over time and approach normality" (p. 195).

Socioeconomic status was not one of the characteristics included in this study. However, as a measure of social activity, as well as professional interaction, membership in professional organizations was included.

In a study of 316 junior and senior high school teachers, Dohmann (1970) found that there was not a significant difference in acceptance of change between teachers who had tenure and those who did not. He found a difference, but not significant, between younger teachers and older teachers. The younger teachers were somewhat more receptive to change than were older teachers. For the study, Dohmann created a 45-item instrument, of which ten of the items were related to the predisposition to change. He pilot tested the instrument with 25 teachers selected at random. Dohmann determined the internal consistency reliability for the ten items to be .96 by using the Kuder-Richardson 21 formula. Validity for the variables included in the "Openness to Change" (OTC) scale was based on ". . . their frequent mention in the literature" (p. 100). Dohmann also found a difference, but not significant, in the receptiveness of changes the teachers had a part in making. Dohmann pointed out that ". . . individuals engaged in the changes must (1) understand the reason for change, (2) recognize and appreciate how the change is going to affect them individually and collectively, and (3) recognize that their behavior must change" (p. 68).

The Openness to Change Scale, called the Predisposition to Change Scale in this study, was used to determine accounting faculties' receptiveness to change. This scale was selected because it was a more generalized scale and thus more relevant to accounting instruction. The Predisposition to Change Scale provided face validity for determining the personality characteristics for placement of faculty members into the Diffusion of Innovation Model.

Oscarson (1976) used the OTC scale developed by Dohmann (1970) as well as developing an Adoption-Proneness Scale (APS) to study the factors that led to adoption of innovation in vocational education. His sample consisted of 310 vocational education teachers from four school districts in the Virginia. Oscarson used the OTC scale as a predictor variable to measure adoption proneness. To establish reliability, the instrument was administered to a group of 40 vocational teachers enrolled in a Virginia Polytechnic Institute and State University inservice class. A split-half method was used to determine a reliability of .95 using the Spearman-Brown Formula.

The Adoption-Proneness Scale was also used in this study to determine the readiness of accounting faculty to adopt new innovations. While this scale and the Predisposition to Change Scale both measure an acceptance of innovation, the Predisposition to Change Scale appears to have more face validity for accounting instruction than the Adoption-Proneness Scale. However, the Adoption-Proneness Scale was used successfully to assess adoption of innovation more recently (Aneke, 1996) than the Openness to Change Scale. However, Oscarson found that predisposition toward change had no significant relationship to adoption-proneness. In a study of school-wide educational reform by Aneke, the adoption-proneness scale developed by Oscarson (1976) was used. Aneke surveyed vocational education teachers from thirty sites in Virginia. He obtained 638 responses from his survey. The adoption-proneness scale was used to provide information about how the teachers relate to innovation and how the teachers' stages of concern change as a result. He found that teachers who were more adoption-prone had higher scores at the consequences stage of the

stages of concern. Teachers who were less adoption-prone had higher scores at the personal stage of the stages of concern. The stages of concern are: (a) awareness, (b) informational, (c) personal, (d) management, (e) consequences, (f) collaboration, (g) refocusing (Aneke, 1996).

For this study, the assumption was made that the amount of innovativeness or predisposition to change and adoption proneness an individual accounting faculty member displays will predict the amount of change the accounting faculty member is willing to initiate into his or her accounting classes.

The Need for Changes in Accounting Instruction

As long as there is disagreement as to the type and extent of changes needed in the accounting education program, any changes already implemented are unlikely to last. In a study of 419 accounting faculty responding to a survey sent at random to 984 faculty selected from Hasselback's *1991 Accounting Faculty Directory*, May, Windal and Sylvestre (1995) found that there is substantial disagreement in the amount and type of change that must be implemented in accounting programs. The majority, 56%, agreed that fundamental changes should be made in the accounting curriculum, however 19.9% were neutral and 24.1% disagreed with a need for fundamental changes. The majority of those responding to the survey, 63.6%, agreed that the objective of accounting education should be to teach students to learn on their own. The most agreement, 96%, was evident in the need for students to be able to identify and solve unstructured problems.

The accounting education process for professional accountants has not seen significant change in nearly 100 years. Williams (1991) indicated that although no changes were made in the accounting curriculum, it was not because change was not perceived as being needed. Seventeen organizations have made suggestions for changes in the curriculum over the last 20 years. He noted that the time was up for suggestions and conversation; what was needed was action. The Accounting Education Change Commission (AECC) was the catalyst to start the change process moving. However, Nelson (1995) claimed that the

prospects for real change in accounting education appear "bleak." He based this outlook on the fact that few accounting faculty have had any training in how to teach, nor have they had any courses in educational psychology. Nelson (1995) said "It seems ironic that kindergarten teachers have more formal training in learning processes and pedagogy than do accounting professors" (p. 71). The concern expressed by Nelson regarding accounting educators' training in learning processes prompted the inclusion of demographic variable survey items about educational psychology and preparation in instructional methods in this study.

Nelson (1995) also said that the accounting profession has not always agreed on what changes were needed in the accounting curriculum in the last century. Nelson noted an incongruity between what practitioners say they want in an entry level accountant and their hiring practices. This mixed message, he noted, caused some accounting faculty to view changes in the accounting curriculum with skepticism.

The Grants

By submitting a proposal for a grant to the AECC, the grant school recipients indicated a desire and faculty support for implementation of change. Information was supplied to the grant schools in the form of reports and pamphlets relating to the changes recommended by the AECC. The non-grant schools also had an opportunity to receive these reports and pamphlets. Not all of the proposals for the grants awarded covered all of the changes recommended by the AECC.

Grant proposals were judged on their potential to foster desirable changes in academic preparation of accountants. They were for implementing changes, not for the further study of curriculum change. The proposals needed to address action plans for implementation. The guideline used to judge the proposals was that the proposals had to have goals and objectives consistent with the recommendations of the Bedford Report and the White Paper. The projects were evaluated on the potential for the proposed activities to successfully accomplish the desired changes in the recipient accounting program (AECC, 1990c)

The AECC awarded grants to five colleges and universities out of 40 applications in 1989 and five more grants to colleges and universities out of 50 applications in 1990. They also awarded grants to two community colleges in 1991. The community colleges were to focus on the changes to be made in the introductory accounting courses. Grants were awarded to Brigham Young University, Kansas State University, University of Massachusetts at Amherst, University of North Texas, and Rutgers University in 1989. Grants were awarded to Arizona State University, University of Chicago, University of Illinois/University of Notre Dame, North Carolina A & T State University in Greensboro, and University of Virginia - McIntire School in 1990.

Brigham Young University used the grant money to identify what competencies accounting graduates should possess in the next decade, to develop faculty understanding of these competencies, and to develop and implement a core curriculum that would effectively develop those competencies. The program was also designed to assess the effectiveness of their new curriculum (Albrecht, Clark, Smith, Stocks, & Woodfield, 1994). The accounting program is structured to integrate content across functional areas rather than in separate courses.

Kansas State University used the grant money to sequence the accounting curriculum according to Bloom's taxonomy of learning. They focused their attention on the first accounting course and changed the focus from the "preparer" perspective to the "user" perspective (Ainsworth, 1994; Baldwin & Ingram, 1991).

The University of Massachusetts at Amherst used the grant money to develop a communications course for accounting majors. They also designed an intensive four-week accounting program for liberal arts students to be offered during the winter break in an effort to attract new and diverse students to the accounting program. They networked their computer classroom for the introductory accounting course using real data bases.

The University of North Texas used the grant money to integrate accounting curriculum with the liberal arts and business curricula using a classic learning core including themes of virtue, reason, civility, and accountability. Rutgers University used their grant money to restructure the MBA program to be more responsive to the challenges of the profession by the division of MBA accounting curriculum into four modules: management, financial, audit and information systems, and tax. They computerized the modules based on knowledgeware using a Paradox platform.

Arizona State University used the grant money to restructure the introductory accounting courses, making them more "user" oriented. Accounting majors complete a self-paced, computer based course on accounting procedures that provides an information system foundation for upper-division accounting courses. The information systems course is offered right after the introductory accounting courses. Arizona State also adopted a laboratory science model of instruction for the upper level courses. Each course of three hours also had three hours of laboratory each week. The mechanical and procedural materials are covered in the lab. They also incorporated a heavy reliance on the case method.

The University of Chicago used the grant money to orient their MBA curriculum to sophisticated users of accounting information but with high technical content. The University of Illinois/ University of Notre Dame, a joint grant application, used the grant money to implement a program that would develop students' critical thinking skills through a more conceptual, less technical introductory accounting course. They designed an accounting core sequence around a contracting framework, and developed an accounting concepts component, skills development component and a comprehensive integration component. These universities developed courses that require ". . . more active learning experiences, improving communications and teamwork skills, and exercising a broader range of cognitive abilities" (Wyer, 1993, p. 13). The goal is to have an increased focus on problem-solving skills as well as communication skills and interpersonal skills.

North Carolina A & T State University in Greensboro used the grant money to improve communications, problem-solving, interpersonal, and leadership skills in the accounting curriculum. They also promoted computer reliance and enhanced professional awareness. University of Virginia-McIntire School used the grant money to implement a broad based four-year curriculum with more technical accounting courses moved into the fifth year. Their four-year accounting program will not qualify a student to sit for the CPA exam. The program focused on decision-making and decision-usefulness of accounting information and the extensive use of the case method. They used an in-depth coverage of a few topics rather than a broad coverage of all topics. The program implemented the use of the Myers-Briggs Inventory Assessment, or similar tests, to see if the characteristics of students enrolled in the accounting program had changed with the increase of innovation in the accounting curriculum.

Faculty Perceptions

"Most institutions of higher education define their mission in three components: teaching, research and service" (Manakyan & Tanner, 1994, p. 1). The AECC has recommended that accounting faculty spend more time on curriculum-based projects rather than pure theoretical research. However, this is usually contrary to factors on which accounting faculty merit awards and promotions are based. In a study of 226 accounting faculty responding to a random survey done by Manakyan and Tanner, the total years of teaching experience did not seem to be related to teaching or research success. However, they found that professional rank, tenure status, teaching load, and teaching level were all related to research output. Other studies (Davis & Sherman, 1996; May, et al., 1995; Mintz, 1993) confirmed the relationship between tenure status, teaching load, professional rank and research output. Publication in professional journals as well as teaching related publications are addressed in the demographic items in this study to obtain information concerning any increase in teaching related publications.

Hargadon, Lordi, and Bowlby (1994) found that an alternative teaching approach that provided "quasi-release time" for faculty did not seem to negatively affect the learning of the

students involved in the project. Two sections of an introductory accounting course were used in the study. The alternative teaching method section had 31 students and single teacher method section had 30 students. The two groups were not significantly different in terms of Scholastic Aptitude Test scores and grade point averages. Faculty members have larger blocks of time to use for research while the other members of the alternating teams teach the courses for that week. One problem indicated by this method of teaching was the coordination of the flow of instruction. Another problem might be instructor fatigue if the instructor is required to teach a double load of classes every other week. While alternative methods of providing release time for faculty is a contributing factor in adoption of innovative teaching methods, it is not considered in this study.

Improvements That Have Been Made in Accounting Instruction

According to a study by Wilson and Baldwin (1995), many accounting programs have shifted the focus of their introductory accounting courses from a preparer of financial reports to a user of financial reports. They have also introduced more writing assignments and discussion of cases into the course curriculum. The changes in the University of Southern California's accounting program were implemented in 1987. This program incorporates increased use of ". . . oral presentations, written exercises, computer projects, and discussions about professional responsibilities and ethics" (Pepper, 1993, p. 18). Many of the curriculum materials were developed by the faculty as they were needed.

S. E. Sefcik (personal communication, August 6, 1997) explained a new course the University of Washington has implemented to address problem-solving strategies. Accounting courses at the University of Washington, University of Colorado, and University of Texas at Austin are also incorporating "environmental accounting" as distinguished ". . . from the classical concept of Natural Resource Accounting and its macroeconomic perspective" (Sefcik, Soderstrom, & Stinson, 1997, p. 131). An introduction of environmental accounting into the accounting curriculum addresses several of the changes suggested by the AECC, especially learning-to-learn (Sefcik, et al.).

The use of oral presentations, written exercises, computer usage, and open-ended discussions and problem solving are the main focus of the Accounting Instruction Change Scale developed for this study to examine indicators of the adoption of accounting instruction innovation. Using oral presentations, written exercises, and open-ended discussions are means of teaching communication skills, interpersonal skills, and problem-solving skills.

The Changes That Should be Made in Accounting Instruction

The Future Accounting Education: Preparing for the Expanding Profession [the Bedford Report] (AAA Future Committee, 1986) and the Perspectives on Education: Capabilities for Success in the Accounting Profession [the White Paper] (Arthur Anderson & Co., et al., 1989) both stressed the need for increased skills in communication, interpersonal skills, and problem-solving and critical thinking skills in the graduates of accounting programs. Both of these reports indicated that accounting graduates were not skilled in these areas, which caused distress to the accounting profession in general. The accounting profession also indicated a need for ethical values to be taught in the accounting program. The use of ethics in instruction is addressed in the Accounting Instruction Change Scale.

Mayer-Sommer (1990) stated that the surest way to change the accounting education curriculum is to change the content of the CPA exam. Because many accounting faculty teach the content of the professional examinations, it will be difficult for them to implement unstructured, open-ended critical thinking problems into their curriculum. Many accounting faculty members use the professional examinations to assess the success of their programs. The more of their graduates who pass the tests, the better the program is.

Davis and Sherman (1996) analyzed the types of schools that were awarded grants. They found that the grant schools provided 75.4% of the total funding for the curriculum change. They went on to say that the grant schools differed from the majority of the schools in the country in that 81.8% of the grant schools had separate accounting accreditation and all of the grant schools of business had general American Assembly of Collegiate Schools of Business (AACSB) accreditation. In comparison, only 13.4% of the rest of the schools listed

in Hasselback's 1991 directory had separate accounting accreditation and only 39.6% were AACSB accredited.

Summary

Many factors contribute to attitude formation. An individual's attitudes determine how that individual will react to proposed change. Some of the factors that contribute to acceptance or resistance to change are age, gender, social standing, job satisfaction, and education. The demographic questions in this study addressed these factors.

The Predisposition to Change Scale as well as the Adoption-Proneness Scale were used to provide a link between the accounting faculty surveyed and the individual characteristics described in Roger's Diffusion of Innovation theory. The Diffusion of Innovation theory supports the classification of individuals into five categories: (a) innovators, (b)early adopters, (c) early majority, (d) late majority, and (e) laggards. The Predisposition to Change Scale assesses an individual's readiness to accept changes. The Adoption-Proneness Scale assesses an individual's receptiveness to adoption of new ideas. The AECC operated in the role of a change agent by disseminating information to academia through the grants, publications, and by making presentations at various institutions of higher learning.

A need for changes in the accounting education curriculum has been perceived for many years. The problem has been in defining what changes should be made. The AECC proposed several skills that should be incorporated into the accounting curriculum. The criteria for awarding of grants was established by the AECC, who selected the grant recipients based on these criteria.

The perceptions of faculty members are diverse. Many faculty members feel a strong need for change in the accounting curriculum, especially in terms of research and publication. Others are satisfied with the status quo and see no need for any change to be implemented, or at the most, only minor changes. Some of the changes in curriculum that have already been

widely implemented are a change in the introductory accounting course from a preparer perspective to a user perspective, more computer use, more oral presentations, and more team projects.

An increase in communication skills, interpersonal skills, and problem-solving and critical thinking skills are still needed. Professional ethics is another issue that needs to be taught in the accounting curriculum. Mayer-Sommer (1990) suggested a change in the CPA exam as an effective way of changing the accounting education curriculum.

CHAPTER 3

METHODOLOGY AND PROCEDURES

An ex-post facto design was used for this study. None of the independent variables could be manipulated by the researcher. The variables could only be studied and analyzed. Inferences were made about the relations among the variables without any direct researcher intervention. The design was Campbell and Stanley's (1963) Regression-Discontinuity Analysis. For this design, the "Most efficient test would be a covariance analysis in which the award decision score would be the covariant of later achievement, and award and no-award would be the treatment" (Campbell & Stanley, 1963, p. 62). This test fits the grant and non-grant status of the study at hand. However, a multiple regression analysis was used to account for a number of other variables included in the study.

Responses were provided by grant school faculty and non-grant school faculty to determine factors that predicted changes in accounting education. The respondents were subject to the external validity limitation of selection bias in the independent variable, in that the faculty most likely to participate were those that had made changes in the methods they use to present accounting instruction. Also at issue in this study would be the reactive effects of exposure to the dependent variables in non-grant situations. The factors that "influence the validity of the scores and inferences based on the scores . . . include (1) the nature of the group tested, (2) the conditions under which the test is administered, (3) the scoring criteria and procedures used, and (4) how the scores are used" (Worthen, Borg, & White, 1993, p. 180).

The AECC has awarded grants, published pamphlets and made guest appearances at many colleges and universities across the country. Because of the action of the AECC in

disseminating information about the recommended changes, it is highly likely the non-grant schools will have incorporated some of these changes into their instruction.

The two research questions were:

1. Is faculty acceptance of change as indicated by the score on the Predisposition to Change Scale, the Adoption-Proneness Scale, and selected demographic variables related to the changes in their instruction that have occurred in teaching of accounting over the past five years?
2. To what extent do selected variables predict changes in accounting instruction as perceived by accounting faculty?

Subjects

Accounting faculty from the eleven grant schools were included in this study. The number of faculty surveyed from grant schools was 249. An eleven school sample of non-grant school accounting faculty was selected at random from colleges and universities listed in Hasselback's *1996 Accounting Faculty Directory*. The number of accounting faculty listed and American Assembly of Collegiate Schools of Business (AACSB) accreditation were also factors in the selection of non-grant schools. Schools with fewer than 13 accounting faculty members were excluded from the selection pool. The number of faculty surveyed from non-grant schools was 189. The difference in the number of subjects from the two types of schools can be explained by the fact that there are only nine schools listed in Hasselback's *1996 Accounting Faculty Directory* with 30 or more accounting faculty. Three of those schools are included in the grant schools. The eleven non-grant schools were then selected at random from a larger population with less possibility of the remaining six schools with 30 or more accounting faculty being selected. A stratified sample was considered, to address the size of the accounting faculty, as well as the attributes of the accounting program. However, the purpose of the selection was not to specifically match grant and non-grant school accounting faculty, therefore, a random sample of non-grant schools was deemed to be the most appropriate.

Only schools with AACSB accreditation were selected. Table 1 presents a description of the grant schools. Table 2 provides a description of the non-grant schools. Data from subjects who had been employed in accounting instruction less than five years were excluded from the study. Human subjects clearance was obtained from the Virginia Polytechnic Institute and State University Human Subject Review Board.

Instrumentation

The dependent variables considered in this study were those that focus on the changes in accounting instruction recommended and stressed by the AECC. These variables were: (a) communication skills, (b) interpersonal skills, (c) critical thinking and problem solving skills, and (d) preparation for instruction. Communication skills included both oral presentations and written assignments as well as the development of students' reading and listening skills. Interpersonal skills included group work and leadership skills. Critical thinking and problem solving skills included decision making skills, identifying and solving unstructured problems, and making value judgments. Preparation for instruction included classroom preparation materials, teaching-related research, and teaching-related publications.

The independent variables considered in this study were: the score on the Predisposition to Change Scale; the score on the Adoption Proneness Scale; the number of publications during the last five years; extent of other professional accounting work experience, both full and part-time; instruction in educational psychology; instruction in instructional methodology; membership in professional organizations; gender; and age.

Accounting Instruction Change Scale

The Accounting Instruction Change Scale was developed by the researcher to examine the self-reported faculty perceptions of changes in the dependent variables, which include

Table 1

Description of Grant Schools

Name of School	Accounting Department[a]	Number of Accounting Faculty	Location	Degrees Offered
Arizona State University	College of Business, School of Accountancy	31	Tempe, Arizona	BS, MAC, MT, PHD
Brigham Young University	Marriott School of Management, School of Accountancy & Information Systems	33	Provo, Utah	BS, MAC
University of Chicago	Graduate School of Business, Department of Accounting	19	Chicago, Illinois	MBA, PHD
University of Illinois	Commerce & Business Administration, Department of Accountancy	44	Champaign, Illinois	BS, MS, PHD
Kansas State University	College of Business, Department of Accounting	15	Manhattan, Kansas	BS, MAC
University of Massachusetts at Amherst	School of Management, Department of Accounting & Information Systems	17	Amherst, Massachusetts	BBA, MS, PHD
North Carolina A&T State University	School Business & Economics, Department of Accounting	15	Greensboro, North Carolina	BS
University of North Texas	College of Business Administration, Department of Accounting	20	Denton, Texas	BS, MA, PHD
University of Notre Dame	College of Business Administration, Department of Accountancy	26	Notre Dame, Indiana	BBA, MBA
Rutgers University — Newark	Faculty of Management Accounting & Information Systems Area	20	Newark, New Jersey	BS, MBA, PHD
University of Virginia	McIntire School of Commerce, Accounting Area	14	Charlottesville, Virginia	BS, MS

[a]All departments are located in colleges and universities with AACSB accreditation.

Table 2

Description of Non-Grant Schools

Name of School	Accounting Department[a]	Number of Accounting Faculty	Location	Degrees Offered
Boise State University	College of Business & Economics, Department of Accountancy	14	Boise, Idaho	BA, BBA, MBA
California State Polytechnic University at Pomona	College of Business Administration, Accounting Department	18	Pomona, California	BS, MS, MBA
University of Central Florida	College of Business Administration, School of Accounting	21	Orlando, Florida	BA, MSA, MST, PHD
University of Delaware	College of Business & Economics, Department of Accounting	22	Newark, Delaware	BS, MS
University of Missouri — Columbia	College of Business & Public Administration, School of Accountancy	14	Columbia, Missouri	BAC, MS, MACC, PHD
University of Nevada — Las Vegas	College of Business & Economics, Department of Accounting	16	Las Vegas, Nevada	BS, MS, MBA
University of New Orleans	College of Business Administration, Department of Accounting	15	New Orleans, Louisiana	BS, MBA, MS, MS-TX
University of North Carolina at Charlotte	College of Business Administration, Department of Accounting	16	Charlotte, North Carolina	BS, MSA
Rider University	College of Business Administration, Department of Accounting	13	Lawrenceville, New Jersey	BSBA, MBA
Stephen F. Austin State University	College of Business, Department of Accounting	13	Nacagdoches, Texas	BBA, MPA, MBA
University of Washington	School of Business Administration, Department of Accounting	27	Seattle, Washington	BA, MBA, MPA, PHD

[a]All departments are located in colleges and universities with AACSB accreditation.

changes in accounting instruction related to (a) communication skills, (b) interpersonal skills, (c) critical thinking and problem solving skills, and (d) preparation for instruction. The items were developed to reflect the types of changes in accounting instruction promulgated by the AECC. The first six items were based on the AECC's recommendation that communication skills be taught in the accounting curriculum. Items seven through twelve were developed based on the AECC's recommendation that interpersonal skills be developed in accounting students. Items thirteen through eighteen were based on the AECC's recommendation that accounting students be taught critical-thinking and problem-solving skills. The items relating to instructor preparation, nineteen through twenty four, were based on the AECC's recommendation that more emphasis be placed on the preparation for teaching activities with more merit rewards being given for teaching endeavors. A six-point scale was chosen for the Accounting Instruction Change Scale to maintain consistency with the other scales selected for use in this study.

A panel of three experts was selected based on their knowledge of accounting education, the AECC requirements, and professional background, to establish the face validity of the Accounting Instruction Change Scale. Each panel member had professional certification as well as familiarity with accounting instruction. A copy of the instrument provided to each panel member is included in Appendix A.

One panel member recommended including the type of written work assigned in item one. Item 1 was thus changed to include "(i.e., case analysis, term papers, research questions)." One panel member questioned the inclusion of item numbers 22 and 23. Item number 22 was changed from "I belong to more professional organizations or I am involved in more professional organizations" to "I am more involved in professional organizations." Item 22 was retained as a measure of interaction between accounting faculty and accountants in professional practice. Item 23 was retained as a measure to reduce the expectation gap of entry level accountants between perceptions and actuality. The same panel member suggested going back four or five years, to the beginning of the grant implementations. This

suggestion was adopted for the final survey instrument. Item 24 was changed from "I confer with practicing accountants more often about their needs in entry level accountants." to "I confer with practicing accountants more often about the abilities needed for entry level accountants." Another panel member expressed concern about the length of the survey as well as the grouping of the survey items. The same panel member indicated that group presentations also included group work. She suggested that item 8 be modified to exclude oral presentations and item 9 include the word "oral." Item 8 was changed from "I assign more group work" to "I assign more group work (students work together to produce one report or each student has a separate piece of information that must be shared and each student prepares individual reports)." Item 9 was changed to "I assign more group oral presentations" from "I assign more group presentations." The grouping of the items was not changed, nor was the instrument shortened.

To establish reliability for the Accounting Instruction Change Scale, the Cronbach's Alpha procedure was used with pilot study participants (n=34). While the Cronbach's alpha generally underestimates the actual reliability of the measure, it is a good choice for measuring reliability of attitude and rating scales with gradations of response. It is applicable to more types of instruments than any other method of estimating reliability (Worthen, et al., 1993). Reliability for the whole Accounting Instruction Change Scale was .92. To establish the reliability of each of the four subsets of the AICS, a Cronbach's Alpha was performed on each subset. The test of reliability established internal consistency for each subset of the instrument. The subset reliabilities were: .684 for the communication subset; .801 for the interpersonal skills subset; .891 for the critical thinking skills subset; and .804 for the teaching preparation subset.

The Scale to Measure Predisposition to Change

Rogers and Shoemaker (1971) summarized data from 57 studies to indicate 75% of early adopters had a favorable attitude toward change, 25% did not support the favorable attitude toward change finding. The scale to measure Predisposition to Change was selected to evaluate the change receptiveness of the responding faculty. Of the instruments located, it

has the most questions relating to the AECC's criteria for accounting education change. It was developed by Dohmann (1970) from information presented in research by Ryan (1960) and cited in an unpublished dissertation by Oscarson (1976). Dohmann found that this 10-item scale had a reliability of .96 using the Kuder-Richardson 21 formula based on a sample of 25 high school staff teachers. Dohmann's scale had 45 items, 10 of which ". . . were specifically designed to obtain an 'openness-to-change' (OTC) score for each respondent" (pp. 99-100). Content validity for the ten items was based on their frequent mention in previous literature (Dohmann, 1970).

The mean Predisposition to Change score was used to predict the extent that changes in accounting education had been adopted by respondents. In previous studies conducted by Trumbo (1958), Dohmann (1970), and Oscarson (1976) a high score on a predisposition for change scale would predict a willingness to make changes in teaching methods. The previously cited studies were not related to accounting education. However, with a few modifications to the survey items used in those studies, the change scale was adopted for use by accounting faculty.

The modifications for this study were in terminology only. The word "teacher" was changed to "faculty" in items 1 and 7. The word "staff" was also changed to "faculty" in item 1. The word "teacher" was changed to "professors" in items 2, 3, 4, and 6. The word "their" was deleted in item 6. The word "schools" was changed to "institutions" in item 7. The word "school" was changed to "accounting program" in item 9. "High schools" was changed to "Accounting faculty" and "social" was changed to "accounting" in item 10.

The Scale to Measure Adoption-Proneness

The Scale to Measure Adoption-Proneness was used to assess accounting faculty members' willingness to adopt innovative methods of teaching. "The majority of items concern the selection or adoption of innovations and practices while not concentrating on any specific educational innovations" (Oscarson, 1976, p. 50).

If an individual does not exhibit commitment to the innovative practices or changes, the innovation will not be as readily acceptable by the faculty. Because this scale was developed to determine an individual's predisposition for considering new ideas and procedures, it was deemed appropriate to include in this study.

In previous studies, the scale was determined to have validity in measuring innovation acceptance through correlational analysis (Aneke, 1996; Oscarson, 1976). Oscarson also established the scale reliability at .95 using the split-half method. The reliability measure was based on a sample of 40 vocational education teachers enrolled in inservice classes at Virginia Polytechnic Institute and State University.

The Oscarson (1976) study was not related to accounting instruction; however, the survey instrument does not concentrate on any one innovation. Thus it was adopted for this study with minimal modification. The modifications made were in terminology only. The words "schools and/or school systems" were changed to "institutions" in item 10. The words "administrative personnel" were changed to "department head" in item 11. In item 13, the word "principal" was changed to "department head." The words "superintendent and the central office" were changed to "department head and administration." The word "hour" was changed to "breaks" in item 16. In item 17, the word "American" was changed to "accounting."

The dependent variables, (a) communication skills, (b) interpersonal skills, (c) critical thinking-problem solving, and (d) preparation for instruction, were measured by the Accounting Instruction Change Scale (AICS). Table 3 contains scoring ranges for the AICS as well as the scoring ranges for the other scales used in this study, the Predisposition to Change Scale (PDCS) and the Adoption-Proneness Scale (APS).

Table 3

Scoring Ranges for Instruments

Survey Area	Survey items	Range of Scores
Accounting Instruction Change Scale[a]		
Communication	1 - 6[d]	6 - 36
Interpersonal Skills	7 - 12[d]	6 - 36
Critical Thinking/Problem Solving Skills	13 - 18[d]	6 - 36
Preparation for Instruction	19 - 24[d]	6 - 36
Predisposition to Change[b]	25 - 35	10 - 60
Adoption-Proneness[c]	36 - 52	17 -102

[a] For the Accounting Instruction Change Scale, each item has an accompanying 6-point Likert-Type Scale ranging from Strongly Disagree (1) to Strongly Agree (6).

[b] For the Predisposition to Change Scale (Dohmann, 1970), each item has an accompanying 6-point Likert-Type Scale ranging from Strongly Disagree (1) to Strongly Agree (6).

[c] For the Adoption-Proneness Scale (Oscarson, 1976), each item has an accompanying 6-point Likert-Type Scale ranging from No, Never (1) to Yes, Always (6).

[d] For the final survey, these items were listed in a random order. They appear as shown in this table in Appendix B, Pilot Study.

The Demographic Data

The demographic items of age, gender, and professional work experience were included because they are predictors to receptability to change as found in prior studies (Aneke, 1996; Dohmann, 1970; Oscarson, 1976; Rogers, 1995; Rogers & Shoemaker, 1971; & Trumbo, 1958). Most previous studies indicated that older individuals are more receptive to adoption of innovations. The sample used in this study was expected to have a wide age range. Gender was included because not much recent literature on gender and acceptance of change has been reported. Professional work experience was included because the AECC stressed the importance of professional accounting experience as a basis for preparing accounting students for the expectations of the accounting profession. Further, professional job satisfaction is an indicator of receptiveness to change.

The demographic items related to publications were included as an indicator of acceptance of the changes called for by the AECC, which stressed the need for more instruction-related publications and work. The demographic items relating to time teaching, in total and at the specific institution, were used to determine the length of time on the job. A score of zero on either one of these two items resulted in an unusable survey. Questions were also used to ask what, if any, course work had been taken in educational psychology and teaching methodology. The questions related to educational psychology and teaching methodology were included because the AECC has indicated more training in teaching methods should be implemented in doctoral programs of accounting (AAA Future Committee, 1986; Arthur Anderson, et al., 1980). These four demographic questions also address Nelson's (1995) concerns that few accounting educators have had any training in how to teach. Table 4 contains a list of the demographic information collected.

Pilot Study

The complete survey was used for the pilot group. To establish reliability, to estimate time to complete the survey, and to determine if there were any problems that the respondent might encounter, a pilot study was conducted using 48 accounting faculty at several four-year

Table 4

Demographic Variables

1.	Length of time teaching	
	Number of years	_____
2.	Length of time teaching at this institution	
	Number of years	_____
3.	Number of items published in refereed journals in the last five years	
	Number of items	_____
4.	Number of items published in non-refereed journals in the last five years	
	Number of items	_____
5.	Number of books or chapters authored or co-authored in the last five years	
	Number of books or chapters	_____
6.	Years of full-time accounting related work experience	
	Number of years	_____
7.	Years of part-time accounting related work experience	
	Number of years	_____
8.	Hours of instruction in educational psychology	
	Number of hours	_____
9.	Hours of instruction in instructional procedures	
	Number of hours	_____
10.	Member of professional organizations	
	American Institute of Certified Public Accountants	_____
	American Accounting Association	_____
	International Management Association	_____
	Institute of Financial Analysts	_____
	Others	_____
11.	Gender	
	Male	_____
	Female	_____
12.	Age	_____

colleges and universities located in West Virginia and southwest Virginia. Of the 48 accounting faculty surveyed for the pilot study, 34 responded with useable surveys, resulting in a 71% response rate. To establish procedures for data analysis, a correlational analysis between the scores on the Predisposition for Change and Adoption Proneness scales to the Accounting Instruction Change Scale was used with responses from the pilot group. The reliability of the Accounting Instruction Change Scale was determined as .92 using the Cronbach's alpha. The time estimated to complete the survey was about fifteen minutes. No major problems were encountered in administering the pilot study survey. Appendix B contains the survey questions used in the pilot study. Items in the Accounting Instruction Change Scale were randomized for the final study.

Random sampling for non-grant schools for the research was conducted prior to selection of schools for the pilot study. Thus, none of the colleges and universities selected for the pilot study were included as part of the sample of non-grant schools. The pilot study schools were selected based on their accessibility to the researcher in terms of travel time. Several of the schools were state supported institutions and several were privately supported institutions.

Data Collection Procedures

Letters were mailed to the Accounting Department Head at each of the grant and non-grant schools prior to the study, to inform the department head of the selection for participation in the study. Copies of the letters sent to grant schools and non-grant schools are included in Appendix C, Correspondence.

Survey packets were prepared and sent to each accounting faculty member in each grant school and each selected non-grant school. The survey packets included a cover and informed consent letter to each faculty member, a copy of the survey instrument, and a self-addressed stamped return envelope. The survey instrument was divided into four parts and copied onto a two-sided OPSCAN to limit the number of pages respondents had to contend with. The questions were divided into four parts to assist in ease of answering the items on

the OPSCAN. Further, instructions for each section were printed on the OPSCAN for easy reference. Surveys were mailed to faculty members, who were asked to return them. A post card was sent to remind respondents to return the survey instruments after one week. A post card of thanks was sent to those respondents who had already returned their OPSCANs. Copies of correspondence, as well as a copy of the post cards, can be found in Appendix C, Correspondence.

The Accounting Instruction Change Scale items were randomized prior to inclusion in the final packet. Appendix D, Accounting Instruction Change Scale used in Final Study contains a copy of the items in the order they appeared on the final survey form.

Faculty members who did not respond within two weeks were mailed a replacement survey with a self-addressed return envelope. A sampling of ten faculty members who did not respond within two weeks after the second replacement survey was mailed were telephoned and asked to respond to the demographic items. A comparison was made between the respondents and the non-respondents to determine if there were any differences between the two groups. To test for non-response bias, the responses to Part 4, Demographic Items, were compared for respondents and non-respondents. A t-test of significance was performed on the demographic items.

A postage stamp was placed on the return envelopes to generate better response on the survey instrument. Prior studies (Suskie, 1992) indicate a postage stamp, rather than metered postage, generates better return response.

Data Analysis

A correlation of the responses from the two groups was done to answer the first research question: Is faculty acceptance of change as indicated by the score on the Predisposition for Change Scale, the Adoption-Proneness Scale, and selected demographic variables, related to the changes in their instruction that have occurred in teaching of accounting over the past five years? First a correlation of responses from all subjects

between their scores on the Predisposition to Change Scale and the Adoption Proneness Scale and their scores on the total score of the four parts of the Accounting Instruction Change Scale was performed, then a correlation was done for each individual subset of the AICS. Each area under study, (a) communication skills, (b) interpersonal skills, (c) critical thinking-problem solving skills, and (d) preparation for instruction, was correlated with the Predisposition for Change Scale. Each area under study was then correlated with the Adoption-Proneness Scale.

Hinkle, Wiersma, and Jurs full scale of interpretation of correlation is as follows:

.90 to 1.00 (-.90 to -1.00)	Very high positive (negative) correlation
.70 to .90 (-.70 to -.90)	High positive (negative) correlation
.50 to .70 (-.50 to -.70)	Moderate positive (negative) correlation
.30 to .50 (-.30 to -.50)	Low positive (negative) correlation
.00 to .30 (.00 to -.30)	Little if any correlation (p.85).

Multiple regression analysis was conducted on the survey responses from the two groups to answer the second research question: To what extent do selected variables predict changes in accounting instruction as perceived by accounting faculty? The dependent variables were the scores from the Accounting Instruction Change Scale subsets, communication skills, interpersonal skills, critical thinking-problem solving skills, and preparation for instruction, as well as the total score on the Accounting Instruction Change Scale. The independent variables were the scores on the Predisposition to Change Scale, the score on the Adoption-Proneness Scale, institution membership, age, gender, enrollment in educational psychology, and enrollment in instructional methodology. The demographic variables related to publications, item 3, How many items have you had published in refereed journals that relate to accounting in the last five years? item 4, How many items have you had published in non-refereed journals that relate to accounting in the last five years? and item 5, How many books or chapters of books relating to accounting have you authored or co-authored in the last five years? were included as two variables, item 3 was one variable and items 4 and 5 were combined into another variable. The items related to professional

accounting work experience, item 6, How many years of full-time other professional work experience do you have? (i.e., public accounting, consulting, etc.) and item 7, How many years of part-time other professional work experience do you have? (i.e., public accounting, consulting, etc.) were combined. A multiple regression analysis was conducted on the total Accounting Instruction Change Scale. If it is determined that the Predisposition to Change score and the Adoption-Proneness score measure the same thing, with neither contributing more explanation of variation to the regression equation, one of these variables will be dropped from the final regression equation. The .05 level was used to determine significance. Y_1 is the Accounting Communication Score, Y_2 is the Accounting Interpersonal Skills Score, Y_3 is the Accounting Critical Thinking Score, Y_4 is the Accounting Preparation for Instruction Score, and Y_5 is the Total Accounting Instruction Change Score. The regression equations used follow:

$$Y_1 = \beta_1R_1 + \beta_2R_2 + \beta_3R_3 + \beta_4R_4 + \beta_5R_5 + \beta_6R_6 + \beta_7R_7 + \beta_8R_8 + \beta_9R_9 + \beta_{10}R_{10}$$

$$Y_2 = \beta_1R_1 + \beta_2R_2 + \beta_3R_3 + \beta_4R_4 + \beta_5R_5 + \beta_6R_6 + \beta_7R_7 + \beta_8R_8 + \beta_9R_9 + \beta_{10}R_{10}$$

$$Y_3 = \beta_1R_1 + \beta_2R_2 + \beta_3R_3 + \beta_4R_4 + \beta_5R_5 + \beta_6R_6 + \beta_7R_7 + \beta_8R_8 + \beta_9R_9 + \beta_{10}R_{10}$$

$$Y_4 = \beta_1R_1 + \beta_2R_2 + \beta_3R_3 + \beta_4R_4 + \beta_5R_5 + \beta_6R_6 + \beta_7R_7 + \beta_8R_8 + \beta_9R_9 + \beta_{10}R_{10}$$

$$Y_5 = \beta_1R_1 + \beta_2R_2 + \beta_3R_3 + \beta_4R_4 + \beta_5R_5 + \beta_6R_6 + \beta_7R_7 + \beta_8R_8 + \beta_9R_9 + \beta_{10}R_{10}$$

Where R_1 = score on the Predisposition to Change Scale

R_2 = score on the Adoption Proneness Scale

R_3 = Institution Membership (grant or non-grant)

R_4 = Age

R_5 = Gender (male or female)

R_6 = Educational Psychology Courses (yes or no)

R_7 = Instructional Methodology Courses (yes or no)

R_8 = Publications in Refereed Journals

R_9 = Non-refereed Publications

R_{10} = Other Professional Accounting Work Experience

β_1 .....β_{10} = regression coefficients

The variables used in the regression models are listed in Table 5.

Pilot Study Data Analysis

For the pilot study data, correlations between the three scales used ranged from .197 between the Predisposition to Change Scale (PDC Scale) and the Adoption Proneness Scale (ADP Scale) to .558 between the Adoption Proneness Scale and the Accounting Instruction Change Scale (AIC Scale). The correlation between the Predisposition to Change Scale and the Accounting Instruction Change Scale was .326. Using Hinkle, Wiersma, and Jurs (1979) rule of thumb for interpreting the size of a correlation coefficient, the pilot study data indicated that there was a moderate positive relationship between the Adoption-Proneness Scale and the Accounting Instruction Change Scale. There is only a low positive correlation between the Predisposition to Change Scale and the Accounting Instruction Change Scale, and little if any between the Adoption-Proneness Scale and the Predisposition to Change Scale.

Correlations for the four parts of the Accounting Instruction Change Scale indicated that four distinct parts did not exist. Correlations between the four parts, communication, interpersonal skills, critical thinking skills, and instructional method skills, ranged from a high of .739 between interpersonal skills and critical thinking skills to a low of .568 between communication skills and critical thinking skills. According to Hinkle, Wiersma, and Jurs (1979), a correlation of .50 to .70 is a moderate correlation and between .70 to .90 is a high correlation. The correlation between communication skills and interpersonal skills was .705 and correlation between communication skills and instructional methods was .602. Correlation between instructional methods and interpersonal skills was .626 and between instructional methods and critical thinking skills the correlation was .595.

Table 5

Variables Used in Regression Model

Variables			
Dependent Variables			
Regression 1	Accounting Communication Score		Y_1
Regression 2	Accounting Interpersonal Skills Score		Y_2
Regression 3	Accounting Critical Thinking Score		Y_3
Regression 4	Accounting Preparation for		Y_4
Instruction			
Regression 5	Total Accounting Instruction Change Score		Y_5
Independent Variables			
Predisposition to Change Score			R_1
Adoption Proneness Score			R_2
Institution Membership			
Grant School		0	R_3
Non Grant School		1	
Age			R_4
Gender			
Male		0	R_5
Female		1	
Educational Psychology Courses			
No		0	R_6
Yes		1	
Instructional Methodology Courses			
No		0	R_7
Yes		1	
Publications in Refereed Journals			R_8
Non-Refereed Publications			R_9
Other Professional Work Experience			R_{10}

Correlation analysis among the Accounting Instruction Change Scale and demographic variables ranged from a high of .577 between educational psychology and instructional methodology to a low of .008 between educational psychology and the Predisposition to Change Scale. All other demographic variable correlations were below .300 indicating little if any correlation.

To determine the feasibility of the regression analysis, a regression was run on the pilot study data. The regression model which included the total Accounting Instruction Change Scale scores resulted in an R^2 of 46.1%. Regression models for the individual parts had R^2 values ranging from 46.3% for the instructional methods section to 29.2% for the communication skills section. These R^2 values indicated that the variables used explained a substantial part of the variance in the Accounting Instruction Change Scale scores. The variables used in this model included educational psychology, instructional methodology, gender, and age. Publications and other work experience were not included in the regression model used for the pilot study.

Summary

Some of the subjects used in this study were selected in a non-random manner. The faculty from the AECC grant recipient schools were all included in the study, with the exception of the two community colleges. Subjects selected from the non-grant schools were selected at random from Hasselback's *1996 Accounting Faculty Directory*. All subjects were from AACSB accredited schools.

The AICS was developed for this study based on the skills stressed by the AECC as needed by entry level accountants. The skills stressed by the AECC are communication skills, interpersonal skills, and critical-thinking and problem solving skills. The AECC also stressed a need for increased emphasis on teaching in the accounting classroom. The PDCS and the ADP were adopted in this study as an indicator of the receptiveness to change of the accounting faculty members. Some modifications were made to these two scales to make them more appropriate for accounting instruction.

Demographic items of age, gender, and professional work experience were used as predictors to receptability to change as found in prior studies. The items related to publications were included as an indicator of acceptance of the changes called for by the AECC which stressed the need for more instruction-related publications and work. The demographic items related to educational psychology and teaching methodology were included to address the concerns of Nelson (1995) and the AECC.

A pilot test was conducted to establish reliability of the AICS, estimate the time to complete the survey, and to determine if there were any problems that the respondent might encounter. The total survey questionnaire was administered to the pilot test group. A Cronbach's alpha was used to determine reliability of .92 on the Accounting Instruction Change Scale.

Correlations were completed for the two types of schools and the Predisposition to Change Scale and the Adoption-Proneness Scale to answer the first question: Is faculty acceptance of change as indicated by the score on the Predisposition to Change Scale, the Adoption-Proneness Scale and selected demographic variables related to the changes in their instruction that have occurred in teaching of accounting over the past five years? A multiple regression analysis was used to analyze the data on the AICS with the PDCS, ADP, refereed publications, non-refereed publications, professional work experience, instruction in educational psychology, instruction in instructional methodology, professional organizational membership, gender, and age were used as predictors of the AICS to answer the second question: To what extent do selected variables predict changes in accounting instruction as perceived by accounting faculty?

CHAPTER 4

RESULTS

Surveys were mailed to 438 subjects, 249 to grant school and 189 to non-grant school accounting faculty. Of the surveys mailed, eight of them were returned as not deliverable. Grant school accounting faculty members returned 90 of the surveys, 80 were usable. Non-grant school accounting faculty members returned 73 of the surveys of which 66 were usable. Table 6 contains a presentation of the response data.

A Cronbach's alpha was conducted on the final study data to verify findings of the pilot study reliability. Reliability was determined to be .91 on the final study data, confirming pilot study findings that the Accounting Instruction Change Scale is a reliable measure of accounting instruction change.

Descriptive Statistics for Demographics

Visual inspection of the demographic variables, provided in Table 7, indicated that accounting faculty from both types of institutions are very similar. The major differences were in the number of contact hours of educational psychology and instructional methodology. Accounting faculty from non-grant schools reported an average of more than twice as many contact hours of instructional methodology and a third more hours of educational psychology than grant school respondents. Other differences were noted in the means of publication categories. The mean number of books or chapters authored or co-authored and articles published in non-refereed journals were higher for the non-grant accounting faculty. Accounting faculty from grant schools reported a slightly higher mean number of publications in refereed journals. Non-grant school faculty had higher means in full-time work experience than did the grant school faculty, however, grant school faculty had higher means in part-time

Table 6

Summary for Survey Responses

	Grant Schools	Percent	Non-Grant Schools	Percent
Total Surveys Distributed	249		189	
Undeliverable	6		2	
Total Available Respondents	243	100.0	187	100.0
Returned Non Useable	10	4.1	7	3.7
Not Returned	153	63.0	114	61.0
Returned Useable	80	32.9	66	35.3

Table 7

Demographic Variables for Respondents from Grant Schools and Non-Grant Schools

Variable	Grant Schools			Non-Grant Schools		
	Number	Mean	Standard Deviation	Number	Mean	Standard Deviation
Length of time teaching	80	18.40	9.22	66	17.75	7.14
Length of time teaching at this institution	79	13.61	9.40	66	12.51	7.03
Number of items published in refereed journals	78	4.81	5.64	66	4.11	4.86
Number of items published in non-refereed journals	77	2.29	3.58	66	2.15	3.89
Number of books or chapters authored or co-authored	80	1.40	2.16	66	1.27	3.69
Years of full-time accounting related work experience	80	5.38	7.09	66	6.04	6.87
Years of part-time accounting related work experience	78	5.26	8.77	63	4.18	6.37
Contact hours of educational psychology	69	7.45	15.94	59	24.30	130.10
Contact hours of instructional methodology	72	18.08	20.58	60	27.70	128.80
Membership in professional organizations[a]	80			66		
American Institute of Certified Public Accountants	52			34		
American Accounting Association	73			54		
International Management Association	19			19		
Others	31			23		
Gender						
Male	65			47		
Female	14			19		
Missing value	1					
Age	77	48.38	10.02	65	49.60	7.56

[a]Some respondents indicated membership in more than one professional organization.

work experience. Grant school faculty reported a slightly lower average age than did non-grant school faculty. The grant school faculty members' ages ranged from 28 to 75, with one faculty member reported being "too old." Non-grant school faculty members' ages ranged from 32 to 67.

Means for the demographic variables of refereed publications, non-refereed publications, work experience, contact hours of educational psychology and instructional methodology, and age were substituted for respondents with missing values. A total of 17 respondents from grant schools had missing values in several variables. A total of 12 respondents from non-grant schools had missing values in several variables. Where an indication of gender was missing, referral was made to Hasselback's 1996 Accounting Faculty Directory. In one case, gender could not be determined by the name, and was assigned to the "male" classification because there were more male respondents than female. There are also more male accounting faculty members than female listed in *Hasselback's* for the institutions used in this study. Where an indication as "yes" or "no" was missing for instruction in Educational Psychology and Instructional Methodology, as well as no contact hours indicated, cases were alternately divided into the yes or no classification. Half of the respondents were classified into the "yes" category and half into the "no" category. Average hours were then assigned to the half placed into the "yes" category. One respondent from the grant school respondents did not indicate a "yes" or "no" for Educational Psychology, this respondent was assigned to the "yes" category.

Eleven grant school respondents indicated "yes" they had instruction in educational psychology, but did not indicate how many contact hours. These respondents were assigned the mean hours of 7.45 determined by the number of faculty that indicated the number of contact hours taken from grant institutions. Seven of the non-grant school respondents did not indicate how many contact hours of instruction in educational psychology they had taken that had indicated a "yes" for instruction. A mean of 24.3 was used for these respondents based on the number of hours actually indicated by accounting faculty from non-grant institutions.

Two of the grant school respondents did not indicate “yes” or “no” for Instructional Methodology. One of these was assigned to the “yes” classification and one was assigned to the “no” classification. The respondent assigned to the “yes” classification was assigned value of 18.08, the one assigned to the “no” classification was assigned 0. Seven other respondents from the grant school data did not include the number of contact hours taken in instructional methodology. These were allotted the mean of the faculty indicating the number of hours taken of 18.08. None of the non-grant schools omitted a response indicating they had taken instruction in Instructional Methodology, however, six of them did not indicate the number of contact hours they had taken. These respondents were assigned the non-grant mean of 27.7.

Full-time and part-time work experience were combined into one classification. Three of the grant school respondents and one of the non-grant school respondents declined to report their ages. The mean age for the grant school sample was 48.38 and was assigned to the three grant-school respondents. The mean age of 49.6 was assigned to the non-grant school respondent declining to report age. All four respondents declining to report their ages were male.

Comparing Respondents with Non-Respondents

A random sample of non-respondents were telephoned and asked to respond to the demographic items of the survey. Five faculty members from each type of institution were surveyed by telephone. A total of 60 faculty members were telephoned to obtain a sample size of five non-respondents from each type of institution. In the process of obtaining the sample of non-respondents, 27 messages were left, with 6 faculty members returning the call. Of the 6 who returned calls, 3 were not usable either because they did not teach accounting courses or they had not been teaching for five years or more. Two of the accounting faculty members contacted declined to participate in the sample.

Table 8 summarizes the demographic data of the non-respondents and a corresponding sample of the respondents. T-tests were used to determine differences between the groups, if any. There were significant differences between respondents and non-respondents in the number of refereed publications, with respondents submitting more papers to refereed journals than non-respondents. The t-test value of 2.33 for refereed publications was significant at the .05 level. There were significant differences between respondents and non-respondents for both full-time and part-time work experience for the grant schools. Respondents had more full-time work experience than did non-respondents. The t-test value of 3.52 for full-time accounting related work experience was significant at the .05 level. The t-test value of 3.66 for part-time accounting related work experience was also significant at the .05 level. Non-respondents had more part-time work experience than did respondents. The most significant difference was in the hours of instructional methodology taken by the non-respondents. Non-respondents have taken more contact hours of instructional methodology than have respondents as indicated by a t-value of 15.29. The table value of significance at the .05 level was 2.306 with 8 degrees of freedom.

For the non-grant schools, there were significant differences in the number of books or chapters of books authored or co-authored, part-time accounting related work experience, hours of instruction in educational psychology, and hours of instruction in teaching methodology. Non-grant school respondents authored or co-authored more books or chapters of books than did the non-respondents. For this sample of non-respondents, there were no books or chapters authored or co-authored. The t-value for number of books or chapters authored or co-authored was $t = 4.67$. Part-time work experience was $t = 3.01$, with non-respondents reporting significantly more part-time work experience than respondents.

Table 8

Demographics of Randomly Selected Respondents and Non-Respondents

	Grant Schools				Non-Grant Schools			
	Respondents (n=5)		Non-Respondents (n=5)		Respondents (n=5)		Non-Respondents (n=5)	
Variable	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Length of time teaching	18.80	8.84	21.40	9.48	21.40	9.21	21.00	6.08
Length of time at this institution	14.60	10.29	10.50	8.99	16.30	11.39	15.40	5.22
Refereed Publications	6.00[a]	10.39	2.40[a]	1.52	1.80	1.30	1.80	2.68
Non-Refereed Publications	0.80	1.30	0.60	0.89	1.20	1.79	0.60	1.34
Books or chapters authored or co-authored	0.80	1.30	1.40	1.95	7.00[b]	11.25	0.00[b]	0.00
Full time accounting related work	5.20[a]	3.83	1.70[a]	1.10	1.20	1.64	1.80	2.05
Part time accounting related work	0.80[a]	1.30	7.00[a]	13.04	0.25[b]	0.50	3.60[b]	5.68
Hours of educational psychology	5.50	6.40	8.20	7.82	0.20[b]	0.45	10.40[b]	17.34
Hours of instructional methodology	12.50[a]	11.36	68.00[a]	83.20	1.00[b]	1.73	14.75[b]	10.50
Age	50.40	13.03	46.40	11.22	46.80	8.17	50.40	4.16

[a] Outcomes of t-tests indicated these means are significantly different at the .05 level, table value of t = 2.306, with 8 df.
[b] Outcomes of t-tests indicated these means are significantly different at the .05 level, table value of t = 2.306, with 8 df.

Non-respondents reported significantly more contact hours of educational psychology and instructional methodology. Hours of instruction in educational psychology was significant at the .05 level with a t = 5.41 and hours of instruction in teaching methodology was t = 8.79. The table value of significance at the .05 level was 2.306 with 8 degrees of freedom.

Comparing Early Respondents with Late Respondents

Early respondents were selected from those responding within the first few days after the first mailing, April 17 through April 21. A sample of 7 was obtained from the grant school respondents and a sample of 4 was obtained from the non-grant school respondents. Late respondents were taken in total from those received after May 25, 1997. Of the responses received after May 25, 1997, four were from non-grant schools and seven were from grant schools.

Table 9 summarizes the demographic data of a sample of early respondents and late respondents. A t-test was performed to determine differences between the early and late respondents, if any. Differences were found to be significant at the .05 level for grant school early and late respondents in part-time work experience, hours of instruction in educational psychology, and hours of instruction in teaching methodology. Late respondents reported more part-time work experience and more contact hours of both educational psychology and instructional methodology. The t-value for part-time work experience was 2.23. For hours of instruction in educational psychology, the t-value was 3.05. For hours of instruction in teaching methodology, the t-value was 13.32. The table value for t at the .05 significance level was 2.179, with 12 degrees of freedom.

Differences were found to be significant at the .05 level for non-grant schools early and late respondents in length of time teaching accounting as well as length of time at the

Table 9

Demographics of Randomly Selected Early Respondents and Late Respondents

Variable	Grant Schools				Non-Grant Schools			
	Early Respondents (n=7)		Late Respondents (n-7)		Early Respondents (n=4)		Late Respondents (n=4)	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Length of time teaching	18.86	7.63	20.57	12.12	24.00[b]	2.94	17.25[b]	7.27
Length of time at this institution	13.71	10.06	15.57	11.07	21.75[b]	5.38	11.00[b]	8.25
Refereed Publications	8.71	10.24	6.57	8.00	1.75	2.87	3.50	5.69
Non-Refereed Publications	3.14	2.67	5.57	9.34	4.00	7.35	1.00	1.41
Books or chapters authored or co-authored	3.00	4.47	2.14	2.97	0.00	0.00	0.50	1.00
Full time accounting related work	3.29	6.55	3.71	3.82	3.25	2.36	3.13	1.44
Part time accounting related work	3.00[a]	5.42	6.14[a]	8.41	11.25	13.15	6.00	10.39
Hours of educational psychology	7.00[a]	16.19	13.60[a]	16.65	6.00[b]	12.00	16.70[b]	20.80
Hours of instructional methodology	6.00[a]	8.00	41.50[a]	41.70	7.00	9.45	9.50	8.23
Age	49.14	4.34	49.57	9.25	51.75[b]	5.85	47.25[b]	4.65

[a]Outcomes of t-tests indicated these means are significantly different at the .05 level, table value of t = 2.179, with 12df.
[b]Outcomes of t-tests indicated these means are significantly different at the .05 level, table value of t = 2.447, with 6 df.

current institution. Early respondents reported longer times for both teaching accounting and length of time at the current institution. The t-value for years teaching accounting was t = 4.22 and the t-value for number of years at the current institution was t = 5.82. Significant differences were also found in hours of instruction in educational psychology and age. Late respondents reported more contact hours of instruction in educational psychology than did early respondents. For hours of instruction in educational psychology the t-value was t = 3.74. The t-value for difference in age between early and late respondents was t = 2.78. Early respondents were slightly older than were the late respondents. The table value for significance at the .05 level was 2.447 for non-grant data, with 6 degrees of freedom.

Descriptive Statistics for Instruments

A summary of the respondents' scores according to type of institution are presented in Table 10. The mean scores for the Predisposition to Change Scale for the two types of institutions were similar. The mean scores for the Accounting Instruction Change Scale and the Adoption Proneness Scale were higher for the grant schools. The ranges for grant school respondents was larger in all cases except the Adoption Proneness Scale. Mean scores were higher for the grant school respondents in all cases. Standard deviations were higher for the total Accounting Instruction Change Scale and two of the parts of the AIC Scale for the grant school group. Non-grant schools had higher standard deviations for the other two scales, the Predisposition to Change Scale and the Adoption Proneness Scale.

Individual item means for grant school respondents ranged from a high of 5.137 for item 1, "I encourage more development of interpersonal skills," to a low of 2.487 for item 18, "I arrange for more class field trips to observe business procedures in action." Non-grant school respondents' means ranged from a high of 4.667 for item 10, "I encourage students to

Table 10

Summary Table of Scores for Grant School and Non-Grant School Respondents

	Grant School Respondents (n=80)				Non-Grant School Respondents (n=66)			
	Minimum	Maximum	Mean	Standard Deviation	Minimum	Maximum	Mean	Standard Deviation
Accounting Instruction Change Scale	43	139	99.94[a]	20.45	30	136	90.77[a]	19.91
Communication Skills	8	35	24.01	5.25	11	34	22.30	5.77
Interpersonal Skills	11	36	26.71	5.83	7	35	24.35	5.99
Critical Thinking Skills	6	36	22.50	5.69	6	34	20.46	5.43
Instructional Methods	6	36	26.71	6.38	6	36	23.67	5.95
Predisposition to Change Scale	12	57	42.88[b]	6.82	19	57	42.15[b]	7.13
Adoption Proneness Scale	47	101	79.20[c]	11.45	41	102	72.83[c]	12.00

[a]The maximum potential score for the AICS was 144.
[b]The maximum potential score for the PDCS was 60.
[c]The maximum potential score for the ADPS was 102.

develop more learning to learn skills for life long use," to a low of 1.906 for item 18. Means for each item, in final study order, of the Accounting Instruction Change Scale are presented in Table 11 for grant school and non-grant school respondents.

One grant school respondent did not answer any of the items for the Adoption Proneness Scale. To keep from losing the data provided by the rest of the survey, a value of 4.77 was assigned to this respondent, which represents the mean of actual responses for that part of the survey. Two grant school respondents did not indicate how many publications had been published in refereed journals. The mean of 4.81 for refereed publications was assigned to these respondents. Three grant school respondents did not indicate the number of publications in non-refereed journals. The number of books or chapters authored or co-authored was also included in this classification for analysis purposes. The mean of 2.299 was allocated to these respondents.

Correlations among Study Variables

Research Question 1: Is faculty acceptance of change as indicated by the score on the Predisposition to Change Scale, the Adoption-Proneness Scale, and selected demographic variables related to the changes in their instruction that have occurred in teaching of accounting over the past five years? A correlational analysis of the four parts of the Accounting Instruction Change Scale on the study data indicated the four parts of the AIC Scale were highly correlated, confirming the findings in the pilot study. Correlations ranged from a high of .815 between the interpersonal skills section and the instructional emphasis section for grant school data to a low of .582 between the communication section and the interpersonal skills section. For non-grant school data, correlations ranged from a high of .713 between interpersonal skills section and critical thinking skills section to a low of .573 between communications skills section and instructional emphasis section, as shown in Table 12. These correlations were considered moderate to high according to Hinkle, Wiersma, and Jurs (1979).

Table 11
Individual Accounting Instruction Change Scale Item Scores for Grant School and Non-Grant School Respondents

	Grant School Respondents			Non-Grant School Respondents		
Compared to five years ago . . .	Number	Mean	Standard Deviation	Number	Mean	Standard Deviation
1. I encourage more development of interpersonal skills.	80	5.137	1.076	65	4.477	1.592
2. I require my students to communicate with me through E-mail.	80	3.737	1.763	66	3.045	2.026
3. I am more involved in professional organizations.	80	3.400	1.548	65	3.600	1.539
4. I give more assignments requiring students to make ethical value judgments.	80	3.737	1.348	64	3.750	1.512
5. I encourage more student involvement professional organizations.	80	3.388	1.480	65	3.492	1.592
6. I use more unstructured or open ended assignments.	80	4.613	1.326	66	4.227	1.322
7. I spend more time on teaching-related publications.	79	3.722	1.502	66	3.470	1.600
8. I assign more oral presentations.	80	4.100	1.612	65	3.769	1.647
9. I spend more time preparing classroom presentations and assignments.	80	4.775	1.350	66	4.136	1.508
10. I encourage students to develop more learning to learn skills for life-long use.	80	4.988	1.258	66	4.667	1.257
11. I make more computer assignments.	80	4.475	1.414	66	4.106	1.755
12. I require students to exercise more judgment based on their comprehension of the subjects presented to make decisions.	80	4.700	1.195	65	4.323	1.200
13. I include more discussion of ethics in my courses.	80	3.937	1.344	66	3.606	1.334
14. I encourage more development of listening skills.	79	3.671	1.403	66	3.439	1.279

(table continues)

Table 11

Individual Accounting Instruction Change Scale Item Scores for Grant School and Non-Grant School Respondents (continued)

	Grant School Respondents			Non-Grant School Respondents		
Compared to five years ago . . .	Number	Mean	Standard Deviation	Number	Mean	Standard Deviation
15. I require students to look up more information in outside sources.	80	4.675	1.339	66	4.364	1.377
16. I encourage more development of leadership skills	79	4.177	1.328	66	3.864	1.346
17. I spend more time on teaching-related research.	79	3.696	1.539	66	3.333	1.611
18. I arrange for more class field trips to observe business procedures in action.	80	2.487	1.543	64	1.906	1.191
19. I assign more group oral presentations.	80	4.037	1.695	65	3.523	1.733
20. I assign more written work (i.e., case studies, term papers, research questions).	80	4.637	1.425	66	4.045	1.318
21. I require more outside reading, other than the textbook.	80	4.375	1.335	66	4.030	1.312
22. I confer with practicing accountants more often about the abilities needed for entry level accountants.	80	3.763	1.553	65	3.538	1.490
23. I focus on more critical thinking-problem solving skills.	80	4.887	1.191	66	4.394	1.288
24. I assign more group work (students work together to produce one report or each student has a separate piece of information that must be shared and each student prepares individual reports).	80	5.012	1.297	66	4.242	1.589

Table 12

Correlation Matrix—Four Sections of the Accounting Education Change Scale

	Communications Section	Interpersonal Skills Section	Critical Thinking Skills Section
Grant School Respondents (n=80):			
Interpersonal Skills Section	0.582		
Critical Thinking Skills Section	0.657	0.734	
Instructional Methods Section	0.679	0.815	0.741
Non Grant School Respondents (n=66):			
Interpersonal Skills Section	0.629		
Critical Thinking Skills Section	0.698	0.713	
Instructional Methods Section	0.573	0.673	0.707

Correlations between the Instructional Methods and Interpersonal Skills, Critical Thinking Skills and Interpersonal Skills, and Instructional Methods and Critical Thinking Skills were in the high positive range for grant school data. Correlations in the high positive range for non-grant data were between Critical Thinking Skills and Interpersonal Skills and Instructional Methods and Critical Thinking Skills. The remaining correlations were in the moderate positive range for both grant school data and non-grant school data. Hinkle, Wiersma, and Jurs full scale of interpretation follows:

.90 to 1.00 (-.90 to -1.00)	Very high positive (negative) correlation
.70 to .90 (-.70 to -.90)	High positive (negative) correlation
.50 to .70 (-.50 to -.70)	Moderate positive (negative) correlation
.30 to .50 (-.30 to -.50)	Low positive (negative) correlation
.00 to .30 (.00 to -.30)	Little if any correlation (p.85).

As shown in Table 13, when correlations were determined using all of the demographic variables except the number of contact hours in educational psychology and instructional methodology, none of the correlations were high. Seven of the correlations were in the low positive range. The correlation between the Predisposition to Change Scale and the Accounting Instruction Change Scale was .491. The correlation between the Adoption Proneness Scale and the Accounting Instruction Change Scale was .497. The correlation between the Adoption Proneness Scale and the Predisposition to Change Scale was .361. Other correlations noted were between refereed publications and the combined non-refereed publication category of .302 and the correlation between instruction in educational psychology and instructional methodology of .447. Age and accounting related work experience outside the educational setting correlated at .388 and institution membership and the Adoption-Proneness Scale correlated at .311. The other correlations were in the “little if any” classification.

Variables That Predict Changes in Accounting Instruction

Research Question 2 was: To what extent do selected variables predict changes in accounting instruction as perceived by accounting faculty? To answer this question, a multiple

Table 13

Correlation Matrix for the Accounting Instruction Change Scale, Predisposition to Change, Adoption-Proneness, and Demographic Variables

	Mean Accounting Instruction Change	Mean Predisposition to Change	Mean Adoption Proneness	Refereed Publications	Nonrefereed Publications	Work Experience	Educational Psychology	Instructional Methodology	Membership in Professional Organizations	Gender	Age
Mean Predisposition to Change	0.491[a]										
Mean Adoption Proneness	0.497[a]	0.361[a]									
Refereed Publications	0.075	-0.106	0.153								
Nonrefereed Publications	0.181	-0.109	0.207	0.302[a]							
Work Experience	-0.033	0.019	0.066	-0.027	0.060						
Educational Psychology	0.128	0.038	0.170	-0.003	0.096	-0.146					
Instructional Methodology	0.247	0.186	0.245	0.090	-0.025	-0.211	0.447[a]				
Membership in Professional Organizations	0.141	0.046	0.134	0.094	0.217	0.031	-0.044	-0.097			
Gender	-0.071	0.062	-0.102	-0.195	-0.237	-0.152	0.184	0.177	-0.092		
Age	0.021	-0.113	0.076	-0.113	0.207	0.388[a]	-0.001	-0.060	-0.023	-0.257	
Institutional Membership	0.212	0.054	0.311[a]	0.067	0.018	0.023	-0.085	0.121	0.141	-0.151	-0.069

[a] Correlations in the low positive range using Hinkle, et al. (1979) rule of thumb.

regression analysis with the dependent variable of Accounting Instruction Change Scale score revealed an R^2 of .408, indicating that 40.8% of the variance could be explained by the variables in the model. The variables included in the regression model were: Predisposition to Change Scale score, Adoption Proneness Scale score, number of publications in refereed journals, number of publications in non-refereed journals including chapters authored or co-authored, work experience, instruction in educational psychology, instruction in instructional methodology, membership in professional organizations, gender, age, and institutional membership. Regression analyses were not performed for the individual parts of the AICS because of the high correlations between the parts.

Variables that contributed significantly to the variance explained at the 0.05 level were the Predisposition to Change Scale score and the Adoption Proneness Scale score. Institution membership, grant or non-grant school, did not contribute significantly to the prediction of the AICS score. No other variables contributed significantly to the variance explained. An F-ratio of 8.40 was significant at the 0.05 level. Table 14 contains outcomes of the regression analysis.

To determine the extent of prediction of the AICS score contributed by the Predisposition to Change Scale and the Adoption-Proneness Scale considered separately, a best subsets regression was performed. Using the best subsets regression analysis, the Predisposition to Change Scale had a separate R^2 of 24.1. The Adoption-Proneness Scale had a separate R^2 of 24.7. Together they had an R^2 of 35.9.

Summary

A Cronbach's alpha conducted on the final study data confirmed the findings of the pilot study data that the Accounting Instruction Change Scale is a reliable measure of changes in accounting instruction. The Cronbach's alpha on the final study data was .91.

A visual inspection of the demographic variables indicated that the accounting faculty from the grant schools and the non-grant schools were similar in most respects. Main differences

Table 14

Multiple Regression Analysis of the Dependent Variable Accounting Instruction Change Scale

Analysis of Variance

Source	Degrees of Freedom	Sum of Squares	Mean Square
Regression	11	43.597	3.963
Error	134	63.231	0.472

R Square	40.8%
Adjusted R Square	36.0%
F Ratio	8.40
Significance Level	0.05

Variables in the Equation

Predictor	Coefficient	Standard Deviation	t-ratio	p value
Constant	-0.358	0.624	-0.57	0.567
Predisposition to change	0.511	0.097	5.28[a]	0.000
Adoption proneness	0.342	0.108	3.18[a]	0.002
Refereed Publications	0.002	0.012	0.18	0.857
Nonrefereed Publications	0.024	0.013	1.83	0.069
Work Experience	-0.006	0.006	-0.96	0.337
Educational Psychology	0.035	0.133	0.26	0.792
Instructional methodology	0.175	0.155	1.13	0.260
Professional Organizations	0.055	0.070	0.78	0.439
Gender	-0.068	0.154	-0.44	0.658
Age	0.005	0.008	0.66	0.513
Institution Membership	0.154	0.126	1.22	0.224

[a] Significant predictors of the AICS score.

noted were in the number of hours of instruction in educational psychology and instructional methodology. Accounting faculty from non-grant schools reported an average of more than twice as many contact hours in instructional methodology than did the accounting faculty from grant schools. Non-grant school faculty also reported more contact hours in educational psychology instruction than did grant-school faculty.

Significant differences were found to exist between the grant school respondents and non-respondents in full-time work experience, part-time work experience, and hours of instruction in teaching methodology. Significant differences were found to exist between the non-grant school respondents and non-respondents in the number of books or chapters of books authored or co-authored, part-time work experience, hours of instruction in educational psychology, and hours of instruction in teaching methodology.

Significant differences were found between the grant school early respondents and late respondents as well. Differences noted were in hours of instruction in educational psychology, and teaching methodology. Non-grant school late respondents also reported more contact hours of educational psychology. Significant differences between the non-grant school early respondents and late respondents were also noted in the number of years teaching accounting, the number of years at the current institution, and age.

Correlation analysis of the four parts of the Accounting Instruction Change Scale revealed a moderate to high correlation between the parts of the scale. These correlations indicate that the AIC Scale is more unidimensional than multidimensional. When all of the independent variables were included in the correlation analysis of the final study data, there was no indication of any highly correlated variables.

Regression analysis revealed that the Predisposition to Change Scale scores and Adoption Proneness Scale scores were significant explanatory variables with respect to predicting the score of the Accounting Instruction Change Scale. Institution membership, grant or non-grant school, did not contribute significantly to the prediction of the AICS score. No other independent

variables were significant predictors. The regression model that included all of the independent variables predicted 40.8% of the total variance in the Accounting Instruction Change Scale score.

CHAPTER 5

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

The Accounting Education Change Commission (AECC) and the accounting profession called for changes in accounting education. To encourage changes in the curriculum, the largest accounting firms pledged grant money, to be administered by the AECC, to colleges and universities interested in making changes to the curriculum and making application to the AECC outlining the changes that were planned. In 1989 and 1990, the AECC awarded twelve grants to a total of thirteen institutions of higher learning. Two of the grants were awarded to community colleges, one grant was awarded to a two school co-operative program, and the other grants were awarded to four-year colleges and universities. The purpose of the grants was to support implementation of changes in accounting instruction to include more communication skills, more interpersonal skills, more critical thinking and problem solving skills, and to emphasize the importance of instruction.

The accounting profession indicated a need for changes in accounting education through the appointment of the Bedford Committee to study the structure, content, and scope of accounting education (AAA Future Committee, 1986). The purpose of the Bedford Committee was to determine how to attract the best students to the accounting profession, provide students with a quality education, and provide the accounting profession with well-educated entry level accountants. The Bedford Committee determined that accounting instruction should not address the technical skills required by the accounting profession alone, but should also address the ethical skills of the accounting professional. The White Paper, prepared by the Big Eight Accounting Firms (now Big Six), also stressed a need for changes in the education of entry level accountants (Arthur Anderson & Co., et al., 1989).

The AECC addressed some of the concerns of the accounting profession through the preparation of two position statements and five issue statements related to accounting education.

The AECC determined that the overall accounting education program ". . . should prepare students to **become** professional accountants, not to **be** professional accountants at the time of entry to the profession" (AECC, 1990a, p.1) The AECC stated the major objective of accounting instruction is to instill life-long learning skills.

Accounting instruction has traditionally been a curriculum of lecture and well-defined, one-solution problem solving. This traditional method of teaching accounting is restrictive and not conducive to learning, critical thinking, or problem solving. Another change advocated by some accounting professionals and educators is a more liberal arts education for prospective accountants (Nelson, 1995). Some of the factors that inhibit change in accounting curriculum are the cost of changing the program, textbook dependency, lack of faculty reward systems to motivate change, the influence of the CPA exam, accreditation, regulatory bodies, and the complex business environment (Nelson, 1995).

Summary

This study involved surveying faculty at grant schools and comparable non-grant schools to examine changes in instruction, if any, due to the recommendations of the AECC. Changes in instruction recommended by the AECC included: increased communication skills, through more written and oral assignments; increased interpersonal skills, through more group work or team projects; increased critical thinking and problem solving skills, through unstructured, open-ended questions; and increased preparation for instruction, through preparation of class presentations and assignments and instructional publications.

To determine whether a predisposition to change score and an adoption-proneness score predicted changes made in accounting teaching methods over the last five years, the Accounting Instruction Change Scale was developed. Through the study, possible changes that occurred in the teaching approaches in the accounting programs of the grant schools and the non-grant schools were examined.

The purpose of this study was to examine the self-reported perception of accounting faculty's incorporation of the teaching methods recommended by the AECC in grant schools and randomly selected non-grant schools. Demographic variables also considered in this study were the number of publications in refereed journals, non-refereed publications, work experience, instruction in educational psychology, instruction in teaching methodology, membership in professional organizations, gender, and age. Limitations noted included the lack of generalizability to other institutions and not including the two community college grant schools in this study.

The two research questions were:

1. Is faculty acceptance of change as indicated by the score on the Predisposition to Change Scale, the Adoption-Proneness Scale, and selected demographic variables related to the changes in their instruction that have occurred in teaching of accounting over the past five years?
2. To what extent do selected variables predict changes in accounting instruction as perceived by accounting faculty?

Methods

The accounting faculty from the AECC grant recipient schools were all included in the study, with the exception of the two community colleges. Thus, these subjects were not randomly selected. Non-grant schools were selected at random from Hasselback's *1996 Accounting Faculty Directory*. All accounting faculty from the selected schools were included. All subjects were from American Assembly of Collegiate Schools of Business (AACSB) accredited schools.

The Accounting Instruction Change Scale was developed for this study based on the skills stressed by the AECC as needed by entry level accountants. The skills stressed by the AECC are communication skills, interpersonal skills, and critical-thinking and problem solving skills. The AECC also stressed a need for increased emphasis on teaching in the accounting classroom. The Predisposition to Change Scale and the Adoption-Proneness Scale were adopted in this study as

an indicator of the receptiveness to change of the accounting faculty members. Minor modifications were made to these two instruments so they would be relevant to accounting instruction.

Demographic items of age, gender, and professional work experience were used as predictors to receptability to change as found in prior studies. Items related to publications were included as an indicator of acceptance of the changes called for by the AECC which stressed the need for more instruction-related publications and work. The demographic items related to educational psychology and teaching methodology were included to address the concerns of Nelson (1995) and the AECC.

A pilot test was conducted to establish reliability of the Accounting Instruction Change Scale, estimate the time to complete the survey, and to determine if there were any problems that the respondent might encounter. The total survey questionnaire was administered to the pilot test study group. Cronbach's alpha revealed a reliability of .92 for the Accounting Instruction Change Scale. Using the final study data, Cronbach's alpha revealed a reliability of .91, confirming the reliability of the AICS for measuring changes in accounting instruction.

To answer the first question, correlations were computed for faculty responses from the two types of schools and the Predisposition to Change Scale and the Adoption-Proneness Scale. A multiple regression analysis was used to determine what variables (Predisposition to Change Scale, Adoption-Proneness Scale, refereed publications, non-refereed publications, professional work experience, instruction in educational psychology, instruction in instructional methodology, professional organizational membership, gender, and age) best predicted Accounting Instruction Change Scale scores.

Results

A visual inspection of the demographic variables indicated that the accounting faculty from the grant schools and the non-grant schools were similar. The main differences noted were in the number of hours of instruction in educational psychology and instructional methodology.

Accounting faculty from non-grant schools reported an average of more than twice as many contact hours in instructional methodology than did the accounting faculty from grant schools. Non-grant school faculty also reported more contact hours in instruction in educational psychology than did grant-school faculty.

A random sample of non-respondents were telephoned and asked to respond to the demographic items of the survey. A sample of responses from five faculty members from each type of institution was obtained. Significant differences were found to exist between the grant school respondents and non-respondents. Respondents had more full-time work experience, less part-time work experience, and fewer hours of instruction in teaching methodology. Significant differences were also found to exist between the non-grant school respondents and non-respondents. Respondents had authored or co-authored more books, had less part-time work experience, fewer hours of instruction in educational psychology, and fewer hours of instruction in teaching methodology.

Early respondents were selected from those responding within the first few days after the first mailing, April 17 through April 21, 1997. A sample of 7 was obtained from the grant school respondents and a sample of 4 was obtained from the non-grant school respondents to correspond with the total late respondents. Late respondents were taken in total from those received after May 25, 1997. Significant differences were found between the grant school early respondents and late respondents as well. Differences noted were in hours of instruction in educational psychology, and teaching methodology. Late respondents reported more contact hours of both educational psychology and teaching methodology. Significant differences between the non-grant school early respondents and late respondents were noted in the number of years teaching accounting, the number of years at the current institution, hours of instruction in educational psychology, and age. Early respondents reported longer times for both teaching accounting and length of time at the current institution.

Correlation analysis of the four parts of the Accounting Instruction Change Scale revealed a moderate to high correlation between the parts of the scale. These moderate to high

correlations indicated that the Accounting Instruction Change Scale did not have four distinct parts. Correlations ranged from a high of .815 between the interpersonal skills section and the instructional emphasis section for grant school data to a low of .573 between the communication section and the instructional emphasis section for non-grant school data. The non-grant school correlations ranged in a narrow band from a high of .713 to a low of .573. These correlations indicate a moderate to high correlation according to Hinkle, Wiersma, and Jurs (1979). Including the other independent variables in a correlation analysis did not indicate any high correlations among the variables. Seven of the correlations were in the low positive range. The correlation between the Predisposition to Change Scale and the Accounting Instruction Change Scale was .491. The correlation between the Adoption Proneness Scale and the Accounting Instruction Change Scale was .497. Correlations between the Adoption Proneness Scale and the Predisposition to Change Scale was .361. Other correlations noted were between educational psychology and instructional methodology of .447, between age and accounting related work experience outside the educational setting of .388, between institution membership and the Adoption Proneness Scale, and between refereed publications and the combined non-refereed publication category of .302. The other correlations were in the "little if any" classification.

A multiple regression analysis with the dependent variable of Accounting Instruction Change Scale score, reveals an R^2 of .408, indicating that 40.8% of the variance can be explained by the variables in the model. The variables used in this regression model included Predisposition to Change Scale score, Adoption-Proneness Scale score, number of publications in refereed journals, number of publicans in non-refereed journals or chapters authored or co-authored, work experience, instruction in educational psychology, instruction in instructional methodology, membership in professional organizations, gender, age, and institutional membership. Regression analysis shows the Predisposition to Change Scale scores and Adoption Proneness Scale scores to be significant explanatory variables at the .05 level with respect to predicting the score of the Accounting Instruction Change Scale score. Institutional membership was not a significant explanatory variable with respect to predicting the AICS score. All other variables did not contribute significantly. The F-ratio for the regression analysis of 8.40 was significant at the .05 level.

To determine how much prediction is contributed by the Predisposition to Change Scale and the Adoption-Proneness Scale when they were considered separately, a best subsets regression was performed. Using the best subsets regression analysis, the Adoption-Proneness Scale has a separate R^2 of 24.7. The Predisposition to Change Scale has a separate R^2 of 24.1. Together they have an R^2 of 35.9.

Discussion

Many factors contribute to attitude formation. An individual's attitudes determine how that individual will react to proposed change. Some of the factors that contribute to acceptance or resistance to change are age, gender, social standing, job satisfaction, and education. Several of the demographic questions in this study addressed these factors.

The Predisposition to Change Scale and the Adoption-Proneness Scale were used to provide a link between the accounting faculty surveyed and the individual characteristics described in Roger's Diffusion of Innovation theory. The Diffusion of Innovation theory supports the classification of individuals into five categories: (a) innovators, (b) early adopters, (c) early majority, (d) late majority, and (e) laggards. The Predisposition to Change Scale assesses an individual's readiness to accept changes. The Adoption-Proneness Scale assesses an individual's receptiveness to adoption of new ideas. The AECC operated in the role of a change agent by disseminating information to academia through the grants, publications, and by making presentations at various institutions of higher learning.

A need for changes in the accounting education curriculum has been acknowledged for many years. Defining what changes should be made, has been the problem. The AECC proposed several skills that should be incorporated into the accounting curriculum. Criteria for awarding of grants was established by the AECC, who selected the grant recipients based on these criteria.

Perceptions of accounting faculty are diverse. Many faculty members felt a strong need for change in the accounting curriculum, especially in terms of research and publication. Other faculty members are satisfied with the status quo and see no need for any change to be implemented, or at the most, only minor changes (May, et al., 1995). Some of the changes in curriculum that have already been implemented include a modification of the introductory accounting course from a preparer perspective to a user perspective; increased computer use; more oral presentations; and more team projects (Wilson & Baldwin, 1995). The broad range of answers to the AICS provided by respondents indicated agreement with the May, et al. (1995) study. Individual item means may provide some insight as to which changes in instruction methods have been made and which changes still need more emphasis. Individual item means were not analyzed for this study.

An increase in communication skills, interpersonal skills, and problem-solving and critical thinking skills are still needed. Professional ethics is another issue that needs to be taught in the accounting curriculum (AAA Future Committee, 1986; Arthur Anderson & Co., et al., 1989). Mayer-Sommer (1990) suggested a change in the CPA exam as a method of changing the accounting education curriculum.

Through the analysis of the pilot study data, it was determined that the Accounting Instruction Change Scale did not separately measure the four factors that it was intended to measure. A correlational analysis of the four parts of the Accounting Instruction Change Scale on the actual study data indicated the four parts of the AICS were highly correlated, confirming the findings in the pilot study. Correlations ranged from a high of .815 between the interpersonal skills section and the instructional emphasis section for grant school data to a low of .573 between the communication section and the instructional emphasis section, for non-grant school data. This lack of differentiation by the Accounting Instruction Change Scale could be related to the interaction of the factors in general. It may be difficult to separate interpersonal skills from communication skills when assessing a team oral presentation. Even critical-thinking and problem solving skills are interspersed with communication and interpersonal skills.

Correlational analysis was used to answer Research Question 1: Is faculty acceptance of change, as indicated by the score on the Predisposition to Change Scale, the Adoption-Proneness Scale, and selected demographic variables, related to the changes in their instruction that have occurred in teaching of accounting over the past five years? A correlational analysis excluding the demographic variables indicates some correlation between the Predisposition to Change Scale scores, the Adoption-Proneness Score scores, and the Accounting Instruction Change Scale scores, ranging from a moderate positive (.555) between the Predisposition to Change Scale and the Accounting Instruction Change Scale for the grant schools to a low positive (.341) between the Adoption-Proneness Scale and the Predisposition to Change Scale also for the grant schools.

When the other variables were included in the correlation analyses, the Predisposition to Change Scale correlation with the Accounting Instruction Change Scale dropped to a low positive. None of the correlations between the variables included (Accounting Instruction Change Scale, Predisposition to Change Scale, Adoption-Proneness Scale, number of refereed publications, number of non-refereed publications, other professional work experience, educational psychology instruction, teaching methodology instruction, professional organization membership, gender, age, and institution membership) correlated highly with any other variable. Most of the relationships between variables revealed little if any correlation, indicating only random corresponding variability.

Multiple regression was used to answer Research Question 2: To what extent do selected variables predict changes in instruction methods used in teaching accounting courses as perceived by accounting faculty? For the multiple regression analysis of the dependent variable, Accounting Instruction Change Scale, using the whole scale model revealed an R^2 of .408, which indicated 40.8% of the variance could be explained by the variables used in this regression equation: Predisposition to Change Scale score, Adoption Proneness Scale score, number of publications in refereed journals, number of publications in non-refereed journals including chapters authored or co-authored, work experience, instruction in educational psychology, instruction in instructional methodology, membership in professional organizations, gender, age, and institutional membership.

Institutional membership did not contribute significantly to the explanation of variance in the regression model. Anticipated outcomes were that membership in the grant school faculty classification would have more explanatory contribution than it did. However, the diffusion of information through pamphlets, publications, and presentations by the AECC could explain this lack of significant contribution to the explanation of the variance. As expected, gender and age did not contribute significantly to the explanation of variance.

Conclusions

Age, gender, and social standing did not significantly contribute to the explanation of the variance in the Accounting Instruction Change Scale scores. No significant contribution to the explanation of variance in the AICS score was evidenced by institution membership. This would indicate that age, gender, social standing (as indicated by membership in professional organizations), and investment in the change (as evidenced by institution membership), do not make a difference in whether changes in accounting education will be adopted. Level of education was not considered in this model because most of the accounting faculty surveyed had masters level education or more.

Because of the significant differences between respondents and non-respondents for both grant schools and non-grant schools in several variables, it can be inferred that this sample is not representative of the total population. There were also significant differences between early respondents and late respondents for both grant schools and non-grant schools in several variables. Specific conclusions that can be drawn from this study are provided below.

1. The Accounting Instruction Change Scale is a potentially valid and reliable instrument for measuring changes recommended by the Accounting Education Change Commission. Face and content validity (Worthen, et al., 1993) were established through the panel of experts and through frequent mention of items included in literature. Development of the instrument was based on recommendations of the AECC. Concurrent validity (Worthen, et al., p. 185) was established through the correlations between the Predisposition to Change Scale and the AICS

and between the Adoption-Proneness Scale and the AICS. Reliability was established through a Cronbach's alpha (Worthen, et al., p. 156) on the pilot data of .92 and on the final study data of .91.

2. The Accounting Instruction Change Scale does not discriminate among changes recommended by the AECC, for the areas of communication skills, interpersonal skills, critical thinking - problem solving skills and instructional preparation. This conclusion is substantiated by the high correlations between factors in the pilot study and confirmed by the moderate to high correlations in the final study.

3. In implementing changes in accounting instruction, demographics used in this study were not related to a likelihood to make changes in accounting instruction as measured by the Accounting Instruction Change Scale. The regression analysis indicated there were only two significantly contributing variables, the Predisposition to Change Scale and the Adoption-Proneness Scale. All other variables included in the regression model did not contribute significantly to the variance of 40.8%.

4. Awarding grants for the purpose of changing accounting instruction may not be the most effective way to achieve change. This is evidenced by the lack of significance of institutional membership, grant and non-grant schools, included in the full regression model. Adoption of change may be more of an individual matter than an institutional matter. To achieve changes in accounting instruction as promoted by the Accounting Education Change Commission, identifying faculty who score high on the Predisposition to Change Scale and the Adoption-Proneness Scale and using them as early adopters (Rogers, 1983, 1995, Rogers & Shoemaker, 1971), may enhance likelihood that the changes will be adopted.

Recommendations

This study has provided some useful insight to the inclusion of the Accounting Education Change Commission's recommendations for changes in accounting instruction However, there is still room for further study.

Recommendations for Changes in Accounting Instruction

Using the Accounting Instruction Change Scale with accounting faculty may provide information about changes that have been made in accounting instruction. Examination of individual item scores on the AICS can provide insight into adoption of the changes recommended by the AECC and which ones need further support.

The variables of age, gender, work experience, number of publications, instruction in educational psychology and instructional methodology, and membership in professional organizations may not need to be considered when planning to implement changes in accounting instruction. These variables were not significant predictors of implementation of change in accounting instruction.

The Predisposition to Change Scale and the Adoption-Proneness Scale could be used to determine which faculty members are more accepting of change. Those faculty members can then serve as models for other faculty to observe the changes in accounting instruction. Other faculty members will be able to observe the relative advantage of the changes in accounting instruction. Accounting faculty can also observe the compatibility of the changes with existing values and consistency with past experiences. By observing the faculty member who is predisposed to change and is adoption-prone, the other faculty members can determine the complexity of the new program to determine how much effort it will take to adopt into the accounting curriculum. The observing faculty member can then try the changes on a limited basis. This concurs with Roger's (1983, 1995, & with Shoemaker, 1971) theory that includes observation as one of the characteristics important in adoption of an innovation.

Recommendations for Further Research

The Accounting Instruction Change Scale can be used in future studies of accounting faculty to determine if it does, in fact, discriminate between faculty who have implemented accounting instruction changes and those who have not. Once predictive validity and reliability can be established, the scale can be used to determine how well the diffusion of accounting instruction change has progressed. By surveying accounting faculty periodically over the next

few years using the AICS should facilitate studying the diffusion of the changes in accounting instruction still in progress. In future studies, when the AICS is used, consideration should be given to changing the item response scale. Modification of the Likert-Type scale to "Use Much Less" to "Use Much More" may lead to more discriminating outcomes.

A possible next step might be the study of entry level accountants' job satisfaction to determine whether a difference between what the accounting graduates learned in college and what is expected of them on the job exists. This can be done by surveying entry level accountants in public accounting and industry to determine satisfaction with their chosen profession. A longitudinal study of accounting graduate job satisfaction, using this study as a starting point, could be a logical out growth of this study. It would be necessary to identify institutions that have made changes in accounting instruction, then survey graduates of these institutions to determine job satisfaction.

Another possible longitudinal out growth of this study could be an assessment of changes in the accounting education program to determine whether the accounting profession is now employing entry level accountants with the communication skills, interpersonal skills, and critical-thinking and problem-solving skills desired. This could be accomplished by surveying accounting firms and major industries to determine how satisfied they are with new entry level accountants.

A stratified sample of non-grant schools could be selected to match the characteristics of the grant schools to determine if there are differences between accounting faculty acceptance of implementing changes in accounting instruction at the two types of institutions. This comparison between grant and non-grant institutions could indicate a difference in adoption of the recommended AECC changes.

As an out growth of this study, institution administrators could be surveyed to determine whether they actively recruit instructors who have had instructional methodology preparation when hiring new accounting faculty. Also, administrators could be surveyed to examine whether

their institutions support accounting faculty who wish to enroll in instructional methodology courses or workshops.

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APPENDICES

Appendix A

Instrument Provided to Panel of Experts

Accounting Education Change Questionnaire Validation Form

On the following validation instrument, please indicate whether you agree or disagree that each item is a valid item for use on the Accounting Education Change Questionnaire. If you disagree, please explain why you disagree in the "comment" area directly below the item. Please do any editing that you feel is appropriate. Further, if you have any additional comments, include those at the bottom of page four.

Respondents to the questionnaire will be accounting faculty members at eleven AECC grant institutions and at eleven comparable non-grant institutions. The scale to be used for the final format of the questionnaire is a six point Likert-type scale. Respondents will chose from a range of "Strongly Agree" to "Strongly Disagree" regarding changes they have made in their instruction.

Please return the validation form to me by November 15, 1996.

ITEM	AGREE	DISAGREE
1. Compared to three years ago, I assign more written work. **Comments:**		
2. Compared to three years ago, I assign more oral presentations. **Comments:**		
3. Compared to three years ago, I encourage more development of listening skills. **Comments:**		
4. Compared to three years ago, I require more outside reading, other than the textbook. **Comments:**		
5. Compared to three years ago, I make more computer assignments. **Comments:**		

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6. Compared to three years ago, I require my students to communicate with me through E-Mail. **Comments:**		
7. Compared to three years ago, I encourage more development of interpersonal skills. **Comments:**		
8. Compared to three years ago, I assign more group work. **Comments:**		
9. Compared to three years ago, I assign more group presentations. **Comments:**		
10. Compared to three years ago, I arrange for more class field trips to observe business procedures in action. **Comments:**		
11. Compared to three years ago, I encourage more development of leadership skills. **Comments:**		
12. Compared to three years ago, I include more discussion of ethics in my courses. **Comments:**		

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13. Compared to three years ago, I focus on more critical thinking/problem solving skills. **Comments:**		
14. Compared to three years ago, I use more unstructured or open ended assignments. **Comments:**		
15. Compared to three years ago, I encourage students to develop more life long learning skills or learning to learn skills. **Comments:**		
16. Compared to three years ago, I require students to look up more information in outside sources. **Comments:**		
17. Compared to three years ago, I require students to exercise more judgment based on their comprehension of the subjects presented to make decisions. **Comments:**		
18. Compared to three years age, I give more assignments requiring students to make ethical value judgments. **Comments:**		
19. Compared to three years ago, I spend more time preparing classroom presentations/assignments. **Comments:**		

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20. Compared to three years ago, I spend more time on teaching-related research. **Comments:**		
21. Compared to three years ago, I spend more time on teaching-related publications. **Comments:**		
22. Compared to three years ago, I belong to more professional organizations or I am more involved in professional organizations. **Comments:**		
23. Compared to three years ago, I encourage more student involvement in professional organizations. **Comments:**		
24. Compared to three years ago, I confer with practicing accountants more often about their needs in entry level accountants. **Comments:**		
Thank you for your valuable time and comments in the validation of this instrument.		

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Appendix B

Survey Items as Used for Pilot Study

Accounting Instruction Change Scale

Part 1

Instructions: Please indicate your degree of agreement with each of the following statements by marking the appropriate response in the OPSCAN column with the corresponding number to the right of each statement. Each statement in Part 1 should be preceded with the phrase: **Compared to five years ago . . .** For each statement mark **1** for **strongly disagree**, **2** for **disagree**, **3** for **somewhat disagree**, **4** for **somewhat agree**, **5** for **agree**, or **6** for **strongly agree**.

Compared to five years ago . . .

1. I assign more written work (i.e., case studies, term papers, research questions).
2. I assign more oral presentations.
3. I encourage more development of listening skills.
4. I require more outside reading, other than the textbook.
5. I make more computer assignments.
6. I require my students to communicate with me through E-mail.
7. I encourage more development of interpersonal skills.
8. I assign more group work (students work together to produce one report or each student has a separate piece of information that must be shared and each student prepares individual reports).
9. I assign more group oral presentations.
10. I arrange for more class field trips to observe business procedures in action.
11. I encourage more development of leadership skills.
12. I include more discussion of ethics in my courses.
13. I focus on more critical thinking-problem solving skills.
14. I use more unstructured or open ended assignments.
15. I encourage students to develop more learning to learn skills for life-long use.
16. I require students to look up more information in outside sources.
17. I require students to exercise more judgment based on their comprehension of the subjects presented to make decisions.
18. I give more assignments requiring students to make ethical value judgments.
19. I spend more time preparing classroom presentations and assignments.
20. I spend more time on teaching-related research.
21. I spend more time on teaching-related publications.
22. I am more involved in professional organizations.
23. I encourage more student involvement in professional organizations.
24. I confer with practicing accountants more often about the abilities needed for entry level accountants.

Predisposition to Change Scale

Part 2

Instructions: Please indicate your degree of agreement with each of the following statements by marking the appropriate response code in the column to the right of each statement. For each statement mark **1** for **strongly disagree**, **2** for **disagree**, **3** for **somewhat disagree**, **4** for **somewhat agree**, **5** for **agree**, or **6** for **strongly agree**.

25. Beginning faculty come with fresh, new ideas, but these thoughts are often squelched by the lack of enthusiasm and apathy among returning faculty.
26. Students often do more learning when their professors stop talking.
27. Many professors rely too heavily on the use of textbooks.
28. Most professors are reluctant to throw out many of the old practices and to adopt new instructional approaches.
29. Many students should be given time for more independent study (i.e., projects they complete on their own).
30. Students should be permitted to disagree with their professors.
31. Faculty who visit exemplary programs in other institutions frequently want to try new things in their own classrooms.
32. Students should learn that most of life's problems have several possible solutions, rather than just one that is correct.
33. Students should play an active role in formulating rules for the classroom and accounting program.
34. Accounting faculty should take an active part in helping promote worthwhile accounting change.

Adoption-Proneness Scale

Part 3 Instructions: For each question please mark **1** for **no, never**; **2** for **no, almost never**, **3** for **usually not, infrequently**; **4** for **usually yes, frequently**; **5** for **yes, almost always**; or **6** for **yes, always**.

35. Is your general disposition toward new ideas and programs one of open-minded optimism?
36. Are you willing to try something new -- something that will require extra initial effort on your part?
37. Are you willing to try something new even if it may fail? (Your answer should not apply to fragmented or poorly planned and structured ideas and programs.)
38. Does your selection of innovations reflect careful thought about the overall needs and priorities of your situation?
39. When an educational innovation is considered, do you develop or help develop a strategy or plan of action for bringing about its successful implementation?
40. Do you feel that you have sufficient freedom to initiate new programs and /or ideas?
41. Do you exercise persistence and diplomacy in sticking with an innovation you would like to try, believing "powers that be" can be brought around from what may be an initial coolness?
42. Are you willing to have your innovation brought under careful scrutiny by your colleagues and others with inherent possibilities of conflicting points of view -- personal as well as professional?
43. Do you make a special effort to read about innovations and changes in your field?
44. Do you take the initiative in contacting other institutions that are trying an idea or program that is of interest to you?
45. Do you bring new ideas and developments to the attention of colleagues as well as appropriate department heads?
46. Are you willing to ask yourself "why" about your teaching methods and the materials used?
47. Do you feel that your department head encourages you to innovate and to try new ideas and programs?
48. Do you feel that your institution's administration encourages you to innovate and to try new ideas and programs?
49. Do you take time to consider and seek to gain greater insight into the processes of accounting educational change?
50. Do coffee breaks or informal conversations include new ideas and developments in curriculum and instruction?
51. Are you aware (in terms of knowing some details) of the growing importance of research, experimentation, and innovation in accounting education?

Demographic Items

Part 4 Instructions: Please indicate your response in the space provided, **NOT** by marking the OPSCAN choices.

Item	Response
1. How long have you been teaching accounting courses?	Number of years _____
2. How long have you been teaching at this institution?	Number of years _____
3. How many items have you had published in refereed journals that relate to accounting in the last five years?	Number of publications _____
4. How many items have you had published in non-refereed journals that relate to accounting in the last five years?	Number of publications _____
5. How many books or chapters of books relating to accounting have you authored or co-authored in the last five years?	Number of books or chapters _____
6. How many years of full-time other professional work experience do you have? (i.e., public accounting, consulting, etc.)	Number of years _____
7. How many years of part-time other professional work experience do you have? (i.e., public accounting, consulting,)	Number of years _____
8. Have you had any instruction (seminar, workshop, or courses) that addressed educational psychology? If yes, how many contact hours?	Yes _____ No _____ Number of contact hours _____
9. Have you had any instruction (seminar, workshop, or courses) that have addressed preparation in instructional procedures? If yes, how many contact hours?	Yes _____ No _____ Number of contact hours _____
10. Are you a member of a professional organization? If yes, which one(s)?	Yes _____ No _____ AICPA ___ AAA ___ IMA ___ IFA ___ Other ____
11. What is your gender?	Male ____ Female ____
12. What is your age?	Age _____

Appendix C

Correspondence

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Department of Teaching and Learning

College of Education
Blacksburg, Virginia 24061-0254
(540) 231-5191 Fax: (540) 231-3292

February 27, 1997

Accounting Department Head
College Address
Accounting Department

Dear _____ :

A number of changes have been proposed to improve accounting instruction. Thus, I am undertaking a study to determine changes that accounting faculty at selected AACSB schools have made in their accounting instruction over the last five years.

Your accounting department is one selected to participate in a study of these changes. This research project involves a survey questionnaire concerning accounting faculty instruction provided in accounting courses. The survey will take approximately 15 minutes to complete.

For the study each faculty member will complete a 63-item survey and return it to me. I will share the results of my study with you upon its completion.

If you have any questions concerning this study, please let me know. Thank you for your help.

Sincerely,

Jacqueline A. Perry, MBA, CPA, MAccy
Department of Teaching and Learning
College of Education
215 Lane Hall
Virginia Polytechnic Institute and State University
Blacksburg, Virginia 24061-0254

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Department of Teaching and Learning

College of Education
Blacksburg, Virginia 24061-0254
(540) 231-5191 Fax: (540) 231-3292

April 11, 1997

To: Accounting Education Faculty Member

From: Jacqueline A. Perry

Subject: Accounting Education Survey

Thank you for your help with this research study. I am a graduate student at Virginia Polytechnic Institute and State University, working on my doctoral degree with business education as my specialization. Your accounting department was one of several selected to participate in the study that focuses on faculty perceptions of improvements in accounting education during the past five years.

Enclosed with this letter is an OPSCAN containing a four part Accounting Education Survey with instructions for each part. Also enclosed is a stamped self-addressed return envelope. Please return your OPSCAN to me in the envelope. Completing the survey will take approximately 15 minutes.

Your participation is voluntary and all data collected will be held confidential. No references will be made to any one specific faculty member or institution. Data is coded for follow-up purposes only and will be destroyed upon completion of this study. This research has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State University.

By completing and returning the survey, you indicate consent to participate in this study. Should you have any questions about this research or its conduct, you may contact:

Jacqueline A. Perry, MBA, CPA, MAccy	at	(304) 253-5297 or
Dr. B. June Schmidt, Faculty Advisor	at	(540) 231-8182

Thank-you postcard:

Dear Faculty Member:

Thank-you for the prompt return of your survey questionnaire for my study that addresses faculty perceptions of improvements in accounting education during the last five years. Your responses to this survey will continue to be kept confidential. Your assistance in this study is very helpful.

Sincerely,
Jacqueline A. Perry

Reminder postcard:

Dear Faculty Member:

This postcard is a reminder to complete and mail your OPSCAN for my study that addresses faculty perceptions of improvements in accounting education during the last five years. If you have, thank-you. If you have not, please do so, your response is important to this study and your assistance is appreciated.

Sincerely,
Jacqueline A. Perry

Virginia Tech
VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Department of Teaching and Learning

College of Education
Blacksburg, Virginia 24061-0254
(540) 231-5191 Fax: (540) 231-3292

April 28, 1997

To: Accounting Education Faculty Member

From: Jacqueline A. Perry

Subject: Accounting Education Survey

Thank you for taking time out of your busy schedule to help me with my study that addresses faculty perceptions of improvements in accounting education during the last five years. I realize that this time of year, the end of the semester, is not the best. Your participation in this study is very important.

Enclosed with this letter is a copy of the first letter, a copy of the OPSCAN containing a four part Accounting Education Survey with instructions for each part, and a self-addressed return envelope. Please return your OPSCAN to me in the envelope as soon as possible. Completing the survey will take about 15 minutes.

All data collected will be held confidential. No references will be made to any one specific faculty member or institution. The data is coded for follow-up purposes only and will be destroyed upon completion of this study.

By completing and returning the survey, you indicate consent to participate in this study. Should you have any questions about this research or its conduct, you may contact:

Jacqueline A. Perry, MBA, CPA, MAccy	at	(304) 253-5297 or
Dr. B. June Schmidt, Faculty Advisor	at	(540) 231-8182

Appendix D

Accounting Instruction Change Scale in Random Order as Used in the Final Study

Accounting Instruction Change Scale
Random Order Used in the Final Study

Part 1

Instructions: Please indicate your degree of agreement with each of the following statements by marking the appropriate response in the OPSCAN column with the corresponding number to the right of each statement. Each statement in Part 1 should be preceded with the phrase: **Compared to five years ago . . .** For each statement mark **1** for **strongly disagree**, **2** for **disagree**, **3** for **somewhat disagree**, **4** for **somewhat agree**, **5** for **agree**, or **6** for **strongly agree**.

Compared to five years ago . . .

1. I encourage more development of interpersonal skills.
2. I require my students to communicate with me through E-mail.
3. I am more involved in professional organizations.
4. I give more assignments requiring students to make ethical value judgments.
5. I encourage more student involvement in professional organizations.
6. I use more unstructured or open ended assignments.
7. I spend more time on teaching-related publications.
8. I assign more oral presentations.
9. I spend more time preparing classroom presentations and assignments.
10. I encourage students to develop more learning to learn skills for life-long use.
11. I make more computer assignments.
12. I require students to exercise more judgment based on their comprehension of the subjects presented to make decisions.
13. I include more discussion of ethics in my courses.
14. I encourage more development of listening skills.
15. I require students to look up more information in outside sources.
16. I encourage more development of leadership skills.
17. I spend more time on teaching-related research.
18. I arrange for more class field trips to observe business procedures in action.
19. I assign more group oral presentations.
20. I assign more written work (i.e., case studies, term papers, research questions).

21 I require more outside reading, other than the textbook.

22. I confer with practicing accountants more often about the abilities needed for entry level accountants.
23. I focus on more critical thinking-problem solving skills.
24. I assign more group work (students work together to produce one report or each student has a separate piece of information that must be shared and each student prepares individual reports).

VITA

Jacqueline Anita Baughman Perry was born in Roaring Spring, Pennsylvania. She received her early childhood education in Chicago, Illinois and Barstow, California. She graduated from Barstow High School. She earned her Bachelor of Arts from Marshall University, Huntington, West Virginia in 1972, her Masters of Business Administration from West Virginia College of Graduate Studies, Institute, West Virginia in 1985. She earned her Masters of Accountancy from Virginia Polytechnic Institute and State University, Blacksburg, Virginia in 1995 and her Doctor of Philosophy Degree in Vocational and Technical Education also from Virginia Tech in 1997.

Jacqueline Perry had four years of experience working in public accounting prior to successfully passing the CPA exam in 1988 and two years experience in public accounting after becoming certified prior to initiating her own practice. She now resides in Beckley, West Virginia with her husband, Jim, and three of her six children. She has a small public accounting practice in Beckley. She is also a visiting assistant professor of accounting at West Virginia University Institute of Technology in Montgomery, West Virginia and teaches as an adjunct professor of accounting for Concord College in Athens, West Virginia.