A COMPARISON OF THE CAREER INTERESTS, LOCUS OF CONTROL, ATTITUDE, AND ACHIEVEMENT SCORES OF COMMUNITY COLLEGE INTRODUCTION TO BUSINESS "ON-CAMPUS" STUDENTS AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

DISSERTATION

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By

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The problem of this study was a comparison of the career interests, locus of control, attitude, and achievement scores of community college introduction to business "on-campus" students and "open-circuit instructional television" students. The "on-campus" sample included 102 students enrolled in traditionally taught "introduction to business" classes and the "open-circuit instructional television" sample included 279 students enrolled in the "introduction to business" telecourse offered for credit in four community colleges in a multi-campus district.

Four instruments were used to gather data: (1) Student Career Interest Survey, (2) Levenson's Internal, Powerful Others, and Chance Locus of Control, (3) Semantic Differential, and (4) achievement test. The achievement test was administered as a posttest only. The other instruments were used to gather both pretest and posttest data. The

data were compared in two ways--first, the two groups were compared on the four variables, and second, the four variables were compared within each group. Of the forty-nine null hypotheses tested, fifteen were found to be significant at the .05 level of significance.

The findings include (1) The proportion of students choosing business careers on the posttest was not significantly different between the groups, nor did a change occur during the semester in either group, (2) A significant difference was found to exist in the locus of control posttest means between the two groups. Significant changes occurred during the semester in all three scales for the "open-circuit" group, while only the "powerful others" scores changed significantly for the "on-campus" group. (3) The attitudes toward business, world of work, free enterprise, and employers were not significantly different between the two groups after completing introduction to business, nor did the attitudes change significantly during the semester in either group. (4) The achievement mean score was significantly higher for the "open-circuit" group. (5) For the "on-campus" students, the attitude coefficient related to the achievement scores and "internal" scores, but did not relate to "powerful others" and "chance" scores. Achievement scores did not relate to their locus of control scales. After categorizing the

"on-campus" students into "business career" and "non-business career" groups, no significant difference was found between the groups when comparing achievement, attitude, or locus of control scores. (6) For the "open-circuit" students, the attitude coefficient related to the achievement scores and "powerful others" and "chance" scores, did not relate to the "internal" scores. Achievement scores did not relate to "internal" and "powerful others" scores, but did relate to "chance" scores. After categorizing the "open-circuit" students into "business career" and "non-business career" groups, no significant difference was found between the groups when comparing achievement, attitude, "powerful others," and "chance" scores; however, a significant difference was found between the two groups in "internal" scores.

In conclusion both groups exhibited positive attitudes toward business, believed that some control resides within themselves, and proportionally chose business careers. The "open-circuit" group experienced a greater number of significant changes during the semester and scored a higher mean on the achievement test than the "on-campus" group.

The recommendations included (1) offering Introduction to Business for credit in community colleges by traditional and instructional television methods of instruction, (2) revising the course to reflect current changes that affect business operations, (3) using

community resources, (4) emphasizing positive attitudes toward business, and (5) sharing career information with students.

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CHAPTER I

INTRODUCTION

Human beings are unique people who differ in many ways such as in physical appearance, thoughts, ideas, and in the way they learn. To accommodate some of the differences in learning, many new and innovative methods of instruction have been developed and utilized in the last two decades. One of these is instruction by television, which has grown to have many uses not only in the traditional classroom, but in open-circuit public television as well. Open-circuit television instruction is rapidly becoming a popular way to extend educational opportunity to citizens who otherwise might not be able to avail themselves of it, or who prefer an individual study approach to the traditional classroom approach.

The Dallas County Community College District operates an Instructional Television (ITV) Center. The ITV Center is responsible for the development and production of college-credit instructional television courses. These courses have a multitude of uses such as open-circuit broadcast on public television stations, closed-circuit use on in-house television installation systems, or individual study use

in learning resource centers located in public and private educational institutions and public libraries.

Several courses have been produced by the ITV Center. One course, It's Everybody's Business, is of particular interest because of its popularity and national recognition. It is an introduction to business course that carries three hours of college credit per semester. The course consists of thirty lessons in a study guide, a thirty-minute television program that accompanies each lesson, textbook readings, exercises, and examinations.

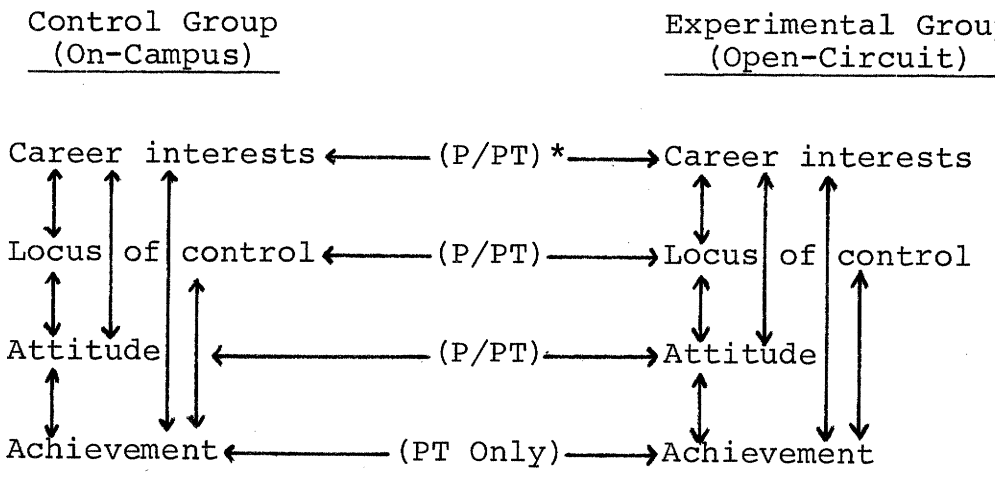
It's Everybody's Business was planned and developed by the investigator and produced by the ITV Center in the first half of 1975. It was ready for broadcast on the local public television station beginning in September of that year. During the first semester in which it was offered for credit, 1,280 students in the Dallas and Fort Worth area enrolled with almost another thousand enrolling the following semester.

Through various means of publicity, business educators across the country are learning about the availability of It's Everybody's Business. Since this is the only "introduction to business" instructional-television course of its kind available in the United States, many business educators are seeking information about how the course can be utilized, the type of students who enroll in the course,

and whether the students learn as well from a course taught by instructional television as they do in a traditional classroom course. The inquiries are directed to the ITV Center and to the investigator who travels as a consultant to the colleges that have indicated an interest in securing the course or have acquired the course for instructional purposes.

It is out of these inquiries that the investigator conducted this study to empirically research questions about career interests, locus of control, attitude, and achievement. This study involved two groups of community college "introduction to business" students. One group consisted of students taking "introduction to business" on campus, in traditionally taught classes where an instructor directs the learning activities. The other group was students taking the course via open-circuit instructional television, broadcast on a public television station in the local area.

The study focused on questions concerning career interests, locus of control, attitude, and achievement. Comparisons were computed between each group of students for each variable and between each variable for each group of students. No attempt was made to study the interactions of any of the variables within the groups or between the groups. Diagrammatically the study appeared as follows: (Arrows indicate the individual comparisons that were made.)



* P/PT--Pretest and Posttest; PT Only--Posttest only.

The following questions about career interests, locus of control, attitude, and achievement were researched in this study:

1. Career interests
   a. Is there a difference in career interests between community college "on-campus" students and "open-circuit instructional television" students after completing an introduction to business course?
   b. Is there a change in career interests during the course in either the "on-campus" or "open-circuit" instructional television group?
   c. Is there a difference in attitude (toward the world of work, business, employers, and free enterprise), achievement test scores, and

locus of control (internal, powerful others, and chance scores) between "business career" students--those who select a business career as the first and second of four possible choices of careers, and "non-business career" students--those who do not select business as a first and second of four possible choices?

2. Locus of control

   a. Is there a difference in the extent of the "internal-external" locus of control between the community college "on-campus" students and the "open-circuit instructional television" students after completing an introduction to business course?

   b. Is there a change in the extent of the "internal-external" locus of control between the community college "on-campus" students and the "open-circuit instructional television" students?

   c. Are the "open-circuit instructional television" students more internally or externally controlled than the students on campus?

3. Attitude

   a. Is there a difference in the attitude--toward the world of work, business, employers, and

free enterprise--between community college "on-campus" students and "open-circuit instructional television" students after completing an introduction to business course?

b. Is there a change in the attitudes during the course in either the "on-campus" or "open-circuit instructional television" group?

4. Achievement test scores

a. How do the community college "on-campus" students compare to the "open-circuit instructional television" students on introduction to business posttest achievement test scores?

Statement of the Problem

The problem of this study was a comparison of the career interests, locus of control, attitude, and achievement scores of community college introduction to business "on-campus" students and "open-circuit instructional television" students.

Purposes of the Study

The purposes of this study were to

1. Compare the differences in career interests of community college introduction to business "on-campus"

students and "open-circuit instructional television" students.

2. Compare the differences in the extent of locus of control of community college introduction to business "on-campus" students and "open-circuit instructional television" students.

3. Compare the differences in attitude--toward the world of work, business, employers, and free enterprise--of community college introduction to business "on-campus" students and "open-circuit instructional television" students.

4. Compare the differences in achievement scores attained by community college introduction to business "on-campus" students and "open-circuit instructional television" students.

5. Compare the attitude coefficient, which is the sum of the scores of the student's attitudes toward the world of work, business, employers, and free enterprise, to the achievement test scores of community college introduction to business "on-campus" students.

6. Compare the attitude coefficient to the achievement test scores of community college introduction to business "open-circuit instructional television" students.

7. Compare the locus of control scores to the attitude coefficient of the community college introduction to business "on-campus" students.

8. Compare the locus of control scores to the attitude coefficient of the community college introduction to business "open-circuit instructional television" students.

9. Compare the locus of control scores to the achievement test scores of community college introduction to business "on-campus" students.

10. Compare the locus of control scores to the achievement test scores of community college introduction to business "open-circuit instructional television" students.

11. Compare the achievement test scores of the "business career" with "non-business career" community college introduction to business "on-campus" students.

12. Compare the achievement test scores of "business career" with "non-business career" community college introduction to business "open-circuit instructional television" students.

13. Compare the attitude coefficient of "business career" with "non-business career" community college introduction to business "on-campus" students.

14. Compare the attitude coefficient of "business career" with "non-business career" community college introduction to business "open-circuit instructional television" students.

15. Compare the locus of control scores of "business career" with "non-business career" community college introduction to business "on-campus" students.

16. Compare the locus of control scores of "business career" with "non-business career" community college introduction to business "open-circuit instructional television" students.

17. Make recommendations applicable for administrative decision-making involving the use of "open-circuit instructional television" compared to "on-campus instruction."

The above purposes generated additional questions which were considered in this study. These questions were not tested statistically, but handled in a descriptive manner. The information is useful for the basis of further study. The questions concern the following six categories:

1. Age.
    a. Does the mean age of the community college introduction to business "on-campus" students differ from the "open-circuit instructional television" students?
    b. Does age make a difference in the achievement scores in either group?
    c. Do the locus of control scores change with age in either group?

d. Does attitude--toward the world of work, business, employers, and free enterprise--change with age in either group?

2. Sex.

a. Does the sex distribution of the community college introduction to business "on-campus" students differ from the "open-circuit instructional television" students?

b. Do the achievement scores differ based on sex in either group?

c. Do the locus of control scores change with sex in either group?

d. Does attitude--toward the world of work, business, employers, and free enterprise--change with sex in either group?

3. Careers.

a. Which careers are most often chosen by the community college introduction to business "on-campus" students and by the "open-circuit instructional television" students as the first choice?

b. Which careers are most often chosen as the second choice by either group?

c. Which careers are most often chosen as the third choice by either group?

d. Which careers are most often chosen as the fourth choice by either group?

4. Ethnic Groups.

a. Does attitude--toward the world of work, business, employers, and free enterprise--differ among the Caucasion, Negro, and Latin American ethnic groups

5. Business Majors.

a. Do students indicating a major in business in the community college introduction to business "on-campus" and "open-circuit instructional television" groups make higher achievement scores than those who do not indicate a business major?

6. Course Grades.

a. Do the achievement test scores compare favorably with the end of the semester course grades for the community college introduction to business "on-campus" and "open-circuit instructional television" groups?

Hypotheses

To carry out the purposes of this study, the following null hypotheses were tested:

Purpose No. 1:

1.1. There will be no significant difference in the number of community college introduction to business "on-campus" students who choose "business careers" on the pretest compared to those who choose "business careers" on the posttest.

1.2. There will be no significant difference in the number of community college introduction to business "open-circuit instructional television" students who choose "business careers" on the pretest compared to those who choose "business careers" on the posttest.

1.3. There will be no significant difference between the proportion of community college introduction to business "on-campus" students and the proportion of "open-circuit instructional television" students who selected business careers on the Student Career Interest Survey posttest.

Purpose No. 2:

2.1. There will be no significant difference between the pretest and posttest locus of control "internal" scores for the community college introduction to business "on-campus" students.

2.2. There will be no significant difference between the pretest and posttest locus of control "internal"

scores for the community college introduction to business "open-circuit instructional television" students.

2.3. There will be no significant difference between the posttest locus of control "internal" adjusted means for the community college introduction to business "on-campus" students and "open-circuit instructional television" students.

2.4. There will be no significant difference between the pretest and posttest locus of control "powerful others" scores for the community college introduction to business "on-campus" students.

2.5. There will be no significant difference between the pretest and posttest locus of control "powerful others" scores for the community college introduction to business "open-circuit instructional television" students.

2.6. There will be no significant difference between the posttest locus of control "powerful others" adjusted means for the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

2.7. There will be no significant difference between the pretest and posttest locus of control "chance" scores for the community college introduction to business "on-campus" students.

2.8. There will be no significant difference between the pretest and posttest locus of control "chance" scores for the community college introduction to business "open-circuit instructional television" students.

2.9. There will be no significant difference between the posttest locus of control "chance" adjusted means of the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

Purpose No. 3:

3.1. There will be no significant difference between the pretest and posttest "attitude toward employers" scores for the community college introduction to business "on-campus" students.

3.2. There will be no significant difference between the pretest and posttest "attitude toward the world of work" scores for the community college introduction to business "on-campus" students.

3.3. There will be no significant difference between the pretest and posttest "attitude toward business" scores for the community college introduction to business "on-campus" students.

3.4. There will be no significant difference between the pretest and posttest "attitude toward free enterprise"

scores for the community college introduction to business "on-campus" students.

3.5. There will be no significant difference between the pretest and posttest "attitude toward employers" score for the community college introduction to business "open-circuit instructional television" students.

3.6. There will be no significant difference between the pretest and posttest "attitude toward the world of work" scores for the community college introduction to business "open-circuit instructional television" students.

3.7. There will be no significant difference between the pretest and posttest "attitude toward business" scores for the community college introduction to business "open-circuit instructional television" students.

3.8. There will be no significant difference between the pretest and posttest "attitude toward free enterprise" scores for the community college introduction to business "open-circuit instructional television" students.

3.9. There will be no significant difference between the posttest "attitude toward employers" adjusted means for the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

3.10. There will be no significant difference between the posttest "attitude toward the world of work" adjusted

means for the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

3.11. There will be no significant difference between the posttest "attitude toward business" adjusted means for the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

3.12. There will be no significant difference between the posttest "attitude toward free enterprise" adjusted means for the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

Purpose No. 4:

4.1. There will be no significant difference in the "achievement test" mean scores between the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

Purpose No. 5:

5.1. The correlation coefficient between the attitude "coefficient" and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "on-campus" students.

Purpose No. 6:

6.1. The correlation coefficient between the attitude "coefficient" and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

Purpose No. 7:

7.1. The correlation coefficient between the locus of control "internal" scores and the attitude "coefficient" will not be significantly different from zero for the community college introduction to business "on-campus" students.

7.2. The correlation coefficient between the locus of control "powerful others" scores and the attitude "coefficient" will not be significantly different from zero for the community college introduction to business "on-campus" students.

7.3. The correlation coefficient between the locus of control "chance" scores and the attitude "coefficient" will not be significantly different from zero for the community college introduction to business "on-campus" students.

Purpose No. 8:

8.1. The correlation coefficient between the locus of control "internal" scores and the attitude "coefficient"

will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

8.2. The correlation coefficient between the locus of control "powerful others" scores and the attitude "coefficient" will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

8.3. The correlation coefficient between the locus of control "chance" scores and the attitude "coefficient" will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

Purpose No. 9:

9.1. The correlation coefficient between the locus of control "internal" scores and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "on-campus" students.

9.2. The correlation coefficient between the locus of control "powerful others" scores and the "achievement test" scores will not be significantly different from zero for community college introduction to business "on-campus" students.

9.3. The correlation coefficient between the locus of control "chance" scores and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "on-campus" students.

Purpose No. 10:

10.1. The correlation coefficient between the locus of control "internal" scores and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

10.2. The correlation coefficient between the locus control "powerful others" scores and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

10.3. The correlation coefficient between the locus of control "chance" scores and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

Purpose No. 11:

11.1. There will be no significant difference between the "achievement test" mean scores of "business career" and

"non-business career" community college introduction to business "on-campus" students.

Purpose No. 12:

12.1. There will be no significant difference between the "achievement test" mean scores of the "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

Purpose No. 13:

13.1. There will be no significant difference between the means of the attitude "coefficient" of "business career" and "non-business career" community college introduction to business "on-campus" students.

Purpose No. 14:

14.1. There will be no significant difference between the means of the attitude "coefficient" of "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

Purpose No. 15:

15.1. There will be no significant difference between the locus of control "internal" mean scores of "business career" and "non-business career" community college introduction to business "on-campus" students.

15.2. There will be no significant difference between the locus of control "powerful others" mean scores of "business career" and "non-business career" community college introduction to business "on-campus" students.

15.3. There will be no significant difference between the locus of control "chance" mean scores of "business career" and "non-business career" community college introduction to business "on-campus" students.

Purpose No. 16:

16.1. There will be no significant difference between the locus of control "internal" mean scores of "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

16.2. There will be no significant difference between the locus of control "powerful others" mean scores of "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

16.3. There will be no significant difference between the locus of control "chance" mean scores of "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

Background of the Study

The technological revolution, the knowledge explosion, the social revolution, and the democratization of higher education in the United States are trends which have converged to affect "who," "what," "when," "where," and "how" we teach and learn today. The new technologies have produced a variety of alternative modes of instruction and learning such as open learning laboratories, programmed instruction, and educational television (8).

The technology of communications and data processing that had a profound effect on American society in recent decades is having, and promises to continue to have, a profound influence on the new growth of instructional technology or what the Carnegie Commission calls the Fourth Revolution in higher education (9). The advent of television alone has resulted in a variety of strategies and techniques of instruction in post-secondary education--closed-circuit television, microwave, dial-access, portapaks, and broadcast or open-circuit television.

History

The first educational television programs to be broadcast in the United States were witnessed in 1932 by a small cluster of people at the State University of Iowa. Sixteen years later, only five United States collegiate educational institutions were seriously involved with

television. These institutions included State University of Iowa, Iowa State College, Kansas State College, University of Michigan, and American University in Washington, D.C. By 1961, more than 400 institutions of higher education in the United States had offered courses for credit (13). Another source (23) reported that Brick and McGrath in 1969 surveyed 882 of the nation's institutions of higher education and found that 42 per cent used television.

In April 1952, as a result of the Federal Communications Commission allocation hearings, 242 channels were reserved in the broadcast spectrum for use by the educational establishment. The Federal Communications Commission reported that by the middle of 1972, there were 127 VHF and 528 UHF allocations reserved for educational television. The first educational television station to go on the air was KUHT, University of Houston, Texas, on May 23, 1953 (7). There were 62 educationally-owned television stations on the air in 1960 with 28 more under construction. Since that time, the construction of stations has continued. The number of stations on the air at the end of July, 1972, was 220. Of that number, about 30 per cent were licensed to colleges and universities (7).

The Federal Communications Commission in the early seventies reported that 75 per cent of the American

population, 156 million Americans, lived within range of an educational television signal. A November, 1971 audience survey showed that 50 million persons tune in educational television each week (7).

Open-circuit instructional television had its debut in the early 1950's beginning with the commercial networks carrying "Continental Classroom" and "Sunrise Semester" which were essentially college credit courses made more accessible to people wherever they lived and worked. The typical television lesson was essentially a televised version of lectures or what is sometimes called television instruction rather than instructional television (3). Due to the increased teacher shortage and growing demand for college education, the emphasis of the programs was extending the "open door" by providing college credit courses to the greatest number of people.

Although educational television had been used extensively in colleges and universities for over a decade, its overall impact on higher education appeared to be minimal (23). It was not until the advent of television documentaries and programs for elementary children like "Sesame Street" and "Electric Company" that significant progress was made in establishing television as an open-learning educational system (8).

The use of television as a vehicle or an alternative delivery system for open-learning and community-based education began with the Chicago City College in 1956. The State University of Nebraska (SUN) established a similar program in 1971 (4). The Dallas County Community College District followed with the first instructional television programs being produced in the summer of 1972. Since that time the Dallas District has developed, produced, and revised eight instructional television courses. They also lease instructional television courses from other colleges as well as exchange courses with colleges across the United States.

Reasons for Student Enrollment

There are many reasons why students enroll in television-based courses for college credit. Recently, the Dallas District found that 47 per cent of the students enrolled in an instructional television course had done so because it could conveniently be taken at home. The average age of these students was thirty years of age (2). Sharon (23) supported this by further research findings. She found the typical person enrolled in television credit courses requiring little or no campus attendance at the University of Minnesota in the mid-sixties was a thirty-one-year-old married woman with one child, was a high school graduate, and sought a college degree in teaching or the

liberal arts. Long Beach City College in the late sixties reported that most of those enrolled were over thirty years of age and married with about half the students completing the course.

For many, the television course is their first college-level course and may lead to additional college work. Others see in television courses the opportunity for a more open-type learning experience than is found in regular college classes. Instructional television has been found to be useful for students who prefer an individual study approach to the classroom approach (2).

Research (24) has shown that many viewers do not register to take the television course for credit. Previous educational achievement heads the list of reasons why non-credit viewers did not enroll. One-third mentioned that they already had a degree and were not interested in college credit. Nearly one-half were college graduates, and consequently could not receive credit for freshmen courses. The typicsl non-credit viewer was a married woman in her late forties.

Achievement

The rapid growth in the use of "open-circuit" instructional television among institutions has created some anxiety among its faculties and department chairpersons. One of their concerns is that the offering of college credit

courses via television will attract students who regularly enroll in the same course on campus, resulting in a loss of the full-time equivalent enrollment. Still another major concern of faculties and department chairpersons is that credit courses offered via "open-circuit" television are somewhat lower in quality of instruction than traditional "on-campus" instruction whether or not this is reflected in the student's academic performance or grade-point average. (There is no evidence in the literature, however, to support this concern.) Fisher (8) found that while open-circuit instructional television costs less than traditional instruction, many educational administrators are concerned whether or not credit courses offered via television are as effective as the on-campus instructional methods.

A number of research studies have been conducted in the field of educational television with the majority focusing on the problem of student information gain. One source (12) reports that of 281 comparisons reported, 246 produced no significant differences between instructional television and face-to-face instruction. These results were duplicated in the middle sixties by Chu and Schramm (5). Other studies to support these findings include those by Gross (11), Mendelsohn (20), and Patty (21).

On the basis of the research, there can no longer be any doubt that students learn efficiently from instructional television. The fact has been demonstrated

in hundreds of schools, by thousands of students, in every part of the United States and in several other countries. Therefore, it is no longer a question of whether students learn by television, but one of how they compare on achievement at the end of the semester to the "on-campus" students taking the same course.

Attitude

One of the objectives of the introduction to business course is to develop a more positive attitude on the part of the student toward ideas, issues, and concepts about business. A valid question is whether attitudes can be measured. It is reported by Kiesler et al. (14) that Thurstone in an article in 1928 advocated that attitude could be measured. Thurstone defined attitude as ". . . the intensity of positive or negative affect for or against a psychological object" (14, p. 2). A psychological object is a symbol, person, phrase, slogan, or idea toward which people can differ as regards positive or negative affect. Triandis (25) says that attitudes involve what people think about, feel about, and how they would like to behave toward an "attitude" object.

There have been a few studies concerning the ability of instructional television presentations to change students' course-related attitudes. Generally they have shown that such attitudes, which can usually be modified

by the use of appropriate information, are changed in a favorable direction by means of televised instruction and to the same degree which they are changed by direct instruction (10).

Kumata (16) found in the literature several sources which supported evidence that television presentations are effective in changing course-related attitudes. However, this change was not significantly different from changes acquired through on-campus traditional instruction. It was discovered that even though students may have a negative attitude toward teaching by television, this did not affect the desired changes in course-related attitudes.

Locus of Control

Students who have an "internal" control expectancy believe that what happens is the result of their own behavior; those who have an "external" control expectancy believe that what happens is because of luck, chance, and fate. Rotter in 1966 hypothesized a low linear relationship between perceived locus of control and personal adjustment in a normal population; that is, those who view reinforcements as contingent on their own behavior (internals) are better adjusted than those who see reinforcements as determined by chance, fate, or powerful others (externals) (26).

Individuals are labelled "external" controls when they are said to have a generalized expectancy that reinforcements are not under their control across varying situations (22). In layman's language, these persons may be described as lacking self-confidence (18), or in Adler's terminology, suffering from inferiority feelings (2).

Dua (6) theorizes that the attitudes of "externals" are realistically rooted in past experiences. They do not expect to succeed because they have not succeeded in the past. They have not succeeded in the past because they have not learned efficient methods of producing change.

Students who believe that at least some control resides within themselves are called "internals." "Internals" engage in some instrumental goal-directed activity. "Internals" are reared in homes where parenting fostered the development of autonomy, superego, and achievement striving; whereas, "externals" are reared in homes where parenting fostered the development of dependency, hostility, aggression, and a view that the world is controlling and malevolent (19).

Career Interests of Business Students

Assistance in career development is receiving increased attention in education today (17). To support this premise, the introduction to business course is designed to help the student become aware of the many careers available in the

field of business. It is expected that upon completion of the course the student will be more business oriented than at the beginning of the course.

Knezek (15) in 1972 investigated and analyzed the kinds of information needed by community junior college students about career opportunities in business, as perceived by students, business teachers, and counselors in community junior colleges. The consensus was that there was a need for additional information about business careers. Students in business classes and students in non-business classes acknowledged very similar unfilled needs about business career information.

Summary

Instructional television's potential benefits to citizens around the world are almost immeasurable. These benefits can now be viewed--in terms of alternative program choice, opportunities for formal and informal adult education, out-of-school children's programming--as a method of meeting the new quality and quantity needs of schools and colleges in terms of formal instruction. The problem no longer is whether to use instructional television as a teaching instrument. The new questions are rather "where" and "when," "for whom" and "how often," and "in what context" (13).

Television is an integral part of quality education (7). Currently the emphasis is moving in the direction of more and better use of television in instruction. It is economically expedient to find creative ways to reach more students in a time of economic difficulty. Therefore, it is important that educators and administrators learn more about the type of students who enroll in instructional television courses and how they compare with "on-campus" students in achievement at the end of the course.

Significance of the Study

The study was significant in that it focused on a comparison of career interests, locus of control, attitudes, and achievement of community college students who took an "introduction to business" course "on-campus" with an instructor using traditional methods of instruction and those students who took the course via "open-circuit instructional television" which used the local public television station for its broadcast.

The Instructional Television Center of the Dallas County Community College District is actively developing, producing, and marketing instructional television courses and is constantly faced with many questions, not only about the various uses and costs of instructional television courses, but about the type of students who enroll in an instructional television course, and whether or not these

students compare favorably with the students who take the course under the direction of a traditional instructor on campus. The investigator is also faced with these same questions as the originator of It's Everybody's Business and as a consultant to the colleges acquiring the introduction to business instructional television course. Therefore, the study was significant not only to the ITV Center, but also to the investigator. The results of the study provided empirical evidence to support the answers to the many questions about the type of students and how they compare to on-campus students taking the same course.

The study was significant in that it

1. Determined whether or not a relationship exists among career interests; the "internal," "powerful others," and "chance" locus of control forces which a person believes have control over his actions; attitude--toward the world of work, business, employers, and free enterprise; and achievement scores based on course objectives.

2. Provided the rationale for evaluating open-circuit instructional television courses as a feasible method of instruction.

3. Developed recommendations that are applicable for administrative decision-making involving the use of open-circuit instructional television compared to on-campus instruction.

Definition of Terms

The following terms have restricted meaning and were defined for this study:

Achievement--a measurement of how well the students have learned the course objectives.

Achievement test--a fifty-item test comprised of true-false and multiple-choice questions based on the course objectives for a community college introduction to business course.

Attitude coefficient--the sum of the scores from the world of work, business, employers, and free enterprise attitude scales.

Business 105--the course name and number of the introduction to business course in the Dallas District.

Business career students--the students who indicate business careers as first and second choice of four choices on the Student Career Interest Survey instrument.

Chance scale--measures the extent to which a person believes that chance, accidental happenings, and forces outside of one's self have control over his behavior (19).

Community-based instruction--instruction made available to citizens of the community for college credit, personal improvement of knowledge and skill, and entertainment.

Instructional television--the use of television teaching as a component of the in-school curriculum.

Internal Scale--measures the extent to which a person believes he has control over his behavior (19).

Locus of control--refers to the extent to which persons perceive contingency relationships between their actions and their outcomes (19).

Non-business career students--the students who do not indicate business careers as first and second choice of four choices on the Student Career Interest Survey instrument.

On-campus students--students taught by the traditional methods where a live instructor directs the learning activities.

Open-circuit--the use of a local television station transmitting instructional courses to the public. Generally public and educational television stations are used.

Posttest--a test given after a treatment or instruction to determine how well the objectives have been learned.

Powerful others scale--the extent to which others have control over a person's life (19).

Pretest--a test given prior to any treatment or instruction to determine what the student already knows or how he feels about something.

Proportion--a number compared to the whole.

Semantic differential--an instrument designed to measure generalized attitudes. The instrument utilizes a

Likert Scale between bipolar adjectives. The adjectives are divided into evaluative, potency, and activity categories.

Telecourse--an instructional course that utilizes television.

Limitations

This study was limited to four community colleges located in the Dallas County Community College District, Dallas, Texas. It was limited to the introduction to business "open-circuit" instructional television students and to the students of one "on-campus" introduction to business section from each college.

Statistical inference was limited to the Dallas County Community College District. However, there is no reason to believe that the students in this study differ significantly from those in other parts of Texas or the rest of the country.

The concepts, world of work, business employers, and free enterprise, were not defined by the investigator. This was to allow the student complete freedom to respond to the concept without being biased by the investigator. However, it did limit the study to the student's previous experience and knowledge about the concept.

The study was limited to comparisons of variables between the control group and the experimental group and

between the variables within each group. No attempt was made to study the interactions between the variables.

Another limitation was that the student's prior knowledge about business, experience, and intelligence was not controlled in the statistical comparisons of the achievement scores. It was the premise that both groups were not significantly different at the beginning of the course. The only concern of the investigator was how the two groups compared in achievement at the end of the course and how achievement compared to the other variables within each group.

Basic Assumptions

The following assumptions were made for this study:

1. It was assumed that the instructors and test proctors administering the pretests and posttests followed specific directions provided by the investigator.

2. It was assumed that the students had some type of attitude toward the world of work, business, employers, and free enterprise and were able to respond out of past experiences and knowledge about each.

3. It was assumed that the "on-campus" and "open-circuit" community college introduction to business groups were not significantly different at the beginning of the course.

4. It was assumed the information in the reference texts used by the students in this study was not significantly different.

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CHAPTER II

REVIEW OF RELATED LITERATURE

A great deal of effort has been expended on the study of student attitudes, achievement, and reinforcement and the factors believed to influence them. In this review, major emphasis was given to the relationships among career interests of business students, business education student attitudes toward business and work, student reinforcement expectancies, and student achievement in business education and instructional television.

The general plan of the chapter observes the following topical sequence:

1. The role and objectives of introduction to business in the community junior college setting are discussed with an emphasis on the course being taught by instructional television.

2. The career interests of business students are explored through information needs, characteristics, and aspirations of community junior college students.

3. Student attitudes toward business and work are discussed with a focus on business education courses and students.

4. Student achievement, attitude, and career interests are described in relationship to the student's reinforcement expectancies.

5. Information gain through achievement in courses taught by instructional television is highlighted.

6. The major related findings are summarized.

Introduction to Business

Business education is an integral part of the business curriculum offered in the Dallas County Community College District. The objectives of the business education program follow those described by Giordano (22) in his study of the patterns of thought under which education for business developed between 1635 and 1965. According to Giordano, business education has two major objectives:

1. To prepare students for, and in, business employment.
2. To prepare students for, and in, those business experiences in which "all" citizens should be proficient, both in knowledge and performance (2, p. 22).

Evidence presented throughout the study validates the vocational objective as the primary objective of business education over much of its long history. The vocational objective certainly fits into the three functions--"transfer, occupational, and adult"--of the community college instructional programs as defined by Griffitts (28) in his article on the community junior college.

Goddard (24) in his study of the potential role of the community junior college in education for business described the functions which are most commonly accepted by community junior colleges as "preparation for upper-division study, terminal vocational education, general education, community service-adult education, and guidance" (24, p. 205). Goddard goes on to define the role of business education as encompassing

1. Terminal education for the semiprofessional business occupations which is composed of the proper balance of general education and vocational business education.
2. Preparation for upper-division study in business in senior colleges and universities which provides a broad educational background, a thorough grounding in economics, and a knowledge and understanding of the nature and functions of business.
3. Functional general business-economic education which is concerned with providing all junior college students with a thorough knowledge and understanding of the operation of the American business and economic system (24, p. 206).

Introduction to business, according to Chapman (12), was a well-established course offered in the collegiate business curriculum of the majority of colleges and universities which were members of the American Association of Collegiate Schools of Business and the National Association of Business Teacher Education. "Serving as a basic framework for further study" has increased in importance in the last decade as an introduction to business course objective, whereas "serving as a general survey of business" has decreased in importance since 1951. As many

as twenty-four different course objectives were found by Chapman. This number had increased from the four to six objectives that previous studies had listed.

Many studies and articles in the literature are concerned with basic business courses. Basic business should not be confused with introduction to business. In 1957, according to Crabbe (14), "basic business" was defined "to designate the entire area of foundation and advanced business and economic education courses commonly offered on the secondary school level" (14, p. 1). That definition is still being used today (59). Introduction to business is a collegiate course placed at the freshman level in the majority of colleges and universities. However, it can be found at the sophomore level or higher in a few institutions (12).

Content areas found (12) in nearly all introduction to business courses included forms of business ownership, business organization, personnel, marketing, finance, business law, and career opportunities in business. The economic and historical background of business also occurred almost as frequently as production problems and management tools for decision making. Emphasis was also given to topics such as automation and computers.

In the fall of 1965 (64), the Los Angeles Unified District produced an introduction to business college-credit

telecourse under the direction of instructor Henry VanNoy. The course consisted of fifty-two black-and-white television programs. They were a series of "talking-face" lectures. The course was first broadcast over KCET, Channel 28 in the Spring, 1967, with approximately 500 students enrolled. About two-thirds of the students were high school teachers who wanted to learn more about business. Due to budgetary restrictions during the following year, the course was cancelled and never broadcast or offered for credit again.

The Chicago City College is the only other institution of higher education that has developed an introduction to business course for open-circuit broadcast (49). It was a black-and-white series of thirty television programs with each program being thirty minutes in length. The course was first broadcast in the Chicago area in the spring of 1969 and was offered for credit for only two years.

Other business education courses that have been offered via instructional television include accounting (48), shorthand (21, 38, 39, 53, 59), economics (15, 47, 74), computer programming (58), business math (25), management (78), typing (17, 25, 56, 57), business law (41), salesmanship (33), marketing and advertising (8), and retailing and salesmanship (9). In 1965, these courses were offered for credit in thirty-one National Association of Business Teacher Education institutions. More

institutions offered typewriting by television than any other business education course (57). However, some of the courses were offered through closed-circuit television instead of open-circuit television. In all cases, instructional television resulted in the student learning as much or more compared to a conventional classroom.

Nine dissertations concerning introduction to business were completed between 1900 and 1975 in the United States (62). None of the studies focused on open-circuit instructional television. They concentrated on determining the needs, practices, role, and instructional methodology of introduction to business and its students. While at the same time, there were fifty-four dissertations completed in basic business with no studies focusing on open-circuit instructional television. Sluder (70) compiled a list of 302 research studies completed between 1920 and 1962 in general business at the junior and senior high school levels. Again, none of the studies concentrated on open-circuit instructional television; furthermore, the twenty-five dissertations completed in general business since 1963 have ignored open-circuit instructional television (62).

A review of the literature revealed absolutely no studies that compared career interests, locus of control, attitude, and achievement scores of community college introduction to business "on-campus" students and

"open-circuit instructional television" students. There were some studies that focused on studying only one of the variables in this study or a combination of the variables. Most of these studies utilized a population other than business students at the community college level. The rest of this chapter will review the findings that relate to the variables in this study.

Career Interests of Business Students

A review of the literature revealed no research studies that focused on career interests of business students using the Student Career Interest Survey instrument. The following studies by Knezek (37) and Stewart (71) were found to relate in a limited way to career interests of community junior college students.

The investigation made by Knezek (37) was concerned with the problem of identifying and analyzing kinds of information needed by community junior college students about career opportunities in business, as perceived by students, business teachers, and counselors in community junior colleges. The Knezek study more nearly relates to the career interest variable of this study. Although it did not reveal the particular career interests of business students, the study did compare students in business classes to students in non-business classes based on their need for career-type information. It was reported that students in

both groups acknowledged very similar unfilled needs about business career information. There seemed to be a difference in the kind of information needed in the area of business-career preparation. The students in the non-business classes indicated a greater need for information about courses and skills to be mastered in business-related jobs; whereas, students in business classes reported a much higher need for the names and addresses of organizations from which they could get information on business-related jobs. Students in business classes indicated a need for additional career-type information on the occupational families of "Accounting/ Bookkeeping, Electronic Data Processing, and Secretary/Steno/ Typist/Business Machine Operator." The study also revealed that there was a difference in the kind of business-career information needed among the students found in small colleges/small cities, large colleges/large cities, and medium-sized cities.

The questions that stimulated Stewart to conduct his research on the characteristics of the occupation-oriented community college student were:

1. What are the characteristics of junior college students enrolled in occupation-oriented programs?
2. Do these students differ from other junior college students?
3. Do students in one occupation-oriented curriculum such as electronic technology differ significantly from those preparing to be auto mechanics or radiologists? (71, p. 175)

The Interest Assessment Scales, a brief version of the Omnibus Personality Inventory, and a short questionnaire designed to elicit background data and to assess attitudes toward school and work, were administered to a basic sample of 2,459 community junior college students enrolled in forty-three occupation-centered curricula. To facilitate the analysis of the vast amount of data, the forty-three curricula were combined into seven a priori groups or clusters based simply on the investigator's impression as to which curricula possessed some common element.

The findings reported that the seven curriculum clusters were quite sharply differentiated by means of the Omnibus Personality Inventory scores. There were highly significant variations in mean age among the curriculum groups. The students came from a wide variety of backgrounds as determined by the father's occupations. There was a tremendous range in the educational background of both mothers and fathers. Occupation, earning power, marriage and family, and, to some extent, leisure activities tended to be checked most frequently as anticipated sources of life satisfaction. Religion, community and world affairs, and the arts appeared to have little place in the life plans of these subjects. The major thrust of the findings of the study, however, was that "students with similar characteristics do tend to enter the same occupation-centered curriculum. Occupation

and education choices of these students tended to be related systematically to these characteristics" (71, p. 181).

The literature search disclosed a growth in the number of articles and studies that have focused on occupational information with an increasing number of studies in the general area of guidance. There apparently has been a greater concern for studying the career interests of elementary and junior high school students than studying the career interests of community junior college students, or even business students.

Aspirations of community junior college students were studied by Baird (4). He used "future plans" as one of the variables on which three groups of students were compared. Baird found that one group of students "who did not change their degree plans" while enrolled in junior college were the most interesting group. They tended to have higher family incomes and achieved less in several nonacademic areas than did the students who "lowered their aspirations" during their community junior college days and the students who "increased their aspirations" during their community junior college days. The students who retained their original aspirations seemed more oriented toward employment.

The Educational Testing Service with the help of grants from the Carnegie Corporation and the National Science Foundation has developed a computer-based System of

Interactive Guidance and Information (SIGI) designed to help students in two-year and four-year colleges make career decisions. SIGI is based on a humanistic philosophy that emphasizes individual values, occupational data, and a strategy for processing information. The system is designed for use by students who are at different stages in making career decisions (69).

One user of SIGI, Eastfield College (35), reported that almost 60 per cent of the students who begin the three-to-five hour SIGI learning process finish all seven sections. They found that student expectations of SIGI seem to fall into three categories: (1) self-examination about interests, values, capabilities, and goals, (2) requests for major or college program advisement, and (3) career information. The administrators at Eastfield College were interested in knowing how students improved in their understanding of the career choice process or moved toward making a career choice because of using SIGI. They found that 75 per cent of the students came to SIGI having several alternatives or "knowing for sure what they wanted to do." This means that only 23 per cent of the students came to SIGI not "knowing for sure what they wanted to do." After going through the SIGI process, about 12 per cent still were uncertain about a career choice. It was concluded that many more students know about career choices than was originally thought.

Attitude

Many studies have been conducted on the topic of student attitudes in the area of business education and instructional television. Most of the studies concentrated on student attitudes toward the teacher (75), the course (5, 19, 63, 76), the method of instruction (3, 29, 51), student achievement (3, 7), and the affects of the teacher's attitude on student achievement (10, 19, 55, 77), rather than on course-related attitudes.

Manos (46) in his work, identified the attitudes toward business of 181 college seniors who were business and non-business majors. Since one of the variables in the present study was to analyze the student's attitude toward business, world of work, free enterprise, and employers, Manos' research was significant. An opinionnaire was developed for the Manos' study; it consisted of eighteen positive and seventeen negative statements. In this study the Semantic Differential instrument was used, Manos analyzed and compared the students' responses in three ways:

1. By individual statements and total scores.

2. By groups of statements, combined into concepts and total average scores.

3. By demographic factors and total scores to identify any causes or relationships for the attitudes of the subjects.

Based on the first two methods of analysis, business majors demonstrated a positive attitude toward business while non-business majors demonstrated a negative attitude. However, on several of the concepts and statements, the two groups were positive in "assessment of business' role in creating the high standard of living in America" and of the "contributions made by operating doctrines of our business system--free enterprise and competition." On the other hand, both groups were negative toward business when the subjects of ecology, human needs, and consumer relations were introduced, and there was a need indicated for more governmental control of business. Whenever the demographic factors were considered, the students who were self-supporting tended to have a more pro-business attitude than those who were not. Also, a "significant positive correlation was found between a pro-business attitude and the students' personal incomes and incomes of their parents" (46, p. 122).

To add insight to another dimension of the work discussed above, Greenhaus (26) analyzed the general attitudes of undergraduates toward work. He reported that "females showed more positive generalized attitudes toward work than males" (26, p. 96). Generalized attitudes toward work, also, were "highly related to the choice of an ideal occupation for both sexes" (p. 97). In other words,

persons who viewed work favorably would be highly motivated to choose an occupation which seemed fitting or ideal to them. Whereas, those who anticipated the work situation with indifference may regard the choice of an appropriate occupation as irrelevant. Greenhaus adds that "positive attitudes toward work might facilitate academic motivation and performance which, in turn, raises self-esteem" (p. 98). In another study (1) sex was the major factor associated with work attitudes. Young females tended to approach work with a "people-orientation" attitude. In contrast, most males were more "work-oriented," that is, more concerned with getting the job done.

In studying attitudes toward business education (44), the semantic differential was used to gather data on five major concerns of business education--the teacher, the learner, the curriculum, the method, and social policy. The study was completed on 330 undergraduate students enrolled in a college of business administration. It was reported that some concepts were rated higher than others; however, all concepts that were measured indicated a favorable image of business education. Other major findings indicated that female students had a more favorable attitude toward concepts in business education than did male students. A significant finding that related directly to the present study was that "business education majors had a more

positive attitude toward the field of business education than did accounting, economics, general business administration, management, and marketing students" (44, p. 10).

Does the attitude of the teacher affect the attitude of the business education student? It was concluded by Pitko that "students in office education did not reflect the attitudes held by their teachers" (55, p. 17). She found that the "peer association exerts more influence on student attitudes than does the teacher" (p. 20). On the other hand, Wood (77) advocated more attention be given to the association between instruction in economics and teacher values and attitudes. He reported that "it was obvious that teachers' values and attitudes 'rub off' on the students" (77, p. 9). This position is supported by Greenhill (27) in his work with instructional television students. He stated that "students' opinions were most probably a function of the attitudes of their teachers, or of the quality of the instruction presented to them by means of television" (27, p. 277).

In contrast, it was interesting to note that when comparing television students with non-television students, the television students tended to rate their own teacher more highly than did the non-television group. The television group tended to give more favorable responses to the course concepts, the course itself, and its materials

and requirements. They also rated the medium of television more favorably than did the non-television group as a vehicle for the course, although they rated the regular textbook less favorably (75).

Research on instructional television has placed heavy emphasis on assessing the attitudes of students and teachers to the use of television for the presentation of classroom instruction, as well as the ability of instructional television presentations to change students' course-related attitudes. However, Greenhill (27) suggested that additional studies that produce cognitive attitude changes in students, whether by televised or other methods of instruction, were certainly needed.

In recent years, there has been a rather extensive use of Osgood's Semantic Differential to assess students' attitudes to instructional television. In some studies simple questionnaires have been used, while in other studies, the Thurstone or Guttman attitude scaling methods have been used (27). Westley (75) used the Semantic Differential to assess the student attitudes toward teacher, course, and medium of instructional television. Recently, the Semantic Differential was used with a group of collegiate business students to determine their attitudes in relation to individually prescribed remedial treatments (29).

Whether persons with more knowledge or information about a subject have a more favorable attitude has been the

topic of investigators for years. Based on the review of previous studies concerning the relationship between information and attitudes, Beattie (5) reported that numerous studies showed a wide divergence in their findings. Probably the most obvious conclusion drawn was that "no simple relationship exists between the direction of attitude held and the level of knowledge possessed about a topic" (5, p. 108). Beattie analyzed the relationship between achievement and attitude on four topics of a personal finance course taught at the high school level. His approach was similar to that used in this study. He developed an achievement test on four topics taught in the course and created an attitude inventory instrument that measured feelings toward the same four topics. Beattie reported that the relationship between achievement and attitude was significant; however, the degree of relationships was generally "low" or "very low." Therefore, for practical purposes, one could assume little relationship between the amount of information known and the direction of one's attitude toward personal finance. These findings were supported by those of Inacker (34) in his study concerning personal finance attitudes and understandings. On the other hand, Amyx found that there was "no significant difference between achievement or attitude change of college accounting students" (3, p. 35).

Several professors of economics (63) found that little research had centered on the measurement of attitude and/or its effects. They found only one study concerning student attitude and its relationship toward learning completed on an institutional basis. This work had been conducted by Guido Deboeck for the Center for Economic Education, Clark University in 1972. Ramsett evaluated the relationship between student attitude toward economics and learning economic principles. An attitude questionnaire was created to measure the student's attitudes at three universities. It was discovered that student attitude toward economics was "significantly associated" with student performance on Tests on Understanding College Economics. In other words, the students who maintained an interest in economics resulted in improved economic understanding. Ramsett also found that there was a close association between the quality of instruction and student attitude.

Related to the above study was Neidt's (51) research focusing on changes in student attitudes during a course in relation to instructional media. The instructional media included in the study were programmed instruction and educational television. An attitude scale was administered five times during the semester. An interesting finding was that a consistent decline in the mean scale scores from the first to the fifth administration was evident with the

decline being much more rapid in the programmed instruction and television groups than the small and large class groups. It was suggested that the novelty of the method may have been the variable that caused the decline.

Locus of Control

Internal-external locus of control was defined by MacDonald in his work as

> . . . the extent to which persons perceive contingency relationships between their actions and their outcomes. People who believe they have some control over their destinies are called "internals"; that is, they believe that at least some control resides within themselves. "Externals," on the other hand, believe that their outcomes are determined by agents or factors extrinsic to themselves, for example, by fate, luck, chance, powerful others, or the unpredictable (45, p. 169).

Lefcourt (42) and Rotter (65) found that a considerable amount of research on diverse populations had demonstrated the construct validity of the scale in a variety of experimental and field situations. In contrast, Hjelle discovered that "correlational studies of the I-E scale and other personological variables have often yielded disappointing results" (30, p. 326).

MacDonald pointed out that over 50 per cent of the literature concerned with locus of control could be summarized by saying that "internals" and "externals" occupy different positions on the instrumental-expressive behavior dimension. More specifically, "internals" engage

in more activities that are instrumentally goal directed, while "externals" more often manifest emotional non-goal directed responses. These findings, according to MacDonald, were consonant with locus of control theory. In addition, he concluded that "people are handicapped by external locus of control orientations" (45, p. 189).

The locus of control scales have been related to such diverse phenomena as achievement behavior, birth control practices, minority group status, rioting, reaction to disability, conformity, reaction to influence attempts, automobile seat belt use, and the list continues. MacDonald felt that the popularity of the internal-external scales was due to its wide range of generalizability as previously indicated. Several studies that directly relate to the variables in the present study were selected to be discussed in the next few paragraphs.

The relationship between locus of control and two academic-related variables--study habits and attitudes, and college academic performance--were recently examined by Prociuk and Breen (60). Levenson's Internal, Powerful Others and Chance scales were administered along with the Survey of Study Habits and Attitudes to eighty-nine psychology students at the collegiate level. The results indicated that "internal control" was related positively to effective study habits and attitudes and to college academic

success, while the opposite was true for "powerful others" and "chance control." However, additional findings demonstrated significant differences between "powerful others" and "chance control" as related to study habits and attitudes and to college grade-point averages.

Another study (5) examined attitudes based on the concept of the development of values. The data for the study were gathered by two of the same instruments that the present study utilized: the locus of control instrument differentiated the subjects into "internal" or "external" controlled groups, and a semantic differential instrument measured six attitude concepts. McKinney hypothesized that values would be more strongly developed in subjects who had an "internal" locus of control, than in subjects with "external" control. The results from the two studies completed by McKinney on his hypothesis about values suggested, at least for the values tested, that "internal" subjects have developed stronger values. "Internal" subjects rated the positive attitudes more positively and the negative attitudes more negatively than did the "external" subjects.

Holloway and Clark (31) reviewed the literature concerning locus of control and achievement. They found that many researchers reported that as "students perceive themselves as being more 'in control' of their own reinforcement, they will perform better with materials and courses

that emphasize a student's freedom to work at his/her pace" (31, pp. 58-59). There were several other suggestions from the research such as:

1. The achievement of the pre-college student can be predicted more easily than those who have enrolled in college.
2. Men's scores on locus of control seem to be more highly correlated with achievement than women's scores (31, p. 59).

The investigators concluded that:

1. Generally, internals achieve higher levels than externals.
2. Internals exhibit more persistence and initiative in seeking achievement goals.
3. Almost all studies suggest a relationship with a task's format, design or structure, although none describe these task attributes in terms as precise as those used to describe LOC.
4. The dependent measures used are varied. Some used final examination grades. Others have employed grade-point averages. For the studies that investigated relationships with personalized systems of instruction, the accumulation of points obtained on the tests of recall were used (31, p. 59).

The internal-external measure has no practical utility for the prediction of academic achievement (73). To gather data for this study, the Internal-External Control of Reinforcement scale was given at the beginning of the academic year and correlated with the grade-point average obtained at the end of the academic year.

Johnson and Croft (36) administered the internal-external scale to 179 college students prior to, and upon completion of, a personalized system of instruction to test whether (1) internals would complete the course faster and

earn higher grades than externals, and (2) whether change toward an internal direction subsequent to course participation would be evident. The results indicated that although locus of control was not related to course performance, significant change toward an "internal direction" was observed.

The work of Eisenman and Platt (18) and Hjelle (30) support the above results, in that they did not find the locus of control scales to be related to academic achievement. Hjelle administered the Rotter Internal External scale to approximately 500 students in a college course. He computed the grade-point averages for students who scored in the extremes on this scale and found only marginal support for the hypothesis that "internals" would demonstrate higher academic achievement.

Several laboratory studies have found that "internals" as opposed to "externals" perform better in and prefer unskilled conditions rather than situations which contain chance factors (43, 66). However, "internals" took more time to make a decision on a difficult task; while, the predecisional time of "externals" was relatively unaffected by degree of task difficulty. These data suggested that "internals'" predecisional activity varied directly with the complexity or difficulty of the task (54). Also consistent with this analysis were the results of Phares

(52) who showed that "internals" made greater use of previously-learned information in a decision-making task than did "externals," and the findings that "internals" more actively seek information relevant to problem solving. Pertinent to the Phares' study were two additional interesting findings: "internals" and "externals" do not differ in the acquisition of material for decision making and "internals" provide significantly more reasons for their decisions than do "externals."

Birth order and sex were two variables used in studying achievement and internal-external control of 131 psychology college students (18). They summarized that females made better grades than males regardless of birth order, with the results being greater among firstborn males and females. Firstborn males were significantly more "external" than "internal" in their perception of reinforcement control, but this external orientation did not seem to account for low academic achievement.

Achievement Through Instructional Television

During the sixties, instructional television was no longer a pioneer movement in education (6). But at the same time, it could be concluded that instructional television had not yet had a significant impact on the instructional process (16), even though historically the number of institutions and the number of television students had grown

tremendously in a very short period of time (6). By 1960-61, institutions of higher education, institutes, and public school systems were offering more than 13,000 telecourses and had enrolled a million and a half students, with an additional five million using telecourses as supplemental material. There were 250 colleges offering televised courses for credit. Groups of colleges in several states were beginning to cooperate in the production of telecourses for inter-institutional utilization. Four years later, approximately seven million students received television instruction in the nation's schools and colleges, and at home hundreds of thousands more were viewing television courses for credit and noncredit. A Federal Communications Commission bulletin (20) reported that an audience survey taken in November, 1971, showed that fifty million persons tune in to educational television regularly each week.

In reviewing the literature, DuMolin discovered that most of the research in instructional media had been fragmented with little coordination between the research projects and those people in the development stage who were producing "software" and using it in the classroom. Much of the research in instructional media prior to 1950 was centered on "evaluative comparisons" between a technical medium, film, slide, recording, and other instructional media, and an equivalent presentation by an instructor (2).

Allen found that most of these studies resulted in various advantages for audio-visual media over classroom instruction. Although a lot of this research was questionable, it served as a basis for much of the audio-visual movement.

During the fifties, DuMolin found that the studies were conducted primarily by the military in an attempt to deal with a number of psychological, production, and utilization variables. One of the problems of that period was that a great deal of the research was undertaken in isolated situations without any system for getting the results to the teacher, software producers, and audio-visual coordinators for utilization (32).

The "decade of educational television" began about 1955 and was supported by the Ford Foundation and the Carnegie Commission. The "evaluative studies" began again much in the same style as the pre-1950 research (16). In 1967, there were approximately 350 research studies concerned with instructional television and film (72). About that same time, Chu and Schramm (13) extensively reviewed the literature and found that the results from hundreds of studies showed that instructional television was as effective as face-to-face instruction. The document prepared by the investigators has proven to be a major source for research. A list of sixty propositions, organized under six headings, was prepared from the results

of 393 comparisons of instructional television in schools and colleges. (See Appendix J for a complete list.)

In the final analysis, Chu and Schramm stated:

> It is concluded from overwhelming evidence that television can be an efficient tool of learning and teaching. When it is not efficient, the reason is usually in the way it is used. Evidence favors the integration of television into other basic requirements of good teaching, introduction of the medium so as to minimize resistance, and testing and revision of programs (13, p. 116).

Schramm (67) analyzed the findings from the Chu and Schramm study beyond the basic problems of learning and attitudes. He formulated several questions often asked by others about instructional television. Among these were:

1. Is there any kind of student who profits more than other kinds from instructional television?
2. Does size of class make any difference in learning from instructional television?
3. Does televised teaching make any difference in retention of subject matter over a long period?
4. Is there a novelty effect in the reported results?
5. Are we measuring the "intangibles?"
6. What do we know about the relation of forms of televised teaching to learning? (67, pp. 61-65)

Schramm found that the research was not consistent in determining the type of student who profits more from instructional television. On the one hand, the results showed no significant differences in scores of television and non-television students when equated for ability. On the other hand, when television students were compared to lecture students in high, average, and low ability groups, the television students rated higher in the high and low

groups, but equal in the average group. Other results showed no important interactions between mental ability and method of instruction.

The studies reviewed by Schramm revealed that students generally prefer to be in small rather than in large classes, but no differential effect of class size on learning from instructional television was reported when viewing conditions were equally satisfactory. Six times as many studies reported no significant differences in retention of subject matter over a long period. A number of the studies in school systems and colleges reported that some of their students had taken several courses by television. There seemed to be no downward curve of achievement in these studies. "Many observers feel that the growth in skill at using television counterbalances the loss of novelty effect" (67, p. 68). Another investigator (40) of instructional television research found that the pattern in retention testing showed no significant differences. The amount of time elapsed between presentation of the course and retention testing had been about thirty to forty-five days in most studies with up to one and two years in a few studies. Kumata concluded that "TV students retained proportionately more of what they had learned than conventionally taught students" (40, p. 180).

Schramm (67) found that the intangible qualities of "social interaction" and "individual differences" had been

studied. There was no evidence to indicate that reduced interaction in the classroom had any harmful effect on children's personalities, or even on their social skills. In general, television students had held their own in tests of critical thinking, problem-solving, and other non-rote aspects of learning. Schramm concluded that "a student who wants to learn can learn from a great variety of experiences" (67, p. 70).

An interesting finding of the Denver-Stanford Project, which involved Schramm, was the apparent importance of the teacher. The report stated this about teacher interest:

> . . . But the real surprise was the apparent importance of teacher interest. . . . [It showed that] if teacher interest is low, then even high preparation and experience will not make for very high levels of pupil performance. It is the combination of high interest and high proficiency that makes the difference. This is clearly what happened in the case of the laissez-faire teachers. Some of them did not score in the highest third of preparation and experience scale, but all of them were highly interested and challenged by their assignment. Their drive and enthusiasm were reflected in the kinds of opportunities they were able to provide to pupils and their pupil's performance (68, p. 159).

Schramm's work resulted in finding that 86 per cent of 393 experimental comparisons had resulted in as much or more learning in a television, as compared to a conventional, classroom. Whereas, Williams (76) reported that approximately 90 per cent of the total comparisons between the information gain of the students taught by

television and of those taught in more conventional ways had indicated no significant differences. These findings lead to the offering of far more instruction by television than is warranted by research finding. Williams' argument was based on the results of tests which assessed only the learner's "ability to recall facts and made no assessment of either his ability to make intelligent use of those facts or the concomitant learnings which derived from the learning situation" (76, p. 264). She took the position that more emphasis should be placed on research using high-level performance testing.

Beck (6) believed that television allowed enough flexibility in using the best talents in educational personnel to provide excellent instruction to unlimited numbers of students at reasonable cost. The addition of television and other new media in education has not reduced the importance of books, laboratories, and teachers but has stimulated inquiry into ways of using all resources to help increased college populations cope with knowledge and human responsibilities in a rapidly changing environment.

The essence of Beck's research (supported by the findings from other investigators) in instructional television was summarized, in part, by the following statements:

1. Research on student performance shows that television is a medium through which students can learn effectively and independently.
2. With instructional television available, a college instructor may choose his role. He can devote himself to the way of teaching he prefers and does best--lecturing, leading discussions, or guiding students individually, and students can have the benefit of varied instructional experience.
3. Effective teaching by TV is not inexpensive, but it can bring uniformly high quality education to everyone--a traditional national goal in the United States.
4. Studies of scholastic aptitude and achievement indicate that students with all levels of ability achieve at least as much with ITV classes as with classroom instruction, and some have shown that students with low ability tend to learn more from ITV than in the classroom.
5. Students whose instructors are enthusiastic about TV instruction like their TV classes. Students of skeptics are themselves skeptical or disapproving.
6. Some reports indicate that students in ITV classes feel they learn less than in conventional classes, even when achievement tests show no significant difference, but most say they prefer superior teaching by TV to mediocre teaching in the classroom.
7. Mature, able students adapt and achieve well with instruction by TV, and . . . given a choice they will re-enroll for TV classes.
8. Realization that TV is a powerful medium by which outstanding efforts in creative teaching can be enjoyed by a wide audience has served to challenge instructors in all college subjects.
9. The intimacy and adaptability of TV in competent technical hands have been strong influences in shaping faculty attitudes, in making successful TV teaching possible in many subjects, and in adding new techniques to teaching methods. TV has added new dimensions to all of teaching.
10. Many classroom instructors now regard ITV as an important source of core material or supplemental material which frees them for more creative teaching, guidance, and evaluation.

11. The great variable in effective teaching still is the teacher, not the medium nor the method.
12. Experience indicates that community support is strong for stimulating, adult subject matter presented in a scholarly setting, that there are few critics, and that statements televised to a large audience or available for re-runs are less subject than heresay to unchallenged misinterpretation or distortion.
13. Because of its flexibility and the considerable skills of studio crews, TV places very few restrictions on teaching style--in fact, it facilitates variety and can take a whole class on a field trip any time. The product of a creative instructional staff and a skilled TV crew is a formidable advance in educational quality.
14. The best TV courses are planned in cooperation with teaching colleagues; prepared with the skills of visual aids specialists; produced in cooperation with experienced TV crews; and integrated into the total pattern of instructional services with the help of competent clerical personnel.
15. In a large metropolitan area, or with several colleges cooperating, broadcast ITV is an economical way of providing quality education to unlimited numbers of students, both for college credits and for personal growth (6, pp. iii-v).

In the early seventies (16), much of the research in instructional television was focusing on:

1. Understanding the relationship between various media and the performance of a specific psychological function
2. Studying the relationship of media to the proper structure and sequencing of instruction
3. Relationships between media and individualized instruction--emphasizing the relation between the stimulus and the tasks as they apply to different learning aptitudes (16, p. 8).

Schramm (67) advocated that research in the future should focus on the total educational process of which

television is a part. Carpenter (11) talked about television research as "system research." He questioned how television fits into the learning experience, specifically, "how can it be used best, and for what. How can it best be combined with other experiences, to make learning a given subject more efficient?" (11, p. 80).

Summary

Introduction to business is a business education course that was offered for credit in a vast number of colleges and universities across the United States. It was generally classified as a freshman-level course; however, in some colleges or universities it was offered at a higher level. The major objective of the course was to provide a basic framework for further study. The objective, serving as a general survey of business, has decreased in importance in the last quarter of a century. Introduction to business is not to be confused with "basic business" which is the general business course of study found at the secondary school level. The contents of the introduction to business course were varied. They ranged from forms of business ownership, business organization, personnel, marketing, finance, and business law, to information on career opportunities in business.

The Chicago City College developed and produced a black-and-white, thirty-program series, introduction to

business instructional-television course in the late sixties. It was broadcast for several years; however, in the past few years, it has not been a part of their television college curriculum. Other business education courses that have been offered via instructional television include accounting, shorthand, economics, computer programming, personal finance, business math, management, typing, business law, salesmanship, marketing, advertising, and retailing. All of these courses have not been offered for credit over open-circuit television, but rather, on closed-circuit facilities.

Research was limited on the introduction to business course. None of the studies available focused on the course being offered through instructional television. A review of the literature revealed absolutely no studies that compared career interest, locus of control, attitude, and achievement scores of community college introduction to business "on-campus" students and "open-circuit instructional television" students.

The research concerning the career interests of students enrolled in collegiate business courses has been limited to a few studies that related only in a narrow way. Knezek found that business students have a need for more career-type information upon which to make career decisions, which was similar to the need of the non-business student.

One study revealed that occupation-oriented community college students with similar characteristics tended to enter the same occupation-centered curriculum. Community college students who did not change their future plans while enrolled seemed more oriented toward employment and had higher family incomes.

In one part of the Manos' study, business majors demonstrated a positive attitude toward business while non-business majors demonstrated a negative attitude. However, on several of the attitude concepts and statements, the two groups were positive in assessment of business' role in creating the high standard of living in America and of the contributions made by free enterprise and competition. On the other hand, both groups were negative toward business when the subjects of ecology, human needs, and consumer relations were discussed.

Females showed more positive generalized attitudes toward work than males. Generally, both females and males who possessed a favorable attitude toward work chose an occupation which was ideal or fitting to them. Females tended to approach work with a "people-oriented" attitude, while males were generally more "work-oriented." Other findings indicated that females had a more favorable attitude toward concepts in business education than did male students. It was demonstrated that the teacher could

have an affect on the student's attitude as well as on the quality of instruction.

The research concerning the relationship between the level of knowledge and attitude toward the course showed a wide divergence in their findings. No simple relationship existed between the direction of attitude held and the information possessed about a topic. Other studies showed that student attitude was significantly associated with student performance. There was also a close association between quality of instruction and student attitude.

MacDonald stated that people who believe they have some control over their destinies are called "internals;" "externals" believe that their outcomes are determined by agents or factors extrinsic to themselves. "Internals" engaged in more activities that were goal directed, while "externals" were more non-goal oriented. "Internal" control was found to be related positively to effective study habits and attitudes and to college academic success. They generally had stronger values than "externals." Students who perceived themselves as being more "in control" of their own reinforcement performed better with materials and courses that emphasized a student's freedom to work at his/her pace. Generally, "internals" achieved higher levels and exhibited more persistence and initiative in seeking achievement goals than did "externals." Students

exhibited an internal direction upon completion of a personalized system of instruction. "Internals" performed better in, and preferred skilled conditions rather than situations which contained chance factors. They took more time to make a decision on a difficult task. Whereas, the predecisional time of "externals" was relatively unaffected by degree of task difficulty. Firstborn males were significantly more "external" than "internal" in their perception of reinforcement, but this external orientation did not seem to account for low academic achievement.

Research on student performance showed that instructional television was a medium through which students could learn effectively and independently. That students learn as well or better from television was well documented by research reports as early as 1956. Since then, literally hundreds of additional studies have confirmed this early finding.

Instructional television met a variety of needs. Open-circuit instructional television broadcasts, carried instruction into schools and colleges and also to a population not otherwise reached by the educational services of a community.

Teachers have been stimulated to inquire into ways of using all resources, including television, to help increased college populations cope with knowledge and human

responsibilities in a rapidly changing world. With the variety of instructional media available, the teacher has to choose his role in providing high quality education to everyone. Enthusiastic and interested teachers affected student attitudes, motivation, performance, and achievement.

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CHAPTER III

PROCEDURE FOR COLLECTION AND ANALYSIS OF DATA

The problem of this study was a comparison of the career interests, locus of control, attitude, and achievement scores of community college introduction to business "on-campus" students and "open-circuit instructional television" students. This chapter provides an explanation of the procedures used to achieve the purposes of the study.

Procedure for Collection of Data

Instruments

Four instruments were used in this study: (1) the Student Career Interest Survey measured the career interests of students, (2) Levenson's "I," "P," and "C" Locus of Control measured the extent to which students perceive contingency relationships between their actions and their outcomes, (3) the Semantic Differential measured the student's attitude toward business, employers, world of work, and free enterprise, and (4) an achievement test measured the student's comprehension of the course objectives.

Student Career Interest Survey

The Student Career Interest Survey was developed in 1971 by a panel of business persons and educators in Dallas, Texas. (See Appendix A for a list of the names and addresses of the panel.) The panel included educators from the community college, counselors from public high schools, and personnel directors of businesses. The purpose of the instrument was to identify students who were interested in certain careers.

The development of the instrument utilized sources of published occupational information such as the Occupational Outlook Handbook compiled by the U.S. Department of Labor's Bureau of Labor Statistics; the Dictionary of Occupational Titles published by the Bureau of Employment Security, U.S. Department of Labor; and the "Fifteen Career Education Cluster" developed by the U.S. Office of Education. The Occupational Outlook Handbook is based on information gathered from industry, labor organizations, trade associations, professional societies, governmental agencies, and educational institutions. The Dictionary of Occupational Titles provides a total of 35,550 identified titles with 21,741 different occupations defined and divided into nine categories.

The panel identified the occupational titles which reflected jobs in the Dallas area, titles for which programs were being offered in post-secondary institutions in the Dallas area, and titles that would communicate to and be understood by secondary students in Dallas. The instrument has been used for five years. Each year it has been revised to better reflect the jobs of the community and to better communicate occupational titles to students. (See Appendix B for a copy of the instrument.)

Levenson's "I," "P," and "C" Locus of Control

The Levenson's "I," "P," and "C" Locus of Control instrument is designed to measure three dimensions of control over people's actions. The scales measure the degree to which an individual feels he has control over what happens to him, not what he feels is the case for people in general. (See Appendix C for a copy of the instrument.)

Levenson developed the "I," "P," and "C" scales from the Rotter I-E Scales to try and account for a more multi-dimensional measure of locus of control. Twenty-four items are used to produce three scales of eight items each in a Likert format. The specific content areas mentioned in the items are counterbalanced so as to appear equally for all three dimensions. All statements are phrased in the first person. The "I" scale measures the extent to which a person

believes he has control over his life, the "P" scale measures the extent to which others have control over a person's life, and the "C" scale is concerned with the extent to which a person believes that chance and forces outside of one's self have control over his behavior (3).

Item analyses with several pretest groups indicated that all of the items significantly distinguished between high and low scores for each of the three scales. Correlations between the Marlowe-Crowne Social Desirability Scale and the twenty-four items in this scale have all been near zero with the highest being only .19. Correlations between the total scores for the three scales and the Marlowe-Crowne SDS are not reported. Since some of Levenson's items are from Rotter's I-E Scale, it shares this scale's validity. Several investigators, stated by MacDonald (3), have presented very good evidence--mainly through factor analysis--of the multi-dimensionality of the I-E Scale.

Internal consistency figures for all three scales range between .62 and .78. Test-retest reliabilities for a one-week period were: .64 (I Scale), .74 (P Scale), and .78 (C Scale). The "P" and "C" Scales were significantly related (r = .59), although neither scale was found to be related to the "I" Scale (3).

Semantic Differential

The Semantic Differential instrument was used to measure attitude--toward business, employers, world of work, and free enterprise. The Semantic Differential scales used follow the design suggested by Osgood in The Measurement of Meaning (4). They were designed to take into account the multi-dimensionality of the meaning space and followed the assumptions of Osgood which give support to the construct and use of such scales. (See Appendix D for a copy of the instrument.)

Using different, but somewhat similar word concepts, Osgood found validity in the differentiations. Osgood explains that the reliability studies that have been conducted show high degrees of correspondence between two profiles given to numerous subjects. Test-retest reliability data obtained by Tannenbaum (1953) and the comparisons made with the Thurstone scales and Guttman-type scale all revealed a correlation coefficient from .87 to .93 for the former and for the latter two, correlation coefficients of over .90. Therefore, it is apparent that the Semantic Differential may be used as a generalized attitude scale.

Bloom (1) in Handbook on Formative and Summative Evaluation of Student Learning describes the Semantic Differential technique as a valuable and comprehensive research tool for measuring generalized attitude. According

to Triandis (6), the Semantic Differential is the most general method for the measure of affective objectives.

The bipolar adjectives were divided into three categories: evaluative, potency, and activity. As suggested by Osgood, there were twice as many evaluative adjectives as the others. The bipolar adjectives were arranged so that there is a mixture of positive and negative poles on both ends of the continuum.

Achievement Test

An achievement test was given at the end of the course. It was developed by the investigator and was based on the objectives for the "introduction to business" course taught on campus and via instructional television in the Dallas District. A course syllabus was collected from each on-campus control instructor and the instructional television course. It was determined that the course objectives were the same.

Based on the course objectives, 110 true-false and multiple-choice questions were constructed. A copy of the questions were sent to the four on-campus control instructors and the two instructional television instructors. The instructors marked each question either "yes," "no," or "undecided" based on the specific course objectives taught in their course. A fifty-question achievement test was developed from the questions marked "yes." (See Appendix E

for a copy of the achievement test.) Every other question was chosen until fifty questions were selected from the "yes" column. A draft of the fifty-question achievement test was sent to each instructor for final approval. Upon their approval, a xerox copy of the test was sent to each instructor for duplication. The instructor was responsible for making sufficient copies for each student in the class. The copies were prepared in the same way as other tests had been prepared earlier in the semester. This precaution was taken to eliminate the Hawthorne Effect.

Population

The Dallas County Community College District serves the people of Dallas County. The county includes both a large metropolitan area and several suburban and rural areas.

Based on the 1970 census figures for Dallas County, the population of eighteen years of age and above was 849,499. The Dallas Chamber of Commerce has computed the 1976 population of eighteen years of age and above to be approximately 964,960. (This number is based on the percentage of eighteen years of age and above of the total population in 1970.)

The four community colleges involved in this study had total fall, 1976, enrollment of 32,790 in courses that earn college credit. Of this number, there are 3,114 students

enrolled in instructional television courses, 477 students enrolled in It's Everybody's Business, and 1,711 students enrolled in introduction to business classes taught by traditional instructors on campus.

Sample

The total number of students completing pretests and posttests for the "open-circuit instructional television" course were included in the experimental group of this study. For the control group, one introduction to business class was chosen from each community college. The total number of students completing pretests and posttests for the "on-campus" classes were used in this study.

Each "on-campus" introduction to business class was selected at random by the Division Chairman based on the following requirements:

1. The class must be taught by a full-time business instructor.

2. The instructor must not be assigned an open-circuit instructional television section.

3. The instructor must never have been assigned an open-circuit instructional television section.

4. The instructor must never have served on the Business 105 Telecourse Advisory Committee.

5. The instructor must have been employed in the Business Division for at least one year.

6. The instructor must have taught introduction to business for at least one semester.

7. The instructor must have had less than ten years of experience teaching introduction to business.

8. A variety of methods of instruction must be used by the instructor.

9. The class must not be organized as an individualized self-paced instructional section.

Permissions

Permission to conduct the study in the Dallas County Community College District was obtained from the Special Services Office of the District. Cooperation was secured from the Dean of Instruction and Business Division Chairmen of each of the four community colleges in the District to use one "on-campus" introduction to business class and all the "open-circuit" introduction to business instructional television students. The experimental group and control group instructors agreed to participate in this study.

Pretesting

The three instruments used for pretesting in this study included the Student Career Interest Survey, Levenson's "I," "P," and "C" Locus of Control, and Semantic Differential. These instruments were given during the first week of the semester to all the students participating in this

study. The pretests were designed to take only twenty-five minutes.

The pretests were given by the instructor to the "on-campus" introduction to business control classes during a regular class period. In order to accommodate the late registrants, the pretests were given during the last class meeting of the first week.

The "open-circuit instructional television" students completed the pretests during their orientation meeting scheduled during the first week of classes prior to the first broadcast in the course. To guard against a biased experimental group, the names and addresses of all the students in the district who did not attend orientation were compiled. (Students may choose to mail a letter of explanation to their instructor instead of attending orientation.) Each student who did not attend orientation was sent a letter of explanation and a set of pretest instruments to be completed and returned in a self-addressed, stamped envelope (see Appendix F for the letter of explanation).

To guard against bias entering the study due to a lack of standardization of the testing procedure, a set of instructions was sent to each instructor in a memorandum from Special Services at the district office. These instructions were developed under the guidance of the

investigator. The instructions included the following which were read to each class by the instructor who administered the pretests. (See Appendix G for the memorandum to the instructors who participated in this study.)

> In order to find out more about the career interests and attitudes of Business 105 students, we are asking you to complete the forms which you have been given. Each packet should have four pieces of paper. Please be sure that your social security number is on each page. Please fill them out quickly, and do not ponder over your answers.

The completed pretests were collected from each instructor involved in the study. The information from the pretests was coded and recorded onto IBM sheets. Cards were key punched from the information on the IBM sheets.

Business Career Panel

The Student Career Interest Survey that was used to measure career choices of students identifies only clusters of job titles. It does not identify the specific business career titles. For purposes of this study, a panel of seventeen business persons and educators was selected to identify the business careers listed on the Student Career Interest Survey instrument. (See Appendix H for the names and addresses of the panel.) The business careers had to be identified and coded before computations could be made on the data collected from the pretest and posttest.

The panel of seventeen was comprised of eight persons selected from the business advisory committees serving each of the four community colleges. Two persons represented each college. They were selected by the college vocational-education dean. The selectees had served at least one year on the advisory committee and were employed full-time in industry. The rationale being that they would be familiar with business titles through work on the committee and would represent a variety of business titles themselves.

Nine educators serving on the panel came from personnel of the four community colleges and the District Office. The vocational-education dean and the business division chairmen from each college were selected as members of the panel. The last person selected, the Director of Program Development, represented the District Office. The rationale being that all the community college people selected would be familiar with a broad spectrum of career titles and would be able to identify the ones that were business. Also, the Director of Program Development served on the committee that developed the original instrument.

After compiling a list of the potential panel members, each one was contacted by telephone to be informed of the study and to determine whether that person would like to participate on the panel. All persons contacted stated that they would like to be a member of that panel. A letter

of explanation was prepared and mailed along with the Student Career Interest Survey instrument to each member for his or her response in choosing the careers that could be identified as business careers. (See Appendix G for letter to advisory committee members and Appendix H for memorandum to other members.) A follow-up by telephone was made two weeks later. Within a month, all the members of the panel had responded.

To distinguish the "business career" students from the "non-business" students, only those career titles that received 90 per cent agreement from the panel were used in this study. The following is a list of the ten career titles that the panel agreed could be identified as business careers:

1. Accountant
2. Banking
3. Bookkeeper
4. Business Management
5. Data Processing
6. Insurance Agent/Sales
7. Investments/Stocks/Bonds
8. Office/Clerical
9. Personnel Work
10. Secretary/Stenographer

Preparation for Posttesting

Two weeks prior to the final examination, a list of one hundred business topics that had been included in the objectives of the course were distributed to each "on-campus" student.

The list was sent to each "open-circuit instructional television" student in the third newsletter. The newsletter was mailed in sufficient time to arrive in the student's home approximately two weeks before the end of the semester. The purpose of the list was to provide the student a means for reviewing the many business topics covered in the course. (See Appendix I for a list of the business topics covered.) This procedure took the place of any review that the instructor might conduct at the end of the course which might bias the student's results.

Posttesting

At the end of the semester during the scheduled final examination period, the same three instruments that were used for pretesting at the beginning of the semester were administered as a posttest along with an achievement test that had been prepared by all the instructors involved in this study. The "on-campus" introduction to business students completed the posttests in their classroom; whereas,

the "open-circuit instructional television" students completed all the posttests in the Testing Center under the direction of a test proctor. The campus instructional television instructors had provided specific instructions to the test proctor. Each campus had an official testing center where the "open-circuit instructional television" students had taken all previous tests for the semester. The final examination for these students was given during a three-day period covering a weekend. The students were not timed. Therefore, they had sufficient time to complete all required posttests as did the "on-campus" students.

To help standardize the testing procedure, the following set of instructions were printed on the cover sheet of the posttest packet of instruments. The students were asked to read the instructions before proceeding to complete them.

> At the beginning of the semester, you were asked to complete a set of questionnaires in order to find out more about career interests and attitudes of Business 105 students. Again, we are asking you to complete the attached questionnaires in order to determine changes that have occurred during the semester.
>
> Each packet should have four pieces of paper. Please be sure that your social security number is on each page. Please fill them out quickly, and do not ponder over your answers.
>
> It is imperative that you complete these questionnaires with the same degree of thoughtfulness that you did at the beginning of the semester. Please turn the page and begin completing the questionnaires.

The information from the posttests was coded and recorded onto IBM sheets and key punched on cards for

processing in the computer center. The statistical measures were computed on each hypothesis using the data collected from the pretests and posttests. The information for answering the descriptive questions was retrieved from the data bank of the computer center. The data were interpreted, tables constructed, analysis written, and recommendations made.

Design of the Study

This study involved two groups of community college "introduction to business" students. One group consisted of four classes of students taking "introduction to business" on campus in classes taught by instructors using various methods of instruction. The other group included all students taking the course via open-circuit instructional television.

There were four variables involved in this study: career interests, locus of control, attitude, and achievement. Pretests were administered to both groups of students on career interests, locus of control, and attitude. The achievement test was administered as a posttest only.

Comparisons were computed between each group of students for each variable and between each variable for each group of students. No attempt was made to study the

interactions of any of the variables within the groups or between the groups.

To test the hypotheses in this study, the following seven statistical measures were used: difference between two correlated proportions, difference between two independent proportions, t-test for related samples, analysis of covariance, t-test for independent samples, Pearson product-moment correlation, and one-way analysis of variance.

Procedure for Analysis of Data

Each of the hypotheses in this study was tested using the following statistical measures. The .05 level of significance was the level of acceptance for each hypothesis.

Difference Between Two Correlated Proportions

Before statistical measures were computed on the first three hypotheses listed under Purpose No. 1, the pretest and posttest Student Career Interest Survey instruments were scored to reveal the number of "business career" students and the number of "non-business career" students. The business careers used in this study were determined by a panel of experts as described earlier.

In scoring the instruments, each student received four points for choosing a business career as the first career

choice, three points for second choice, two points for third choice, and one point for fourth choice. The student had to receive a score of seven on the first two choices before being categorized as a "business career" student. The rest of the students were categorized as "non-business career" students.

The test of the difference between two correlated proportions was used to test the significance of the differences between two proportions based on the same sample of individuals. The data consisted of pairs of observations. The test of the difference between two correlated proportions was used to test the following hypotheses:

Purpose No. 1--Hypotheses 1.1 and 1.2

The formula for the test of the difference between two correlated proportions was as follows (2):

$$z = \frac{B - A}{\sqrt{A + B}}$$

A = number of people who initially said "yes"

B = number of people who initially said "no"

Difference Between Two Independent Proportions

The test of significance of the difference between two independent proportions was used to test the following hypothesis:

Purpose No. 1--Hypothesis 1.3

This data consisted of frequencies in discrete categories involving nominal scaling. Data were comprised of two samples drawn independently. To test a change in the proportion of students choosing business careers, the test of significance of the difference between two independent proportions was used.

The formula for the test of significance of the difference between two independent proportions was as follows (2):

$$z = \frac{p_1 - p_2}{Sp_1 - p_2} = \frac{p_1 - p_2}{\sqrt{pq\ [(1/N_1) + (1/N_2)]}}$$

$$p = \frac{f_1 + f_2}{N_1 + N_2}$$

f_1 = frequencies of first group

f_2 = frequencies of second group

N_1 = number in first group

N_2 = number in second group

q = 1 - p

$Sp_1 - p_2$ = standard error of the difference

T-Test for Related Samples

When making comparisons between two samples which are related and for which the data is better than ordinal, the

appropriate technique was the t-test for related samples. The pretest and posttest were completed by the same person. Therefore, the t-test for related samples was used to test whether or not the means of the two scores were significantly different for the following hypotheses:

Purpose No. 2--Hypotheses 2.1, 2.2, 2.4, 2.5, 2.7, and 2.8 and Purpose No. 3--Hypotheses 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, and 3.8

The t-test for related samples used the following formula (5):

$$t = \frac{\bar{D}}{S_{\bar{D}}}$$

$\bar{D}$ = mean of the difference of M_2 and M_1

$$S_{\bar{D}} = \sqrt{\frac{\Sigma d^2}{N(n-1)}}$$

N = number of pairs of scores

$\Sigma d^2 = \Sigma (D - \bar{D})^2$

D = difference between a pair of scores

df = n - 1

Analysis of Covariance

The multiple regression approach to the analysis of covariance allows one to study the linear relationship between a set of independent variables ("on-campus" and "open-circuit instructional television" groups) and one dependent variable (posttest score). The pretest scores will be used as a covariate.

For purposes of this study, the analysis of covariance was used to test the adjusted means of the following hypotheses:

1. Purpose No. 2--Hypothesis 2.3, 2.6, and 2.9
2. Purpose No. 3--Hypotheses 3.9, 3.10, 3.11, and 3.12

The adjusted group means were calculated from the following formula (5):

$$\bar{Y}'_j = \bar{Y}_j - bw\ (\bar{X}_j - M_x)$$

$\bar{Y}_j$ = original mean of Y

bw = weight or $\frac{SP_w}{SS_{wx}}$

$\bar{X}_j$ = original mean of X

M_x = grand mean

SP_w = sum of product within groups

SS_{wx} = sum of squares within for the X measures (controlled)

T-Test for Independent Samples

When making comparisons between two independent samples and the dependent variable is quantified in such a way that it yields better than ordinal data, the t-test for independent samples was appropriate. Posttest mean scores were used in determining whether the two groups were significantly different in testing the following hypothesis:

Purpose No. 4--Hypothesis 4.1

The t-test for independent samples used the following formula (5):

$$t = \frac{M_1 - M_2}{S_{m_1 - m_2}}$$

M_1 = mean of first group

M_2 = mean of second group

$S_{m_1 - m_2}$ = standard error of difference between means

df = $n_1 + n_2 - 1$

Pearson Product-Moment Correlation

The Pearson product-moment correlation statistical procedure was used to test the significance of the correlation between a set of paired observations. It was used to test the following hypotheses:

1. Purpose No. 5--Hypothesis 5.1
2. Purpose No. 6--Hypothesis 6.1
3. Purpose No. 7--Hypotheses 7.1, 7.2, and 7.3
4. Purpose No. 8--Hypotheses 8.1, 8.2, and 8.3
5. Purpose No. 9--Hypotheses 9.1, 9.2, and 9.3
6. Purpose No. 10--Hypotheses 10.1, 10.2, and 10.3

The Pearson product-moment correlation formula for testing the above hypotheses was as follows (13):

$$t = r\sqrt{\frac{N - 2}{1 - r^2}}$$

N = number of pairs of scores

$$r = \frac{SP}{\sqrt{SS_x SS_y}}$$

SP = sum of product

SS_x = sum of the squares of the first group

SS_y = sum of the squares of the second group

One-Way Analysis of Variance

A one-way analysis of variance is an inferential statistical procedure that compares groups in terms of the mean scores. It was used to test the following hypotheses:

1. Purpose No. 11--Hypothesis 11.1
2. Purpose No. 12--Hypothesis 12.1
3. Purpose No. 13--Hypothesis 13.1
4. Purpose No. 14--Hypothesis 14.1
5. Purpose No. 15--Hypotheses 15.1, 15.2, and 15.3
6. Purpose No. 16--Hypotheses 16.1, 16.2, and 16.3

When the results were significant, the one-way analysis of variance was followed by a t-test of two independent groups or Duncan's multiple comparison test to find out exactly where the significant differences lie.

The one-way analysis of variance formula for finding the F-ratio was as follows (5):

$$F = \frac{MS_b}{MS_w}$$

MS_b = mean of the squares between

MS_w = mean of the squares within

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CHAPTER IV

PRESENTATION OF FINDINGS

The problem of this study was a comparison of the career interests, locus of control, attitude, and achievement scores of community college introduction to business "on-campus" students and "open-circuit instructional television" students. Four instruments were used to gather the data presented in this chapter: (1) the Student Career Interest Survey measured the career interests of students, (2) Levenson's "I," "P," and "C" Locus of Control measured the extent to which students perceive contingency relationships between their actions and their outcomes, (3) the Semantic Differential measured the student's attitude toward business, employers, world of work, and free enterprise, and (4) an achievement test measured the student's comprehension of the course objectives.

This study involved two groups of community college "introduction to business" students. One group consisted of four classes of students taking "introduction to business" on campus in classes taught by instructors using various methods of instruction. The other group included all students taking the course via open-circuit instructional

television. The number of usable responses from the "on-campus" students ranged from 68 to 102 while the usable responses from the "open-circuit instructional television" students ranged from 239 to 277. The two groups of students were compared on the variables: career interests, locus of control, attitude, and achievement. The four variables were also compared within each group of students. To test the hypotheses, the following seven statistical measures were used: difference between two correlated proportions, difference between two independent proportions, t-test for related samples, analysis of covariance, t-test for independent samples, Pearson product-moment correlation, and one-way analysis of variance.

The purpose of this chapter is to present the findings of the study. First, the findings from the statistical analysis of each hypothesis will be presented. The findings will be organized and discussed under six categories: (1) career interests between the groups, (2) locus of control between the groups, (3) attitudes between the groups, (4) achievement between the groups, (5) career interests, locus of control, attitudes, business-career students, and non-business-career students within the "on-campus" group, and (6) career interests, locus of control, attitudes, business-career students, and non-business-career students within the "open-circuit

instructional television" group. Secondly, the additional questions raised by the purposes of this study will be treated in a summative and descriptive manner. The questions were concerned with the variables of age, sex, careers, ethnic groups, business majors, and course grades. The analysis will provide a profile of the students participating in this study.

Comparisons of Career Interests of "On-Campus" and "Open-Circuit Instructional Television" Students

A specific objective listed in the introduction to business course syllabus for each community college "on-campus" class, as well as the "open-circuit instructional television" class participating in this study was to provide the student with general information about business that would assist him in selecting a vocation. It was the intent of the investigator to determine: (1) if there was a difference in career interests between community college "on-campus" students and "open-circuit instructional television" students after completing an introduction to business course, (2) if a change occurred during the course in either group, and (3) if there was a difference in attitude, locus of control, or achievement between business and non-business students.

The first two items above will be discussed in this section and the third item will be handled later in the

appropriate sections. Each hypothesis will be restated, a table of findings given, and an interpretation of the findings provided.

Hypothesis 1.1--There will be no significant difference in the number of community college introduction to business "on-campus" students who choose "business careers" on the pretest compared to those who choose "business careers" on the posttest.

TABLE I

"ON-CAMPUS" STUDENTS CHOOSING BUSINESS CAREERS ON THE STUDENT CAREER INTEREST SURVEY PRETEST AND POSTTEST

	Pretest	Posttest	
Per cent	25	31	
Number	21	26	$z = .845$
Total	85	85	

In Table I it can be seen that of the 85 "on-campus" students who took the Student Career Interest Survey pretest and posttest, 21 students, or 25 per cent, of the pretest sample chose a business career while 26 students, or 31 per cent, chose business careers on the posttest. When a standard test to determine significance of differences of proportions in dependent samples was employed, a z of .845 was obtained. Since this z value does not exceed the

specified table value for $\alpha = .05$, the null hypothesis was accepted.

Hypothesis 1.2--There will be no significant difference in the number of community college introduction to business "open-circuit instructional television" students who choose "business careers" on the pretest compared to those who choose"business careers" on the posttest.

TABLE II

"OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS CHOOSING BUSINESS CAREERS ON THE STUDENT CAREER INTEREST SURVEY PRETEST AND POSTTEST

	Pretest	Posttest	
Per cent	34	33	
Number	84	81	$z = -0.290$
Total	249	249	

Table II shows that of the 240 "open-circuit instructional television" students who took the Student Career Interest Survey pretest and posttest, 84 students, or 34 per cent, chose business careers on the pretest, while 81 students, or 33 per cent, chose business careers on the posttest. When a standard test to determine significance of differences of proportions in dependent samples was administered, a z of -0.290 was secured. Since this z

value does not exceed the specified table value for $\alpha = .05$, the null hypothesis was accepted.

Hypothesis 1.3--There will be no significant difference between the proportion of community college introduction to business "on-campus" students and the proportion of "open-circuit instructional television" students who selected "business careers" on the Student Career Interest Survey posttest.

TABLE III

"ON-CAMPUS" STUDENTS AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS CHOOSING BUSINESS CAREERS ON THE STUDENT CAREER INTEREST SURVEY POSTTEST

	Open-Circuit	On-Campus	
Per cent	32	29	
Number	90	30	z = .0530
Total	279	102	

As depicted in Table III, 90 students, or 32 per cent, of 279 "open-circuit instructional television" students chose business careers on the Student Career Interest Survey posttest; whereas, 30 students, or 29 per cent, of the 102 "on-campus" introduction to business students chose business careers. When a standard test of the difference between two independent proportions was employed, a z of 0.530 was

found. Since this $\underline{z}$ value does not exceed the specified table value for $\alpha = .05$, the null hypothesis was accepted.

Comparisons of Locus of Control Reinforcement Between "On-Campus" and "Open-Circuit Instructional Television" Students

Locus of control refers to the extent to which persons perceive contingency relationships between their actions and their outcomes. Rotter established two scales, "internals" and "externals," for measuring the relationship between actions and outcomes. People who believe that some control resides within themselves are known as "internals;" whereas, people who believe that their outcomes are determined by agents or factors outside themselves are known as "externals."

Based on research with the Rotter I-E scales, Levenson retained the "I" scale; however, he questioned lumping fate, chance, and powerful others' expectancies together; thereupon, two distinct "external" scales were developed. The "P" scale deals with powerful others which means that what happens in one's life is mostly determined by powerful people; the "C" scale is concerned with chance which deals with the fact that to a great extent one's life is controlled by accidental happenings. It is Levenson's "I," "P," and "C" scales that were used in this study to help learn more about introduction to business students.

Inquirers of instructional television courses often want to know about the type of student who has enrolled in

these courses. In order to learn more about the type of student who enrolled in an "introduction to business" instructional television course, the investigator analyzed in this study (1) whether or not there was a difference in the extent of the internal-external locus of control reinforcement between the community college "on-campus" students and the "open-circuit instructional television" students after completing an introduction to business course, and (2) whether or not a change occurred in the student's control during the course in either group.

In this section each hypothesis concerning the measurement of the locus of control will be restated. A table will be given of the findings and an interpretation of the findings will be provided.

Hypothesis 2.1--There will be no significant difference between the pretest and posttest locus of control "internal" scores for the community college introduction to business "on-campus" students.

TABLE IV

LOCUS OF CONTROL "INTERNAL" PRETEST AND POSTTEST MEAN SCORES FOR THE "ON-CAMPUS" STUDENTS

	Pretest	Posttest	
Mean	37.184	37.586	t = 0.925
n	87	87	

It can be seen in Table IV that the mean score for the locus of control "internal" scale pretest was 37.184 while the posttest "internal" scale mean score was 37.586 for the "on-campus" students. When the t-test for related samples was applied, a t of .925 was obtained. Since this t value does not exceed the specified table value for $\alpha = .05$ with 86 degrees of freedom, the null hypothesis was accepted.

Hypothesis 2.2--There will be no significant difference between the pretest and posttest locus of control "internal" scores for the community college introduction to business "open-circuit instructional television" students.

TABLE V

LOCUS OF CONTROL "INTERNAL" PRETEST AND POSTTEST MEAN SCORES FOR THE "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

	Pretest	Posttest	
Mean	37.552	38.837	t = -2.689
n	239	239	

The locus of control "internal" pretest and posttest mean scores for the "open-circuit instructional television" students are found in Table V. The pretest and posttest mean scores for the "internal" scale are 37.552 and 38.837, respectively. When the t-test for related samples was

employed, a $\underline{t}$ of -2.689 was found. Since this $\underline{t}$ value exceeds the specified table value for $\alpha = .05$ with 238 degrees of freedom, the null hypothesis was rejected. There was a significant difference between the pretest and posttest locus of control "internal" means for the "open-circuit instructional television" students.

Hypothesis 2.3--There will be no significant difference between the posttest locus of control "internal" adjusted means for the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

TABLE VI

LOCUS OF CONTROL "INTERNAL" POSTTEST FOR "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS
(Analysis of Covariance Summary)

Source	SS	DF	MS	F
Treatments	88.924	1	88.924	4.343
Error	6614.026	323	20.477	
Total	6702.950	324		

Table VI illustrates the statistical results from the locus of control "internal" posttest for the "on-campus" and "open-circuit instructional television" students. When the analysis of covariance statistical measure was

administered, a F value of 4.343 was calculated. Since the calculated F exceeds the tabled value at the $\alpha = .05$ with 1 and 323 degrees of freedom, the null hypothesis was rejected. A significant difference in the adjusted means of the two introduction to business groups was determined to exist with the adjusted means of the "open-circuit instructional television" group exceeding that of the "on-campus" group.

Hypothesis 2.4--There will be no significant difference between the pretest and posttest locus of control "powerful others" scores for the community college introduction to business "on-campus" students.

TABLE VII

LOCUS OF CONTROL "POWERFUL OTHERS" PRETEST AND POSTTEST MEAN SCORES FOR THE "ON-CAMPUS" STUDENTS

	Pretest	Posttest	
Mean	29.517	30.828	t = -2.361
n	87	87	

As depicted in Table VII the locus of control "powerful others" mean scores for the pretest and posttest for the "on-campus" students was 29.517 and 30.828, respectively. When the standard t-test for related samples was employed, a t of -2.361 was found. Since this t value exceeds the

specified table value for $\alpha = .05$ with 86 degrees of freedom, the null hypothesis was rejected. There was a significant difference between the pretest and posttest locus of control "powerful others" means for the "on-campus" students.

Hypothesis 2.5--There will be no significant difference between the pretest and posttest locus of control "powerful others" scores for the community college introduction to business "open-circuit instructional television" students.

TABLE VIII

LOCUS OF CONTROL "POWERFUL OTHERS" PRETEST AND POSTTEST MEAN SCORES FOR THE "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

	Pretest	Posttest	
Mean	18.674	30.025	t = -19.17
n	239	239	

As shown in Table VIII the locus of control "powerful others" pretest mean score was 18.674 and the posttest mean score was 30.025 for the "open-circuit instructional television" students. When the standard $\underline{t}$-test for related samples was calculated, a $\underline{t}$ of -19.17 was obtained. Since this $\underline{t}$ value exceeds the specified table value for $\alpha = .05$ with 238 degrees of freedom, the null hypothesis was rejected. There was a significant difference between the

pretest and posttest locus of control "powerful others" means for the "open-circuit instructional television" students.

Hypothesis 2.6--There will be no significant difference between the posttest locus of control "powerful others" adjusted means for the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

TABLE IX

LOCUS OF CONTROL "POWERFUL OTHERS" POSTTEST FOR "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS
(Analysis of Covariance Summary)

Source	SS	DF	MS	F
Treatments	369.526	1	369.526	8.860
Error	13471.558	323	41.708	
Total	13841.084	324		

Illustrated in Table IX are the statistical results from the locus of control "powerful others" posttest for the "on-campus" and "open-circuit instructional television" students. When the analysis of covariance statistical measure was employed, an F value of 8.860 was found. Since the calculated F exceeds the tabled value at the $\alpha = .05$ with 1 and 323 degrees of freedom, the null hypothesis was

rejected. A significant difference in the adjusted means of the two introduction to business groups was determined to exist with the adjusted means of the "open-circuit instructional television" group exceeding that of the "on-campus" group.

Hypothesis 2.7--There will be no significant difference between the pretest and posttest locus of control "chance" scores for the community college introduction to business "on-campus" students.

TABLE X

LOCUS OF CONTROL "CHANCE" PRETEST AND POSTTEST MEAN SCORES FOR THE "ON-CAMPUS" STUDENTS

	Pretest	Posttest	
Mean	29.092	29.506	t = -0.778
n	87	87	

It can be seen in Table X that the mean score for the locus of control "chance" scale pretest was 29.092 while the posttest "chance" scale mean score was 29.506 for the "on-campus" students. The pretest and posttest mean scores exhibit only minor differences. When the standard t-test for related samples statistical measure was applied, a t of -0.778 was calculated. Since this t value does not exceed the specified table value of $\alpha = .05$ with 86 degrees of freedom, the null hypothesis was accepted.

Hypothesis 2.8--There will be no significant difference between the pretest and posttest locus of control "chance" scores for the community college introduction to business "open-circuit instructional television" students.

TABLE XI

LOCUS OF CONTROL "CHANCE" PRETEST AND POSTTEST MEAN SCORES FOR THE "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

	Pretest	Posttest	
Mean	17.849	28.741	t = -18.639
n	239	239	

As depicted in Table XI the mean scores for the locus of control "chance" scale pretest and posttest were 17.849 and 28.741, respectively for the "open-circuit instructional television" students. When the t-test for related samples was applied, a t of -18.639 was found. Since this t value exceeds the specified table value for $\alpha = .05$ with 238 degrees of freedom, the null hypothesis was rejected. There was a significant difference between the pretest and posttest locus of control "chance" means for the "open-circuit instructional television" students.

Hypothesis 2.9--There will be no significant difference between the posttest locus of control "chance" adjusted means

of the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

TABLE XII

LOCUS OF CONTROL "CHANCE" POSTTEST FOR "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS (Analysis of Covariance Summary)

Source	SS	DF	MS	F
Treatments	524.863	1	524.863	11.229
Error	15097.408	323	46.741	
Total	15622.271	324		

The statistical results from the locus of control "chance" posttest for the "on-campus" and "open-circuit instructional television" students are displayed in Table XII. When the analysis of covariance statistical measure was administered, an F value of 11.229 was obtained. Since the calculated F exceeds the specified tabled value at the $\alpha = .05$ with 1 and 323 degrees of freedom, the null hypothesis was rejected. A significant difference in the adjusted means of the two introduction to business groups was determined to exist with the adjusted means of the "open-circuit instructional television" group exceeding that of the "on-campus" group.

Comparisons of Student Attitude Between "On-Campus" and "Open-Circuit Instructional Television" Students

An objective of the introduction to business course was concerned with creating a positive attitude on the part of the student toward the American economic and business systems and their operations. The investigator was interested in finding out specifically (1) whether or not there was a difference in the attitude--toward free enterprise, business, world of work, and employers--between community college "on-campus" students and "open-circuit instructional television" students after completing an introduction to business course, and (2) whether or not a change occurred during the course in either group.

In this section each hypothesis concerning attitude will be restated. A table will provide the findings and an interpretation of the findings will be given.

Hypothesis 3.1--There will be no significant difference between the pretest and posttest "attitude toward employers" scores for the community college introduction to business "on-campus" students.

TABLE XIII

"ATTITUDE TOWARD EMPLOYERS" PRETEST AND POSTTEST MEAN SCORES FOR THE "ON-CAMPUS" STUDENTS

	Pretest	Posttest	
Mean	54.299	54.195	t = 0.118
n	87	87	

With regard to the "on-campus" students' attitude toward employers as measured by the Semantic Differential, the pretest and posttest means were 54.299 and 54.195, respectively. As can be seen in Table XIII the pretest and posttest means exhibit only minor differences for the "on-campus" students. When the standard t-test to determine significant differences between means of dependent samples was administered, a t of 0.118 was obtained. This t value does not exceed the table value for $\alpha = .05$ with 86 degrees of freedom; therefore, the null hypothesis was accepted.

Hypothesis 3.2--There will be no significant difference between the pretest and posttest "attitude toward the world of work" scores for the community college introduction to business "on-campus" students.

TABLE XIV

"ATTITUDE TOWARD THE WORLD OF WORK" PRETEST AND POSTTEST MEAN SCORES FOR THE "ON-CAMPUS" STUDENTS

	Pretest	Posttest	
Mean	53.172	53.782	t = -0.636
n	87	87	

The Semantic Differential instrument was used to measure the "on-campus" students' attitude toward the world of work. The pretest mean, 54.172, and the posttest mean, 53.782, are displayed in Table XIV. When the standard t-test for related samples was employed, a t of -0.636 was found. Since this t value does not exceed the specified table value for $\alpha = .05$ with 86 degrees of freedom, the null hypothesis was accepted.

Hypothesis 3.3--There will be no significant difference between the pretest and posttest "attitude toward business" scores for the community college introduction to business "on-campus" students.

TABLE XV

"ATTITUDE TOWARD BUSINESS" PRETEST AND POSTTEST MEAN SCORES FOR THE "ON-CAMPUS" STUDENTS

	Pretest	Posttest	
Mean	60.023	58.598	t = 1.240
n	87	87	

As depicted in Table XV the pretest mean was 60.023 and the posttest mean was 58.598 for the "on-campus" students as measured by the "attitude toward business" scale of the Semantic Differential instrument. When the standard t-test to determine significant differences between means of dependent samples was administered, a t of 1.240 was obtained. This t value does not exceed the specified table value for $\alpha = .05$ with 86 degrees of freedom; therefore, the null hypothesis was accepted.

Hypothesis 3.4--There will be no significant difference between the pretest and posttest "attitude toward free enterprise" scores for the community college introduction to business "on-campus" students.

TABLE XVI

"ATTITUDE TOWARD FREE ENTERPRISE" PRETEST AND POSTTEST MEAN SCORES FOR THE "ON-CAMPUS" STUDENTS

	Pretest	Posttest	
Mean	58.138	59.011	t = -.860
n	87	87	

It can be seen in Table XVI that the "on-campus" students' attitude toward free enterprise pretest mean score was 58.138 and the posttest mean score was 59.011 as measured by the Semantic Differential. When the standard t-test for related samples was applied, a t of -.860 was calculated. Since this t value does not exceed the specified table value for $\alpha = .05$ with 86 degrees of freedom, the null hypothesis was accepted.

Hypothesis 3.5--There will be no significant difference between the pretest and posttest "attitude toward employers" scores for the community college introduction to business "open-circuit instructional television" students.

TABLE XVII

"ATTITUDE TOWARD EMPLOYERS" PRETEST AND POSTTEST MEAN SCORES FOR THE "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

	Pretest	Posttest	
Mean	54.477	55.653	t = -1.770
n	239	239	

With regard to the "open-circuit instructional television students' attitude toward employers as measured by the Semantic Differential, the pretest and posttest means were 54.477 and 55.653, respectively. The means are depicted in Table XVII. When the standard t-test to determine significant differences between means of dependent samples was administered, a t of -1.770 was found. This t value does not exceed the table value for $\alpha = .05$ with 238 degrees of freedom; therefore, the null hypothesis was accepted.

Hypothesis 3.6--There will be no significant difference between the pretest and posttest "attitude toward the world of work" scores for the community college introduction to business "open-circuit instructional television" students.

TABLE XVIII

"ATTITUDE TOWARD THE WORLD OF WORK" PRETEST AND POSTTEST MEAN SCORES FOR THE "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

	Pretest	Posttest	
Mean	53.753	52.720	t = 1.853
n	239	239	

The Semantic Differential instrument was used to gather the pretest mean of 53.752 and a posttest mean of 52.720 for the "open-circuit instructional television" students' attitude toward the world of work. The means are shown in Table XVIII. Even though there was some difference between the mean scores, the t value of 1.853, found by applying the standard t-test for related samples, did not exceed the specified table value for $\alpha = .05$ with 238 degrees of freedom. As a result, the null hypothesis was accepted.

Hypothesis 3.7--There will be no significant difference between the pretest and posttest "attitude toward business" scores for the community college introduction to business "open-circuit instructional television" students.

TABLE XIX

"ATTITUDE TOWARD BUSINESS" PRETEST AND POSTTEST MEAN SCORES FOR THE "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

	Pretest	Posttest	
Mean	59.088	58.699	t = 0.640
n	239	239	

As depicted in Table XIX the pretest mean was 59.088, and the posttest mean was 58.699 for the "open-circuit instructional television" students as measured by the "attitude toward business" scale of the Semantic Differential instrument. When the standard t-test to determine significant differences between means of dependent samples was administered, a t of .640 was obtained. This t value does not exceed the specified table value for $\alpha = .05$ with 238 degrees of freedom; therefore, the null hypothesis was accepted.

Hypothesis 3.8--There will be no significant difference between the pretest and posttest "attitude toward free enterprise" scores for the community college introduction to business "open-circuit instructional television" students.

TABLE XX

"ATTITUDE TOWARD FREE ENTERPRISE" PRETEST AND POSTTEST MEAN SCORES FOR THE "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

	Pretest	Posttest	
Mean	58.444	58.682	t = -0.345
n	239	239	

As shown in Table XX the attitude toward free enterprise pretest mean score was 58.444, and the posttest mean score was 58.682 as measured by the Semantic Differential instrument for the "open-circuit instructional television" students. A standard t-test for related samples was used to calculate a t of -0.345. This t value does not exceed the specified table value for $\alpha = .05$ with 238 degrees of freedom; therefore, the null hypothesis was accepted.

Hypothesis 3.9--There will be no significant difference between the posttest "attitude toward employers" adjusted means for the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

TABLE XXI

"ATTITUDE TOWARD EMPLOYERS" POSTTEST FOR "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS (Analysis of Covariance Summary)

Source	SS	DF	MS	F
Treatments	122.671	1	122.671	1.855
Error	21356.396	323	66.119	
Total	21479.067	324		

Table XXI displays the statistical results from the attitude toward employers posttest for both the "on-campus" and "open-circuit instructional television" students as measured by the Semantic Differential instrument. After the analysis of covariance procedure was utilized, F value of 1.855 was found. The F value does not exceed the tabled value at the $\alpha = .05$ with 1 and 323 degrees of freedom. As a result, the null hypothesis was accepted.

Hypothesis 3.10--There will be no significant difference between the posttest "attitude toward the world of work" adjusted means for the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

TABLE XXII

"ATTITUDE TOWARD THE WORLD OF WORK" POSTTEST FOR "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS
(Analysis of Covariance Summary)

Source	SS	DF	MS	F
Treatments	111.634	1	111.634	1.884
Error	19141.500	323	59.262	
Total	19253.134	324		

Displayed in Table XXII are the statistical results of the attitude toward the world of work posttest administered to both the "on-campus" and "open-circuit instructional television" students gathered by the Semantic Differential instrument. When the analysis of covariance statistical measure was applied, an F value of 1.884 was calculated. Since the calculated F value does not exceed the tabled value at the $\alpha = .05$ with 1 and 323 degrees of freedom, the null hypothesis was accepted.

Hypothesis 3.11--There will be no significant difference between the posttest "attitude toward business" adjusted means for the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

TABLE XXIII

"ATTITUDE TOWARD BUSINESS" POSTTEST FOR "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS (Analysis of Covariance Summary)

Source	SS	DF	MS	F
Treatments	15.353	1	15.353	0.210
Error	23622.263	323	73.134	
Total	23637.616	324		

The statistical results from the attitude toward business posttest gathered by the Semantic Differential instrument administered to the "on-campus" and "open-circuit instructional television" students at the end of the semester are displayed in Table XXIII. The value of F was .210 as determined by the analysis of covariance statistical measure. Since the F value does not equal or exceed the specified tabled value at the $\alpha = .05$ with 1 and 323 degrees of freedom, the null hypothesis was accepted.

Hypothesis 3.12--There will be no significant difference between the posttest "attitude toward free enterprise" adjusted means for the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

TABLE XXIV

"ATTITUDE TOWARD FREE ENTERPRISE" POSTTEST FOR "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS
(Analysis of Covariance Summary)

Source	SS	DF	MS	F
Treatments	14.375	1	14.375	0.172
Error	27069.937	323	83.808	
Total	27084.312	324		

Table XXIV displays the statistical results from the attitude toward free enterprise posttest for both the "on-campus" and "open-circuit instructional television" students as measured by the Semantic Differential instrument. When the analysis of covariance statistical measure was applied, F value of .172 was calculated. Since the calculated F does not exceed the tabled value at the $\alpha = .05$ with 1 and 323 degrees of freedom, the null hypothesis was accepted.

Comparison of Achievement Between "On-Campus" and "Open-Circuit Instructional Television" Students

One of the first questions that a potential user of instructional television courses wants answered is whether or not the students compare favorably in achievement with traditionally taught students. As previously cited in Chapter II, research findings have shown that instructional

television students learn as much or more than traditionally taught students; therefore, it is no longer a matter of whether or not the students learn, but one of how they compare in achievement to the traditionally taught students at the end of the semester.

It was the intent of the investigator to compare the "open-circuit instructional television" students with the "on-campus" students based on an achievement test prepared from learning objectives taught to both groups of students. The hypothesis concerning achievement will be restated, a table of findings will be provided, and an interpretation of the results will be given.

Hypothesis 4.1--There will be no significant difference in the "achievement test" mean scores between the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

TABLE XXV

"ACHIEVEMENT" POSTTEST MEAN SCORES FOR "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

	On-campus	Open-circuit	
Mean	81.0147	89.458	t = -5.998
n	68	277	

As depicted in Table XXV the posttest mean score for the "on-campus" students was 81.0147 while the posttest mean score was 89.458 for the "open-circuit instructional television" students as measured by an achievement test that was based on the learning objectives of both groups tested. A standard t-test for independent samples was used to calculate a t of -5.998. Since this t value exceeds the specified table value for $\alpha = .05$ with 343 degrees of freedom, the null hypothesis was rejected. There was a significant difference between the posttest mean scores on the achievement test for the two introduction to business groups tested.

Comparisons of Attitude, Locus of Control, Achievement, Business-Career Students, and Non-Business-Career Students of "On-Campus" Group

The presentation of the findings for the hypotheses comparing student attitude, locus of control, achievement, business-career students, and non-business-career students of the "on-campus" group will be discussed in this section. Each hypothesis will be restated. A table of the findings will be provided where appropriate. The correlation data will be listed and discussed in the interpretation of the findings rather than placed in table form.

Hypothesis 5.1--The correlation coefficient between the attitude "coefficient" and the "achievement test" scores

will not be significantly different from zero for the community college introduction to business "on-campus" students.

$r = 0.304$

$n = 65$

$t = 2.532$

An analysis of the attitude "coefficient" and the "achievement test" scores yielded a Pearson product-moment correlation of 0.304. Since the t value of 2.532 at the $\alpha = .05$ with 63 degrees of freedom exceeds the specified table value, the null hypothesis was rejected. There was a relationship between the attitude "coefficient" and the "achievement test" scores for the "on-campus" students.

Hypothesis 7.1--The correlation coefficient between the locus of control "internal" scores and the attitude "coefficient" will not be significantly different from zero for the community college introduction to business "on-campus" students.

$r = 0.312$

$n = 102$

$t = 3.271$

The Pearson product-moment correlation statistical measure was used to determine a correlation of 0.312 between the locus of control "internal" scores and the attitude "coefficient" for the "on-campus" students. A t value

of 3.271 was calculated resulting in the rejection of the null hypothesis at the $\alpha = .05$ with 100 degrees of freedom. There was a relationship between the locus of control "internal" scores and the attitude "coefficient" for the introduction to business "on-campus" students.

Hypothesis 7.2--The correlation coefficient between the locus of control "powerful others" scores and the attitude "coefficient" will not be significantly different from zero for the community college introduction to business "on-campus" students.

$r = -0.135$

$n = 102$

$t = -1.367$

The locus of control "powerful others" scores and the attitude "coefficient" of the "on-campus" introduction to business students were analyzed by the Pearson product-moment correlation statistical measure. The calculations yielded a correlation of -0.135. Since the t value of -1.367 at the $\alpha = .05$ with 100 degrees of freedom does not exceed the specified table value, the null hypothesis was accepted.

Hypothesis 7.3--The correlation coefficient between the locus of control "chance" scores and the attitude "coefficient" will not be significantly different from zero for the community college introduction to business "on-campus" students.

$r = -0.146$

$n = 102$

$t = -1.478$

An analysis of the locus of control "chance" scores and the attitude "coefficient" resulted in a Pearson product-moment correlation of -0.146 for the "on-campus" introduction to business students. The t value of -1.478 at the $\alpha = .05$ with 100 degrees of freedom does not exceed the specified table value; therefore, the null hypothesis was accepted.

Hypothesis 9.1--The correlation coefficient between the locus of control "internal" scores and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "on-campus" students.

$r = 0.144$

$n = 65$

$t = 1.156$

The Pearson product-moment correlation statistical measure was applied to the locus of control "internal" scores and the "achievement test" scores for the "on-campus" introduction to business students tested. A correlation of 0.144 was found. Since the t value of 1.156 at the $\alpha = .05$ with 63 degrees of freedom does not exceed the specified table value, the null hypothesis was accepted.

Hypothesis 9.2--The correlation coefficient between the locus of control "powerful others" scores and the "achievement test" scores will not be significantly different from zero for community college introduction to business "on-campus" students.

$r = 0.175$

$n = 65$

$t = 1.410$

The locus of control "powerful others" scores and the "achievement test" scores for the "on-campus" introduction to business students were analyzed by the Pearson product-moment correlation statistical test. The result was a correlation of 0.175. The t value of 1.410 at the $\alpha = .05$ with 63 degrees of freedom does not exceed the specified table value; therefore, the null hypothesis was accepted.

Hypothesis 9.3--The correlation coefficient between the locus of control "chance" scores and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "on-campus" students.

$r = -0.104$

$n = 65$

$t = -0.834$

An analysis of the locus of control "chance" scores and the "achievement test" scores yielded a Pearson product-moment correlation of -0.104 for the "on-campus" students.

Since the t value of -0.834 at the $\alpha = .05$ with 63 degrees of freedom does not exceed the specified table value, the null hypothesis was accepted.

Hypothesis 11.1--There will be no significant difference between the "achievement test" mean scores of "business career" and "non-business career" community college introduction to business "on-campus" students.

TABLE XXVI

"ACHIEVEMENT TEST" MEAN SCORES OF "BUSINESS CAREER" AND "NON-BUSINESS CAREER" INTRODUCTION TO BUSINESS "ON-CAMPUS" STUDENTS
(Analysis of Variance Summary)

Source	SS	DF	MS	F
Between groups	173.9977	1	173.9977	1.08
Within groups	10149.7561	63	161.1072	
Total	10323.7538	64	335.1050	

As depicted in Table XXVI it can be seen that an F value of 1.08 was found after applying the analysis of variance statistical test to the achievement test mean scores of the "business career" and "non-business career" community college introduction to business "on-campus" students. The F value does not exceed the tabled value at the $\alpha = .05$ with 1 and 63 degrees of freedom; therefore, the null hypothesis was accepted.

Hypothesis 13.1--There will be no significant difference between the means of the attitude "coefficient" of "business career" and "non-business career" community college introduction to business "on-campus" students.

TABLE XXVII

ATTITUDE "COEFFICIENT" POSTTEST MEAN SCORES OF "BUSINESS CAREER" AND "NON-BUSINESS CAREER" INTRODUCTION TO BUSINESS "ON-CAMPUS" STUDENTS
(Analysis of Variance Summary)

Source	SS	DF	MS	F
Between groups	580.3841	1	580.3841	.4915
Within groups	115722.3759	98	1180.8406	
Total	116302.7600	99	1761.2247	

With regard to the attitude "coefficient" posttest mean scores of "business career" and "non-business career" introduction to business "on-campus" students, the F value of .4915 as displayed in Table XXVII, was determined by the analysis of variance statistical test. Since the F value does not exceed the specified table value at the $\alpha = .05$ with 1 and 98 degrees of freedom, the null hypothesis was accepted.

Hypothesis 15.1--There will be no significant difference between the locus of control "internal" mean scores

of "business career" and "non-business career" community college introduction to business "on-campus" students.

TABLE XXVIII

LOCUS OF CONTROL "INTERNAL" POSTTEST MEAN SCORES OF "BUSINESS CAREER" AND "NON-BUSINESS CAREER" INTRODUCTION TO BUSINESS "ON-CAMPUS" STUDENTS
(Analysis of Variance Summary)

Source	SS	DF	MS	F
Between groups	7.6597	1	7.6597	.6111
Within groups	1228.3403	98	12.5341	
Total	1236.0000	99	20.1937	

The F value of .6111, shown in Table XXVIII, was found by applying the analysis of variance statistical test to the locus of control "internal" mean scores of "business career" and "non-business career" community college introduction to business "on-campus" students. Since the F value does not exceed the specified table value at the $\alpha = .05$ with 1 and 98 degrees of freedom, the null hypothesis was accepted.

Hypothesis 15.2--There will be no significant difference between the locus of control "powerful others" mean scores of "business career" and "non-business career" community college introduction to business "on-campus" students.

TABLE XXIX

LOCUS OF CONTROL "POWERFUL OTHERS" POSTTEST MEAN SCORES OF "BUSINESS CAREER" AND "NON-BUSINESS CAREER" INTRODUCTION TO BUSINESS "ON-CAMPUS" STUDENTS (Analysis of Variance Summary)

Source	SS	DF	MS	F
Between groups	1.9450	1	1.9450	.0568
Within groups	3356.8050	90	34.2531	
Total	3358.7500	99	36.1981	

The standard test for the analysis of variance was employed to find the F value of .0568, as shown in Table XXIX, for the locus of control "powerful others" posttest mean scores of the "business career" and "non-business career" community college introduction to business "on-campus" students. The F value does not exceed the specified table value at the $\alpha = .05$ with 1 and 98 degrees of freedom; therefore, the null hypothesis was accepted.

Hypothesis 15.3--There will be no significant difference between the locus of control "chance" mean scores of "business career" and "non-business career" community college introduction to business "on-campus" students.

TABLE XXX

LOCUS OF CONTROL "CHANCE" POSTTEST MEAN SCORES OF "BUSINESS CAREER" AND "NON-BUSINESS CAREER" INTRODUCTION TO BUSINESS "ON-CAMPUS" STUDENTS
(Analysis of Variance Summary)

Source	SS	DF	MS	F
Between groups	19.2655	1	19.2655	.5792
Within groups	3259.7345	98	33.2626	
Total	3279.0000	99	52.5281	

Table XXX displays the F value of .5792 obtained by administering the analysis of variance statistical test to the locus of control "chance" posttest mean scores of "business career" and "non-business career" introduction to business "on-campus" students. Since the F value does not exceed the specified table value at the $\alpha = .05$ with 1 and 98 degrees of freedom, the null hypothesis was accepted.

Comparisons of Attitude, Locus of Control, Achievement, Business-Career Students, and Non-Business-Career Students of "Open-Circuit Instructional Television" Group

The presentation of the findings for the hypotheses comparing student attitude, locus of control, achievement, business-career students, and non-business-career students of the "open-circuit instructional television" group will be discussed in this section. Each hypothesis will be repeated.

The correlation data will be discussed in the interpretation of the findings and tables will be provided for the hypotheses where appropriate.

Hypothesis 6.1--The correlation coefficient between the attitude "coefficient" and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

$r = 0.202$

$n = 252$

$t = 3.266$

An analysis of the attitude "coefficient" and the "achievement test" scores yielded a Pearson product-moment correlation of 0.202. Since the t value of 3.266 at the $\alpha = .05$ with 250 degrees of freedom exceeds the specified table value, the null hypothesis was rejected. There was a relationship between the attitude "coefficient" and the "achievement test" scores for the "open-circuit instructional television" students.

Hypothesis 8.1--The correlation coefficient between the locus of control "internal" scores and the attitude "coefficient will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

$r = 0.077$

$n = 268$

$t = 1.265$

The Pearson product-moment correlation statistical measure was used to determine a correlation of 0.077 between the locus of control "internal" scores and the attitude "coefficient" for the "open-circuit instructional television" students. A t value of 1.265 was calculated. Since the t value at the $\alpha = .05$ with 266 degrees of freedom does not exceed the specified table, the null hypothesis was accepted.

Hypothesis 8.2--The correlation coefficient between the locus of control "powerful others" scores and the attitude "coefficient" will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

$r = -0.282$

$n = 268$

$t = -4.788$

The locus of control "powerful others" scores and the attitude "coefficient" of the "open-circuit instructional television" students were analyzed by the Pearson product-moment correlation statistical measure. The calculations yielded a correlation of -0.282. Since the t value of -4.788 at the $\alpha = .05$ with 266 degrees of freedom exceeds

the specified table value, the null hypothesis was rejected. There was a relationship between the locus of control "powerful others" scores and the attitude "coefficient" of the "open-circuit instructional television" students enrolled in the introduction to business class.

Hypothesis 8.3--The correlation coefficient between the locus of control "chance" scores and the attitude "coefficient" will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

$r = -0.330$

$n = 268$

$t = -5.700$

An analysis of the locus of control "chance" scores and the attitude "coefficient" resulted in a Pearson product-moment correlation of -0.330 for the "open-circuit instructional television" students enrolled in an introduction to business class. The t value of -5.77 at the $\alpha = .05$ with 266 degrees of freedom exceeds the specified table value; therefore, the null hypothesis was rejected. There was a relationship between the locus of control "chance" scores and the attitude "coefficient" of the introduction to business "open-circuit instructional television" students.

Hypothesis 10.1--The correlation coefficient between the locus of control "internal" scores and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

$r = 0.083$

$n = 252$

$t = 1.321$

The Pearson product-moment correlation statistical measure was applied to the locus of control "internal" scores and the "achievement test" scores for the "open-circuit instructional television" students enrolled in introduction to business. A correlation of 0.083 was calculated. Since the $\underline{t}$ value of 1.321 at the $\alpha = .05$ with 250 degrees of freedom does not exceed the specified table value, the null hypothesis was accepted.

Hypothesis 10.2--The correlation coefficient between the locus of control "powerful others" scores and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

$r = -0.092$

$n = 252$

$t = -1.461$

The locus of control "powerful others" scores and the "achievement test" scores for the "open-circuit instructional television" students enrolled in introduction to business were analyzed by the Pearson product-moment correlation statistical test. The result was a correlation of -0.092. The $\underline{t}$ value of -1.461 at the $\alpha = .05$ with 250 degrees of freedom does not exceed the specified table value; therefore, the null hypothesis was accepted.

Hypothesis 10.3--The correlation coefficient between the locus of control "chance" scores and the "achievement test" scores will not be significantly different from zero for the community college introduction to business "open-circuit instructional television" students.

$$f = -0.2172$$

$$n = 252$$

$$t = -3.518$$

The Pearson product-moment correlation test was administered to the locus of control "chance" scores and the "achievement test" scores for the community college introduction to business "open-circuit instructional television" students participating in this study. A correlation of 0.2172 was calculated. Since the $\underline{t}$ value of -3.518 at the $\alpha = .05$ with 250 degrees of freedom exceeds the specified table value, the null hypothesis was rejected. There was a relationship between the locus of

control "chance" scores and the "achievement test" scores for the introduction to business "open-circuit instructional television" students.

Hypothesis 12.1--There will be no significant difference between the "achievement test" mean scores of the "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

TABLE XXXI

"ACHIEVEMENT TEST" MEAN SCORES OF "BUSINESS CAREER" AND "NON-BUSINESS CAREER" INTRODUCTION TO BUSINESS "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS (Analysis of Variance Summary)

Source	SS	DF	MS	F
Between groups	55.9862	1	55.9862	.6166
Within groups	23789.4532	262	90.7994	
Total	23845.4394	263	146.7856	

As depicted in Table XXXI, it can be seen that an F value of .6166 was obtained after applying the analysis of variance statistical test to the "achievement test" mean scores of the "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students. The F value does not exceed the tabled value at the $\alpha = .05$ with 1 and 262

degrees of freedom; therefore, the null hypothesis was accepted.

Hypothesis 14.1--There will be no significant difference between the mean of the attitude "coefficient" of "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

TABLE XXXII

ATTITUDE "COEFFICIENT" POSTTEST MEAN SCORES OF "BUSINESS CAREER" AND "NON-BUSINESS CAREER" INTRODUCTION TO BUSINESS "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS (Analysis of Variance Summary)

Source	SS	DF	MS	F
Between groups	1199.7447	1	1199.7447	1.1574
Within groups	272624.8062	263	1036.5962	
Total	273824.5509	264	2236.3410	

With regard to the attitude "coefficient" posttest mean scores of "business career" and "non-business career" introduction to business "open-circuit instructional television" students, the F value of 1.1574, as displayed in Table XXXII, was determined by the analysis of variance statistical test. Since the F value does not exceed the specified table value at the $\alpha = .05$ with 1 and 262 degrees of freedom, the null hypothesis was accepted.

Hypothesis 16.1--There will be no significant difference between the locus of control "internal" mean scores of "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

TABLE XXXIII

LOCUS OF CONTROL "INTERNAL" POSTTEST MEAN SCORES OF "BUSINESS CAREER" AND "NON-BUSINESS CAREER" INTRODUCTION TO BUSINESS "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS
(Analysis of Variance Summary)

Source	SS	DF	MS	F
Between groups	170.0148	1	170.0148	7.6170
Within groups	5870.2493	263	22.3203	
Total	6040.2642	264	192.3351	

The F value of 7.6170 shown in Table XXXIII was found by applying the analysis of variance statistical test to the locus of control "internal" mean scores of "business career" and "non-business career" community college introduction to business "on-campus" students. Since the F value exceeds the specified table value at the $\alpha = .05$ with 1 and 263 degrees of freedom, the null hypothesis was rejected. The mean, 39.79, of the "business career" group was greater than the mean, 38.07, of the "non-business career" group.

Hypothesis 16.2--There will be no significant difference between the locus of control "powerful others" mean scores of "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

TABLE XXXIV

LOCUS OF CONTROL "POWERFUL OTHERS" POSTTEST MEAN SCORES OF "BUSINESS CAREER" AND "NON-BUSINESS CAREER" INTRODUCTION TO BUSINESS "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS
(Analysis of Variance Summary)

Source	SS	DF	MS	F
Between groups	111.6879	1	11.6879	2.2474
Within groups	13070.1386	263	49.6963	
Total	13181.8264	264	161.3842	

The standard test for the analysis of variance was employed to find the F value of 2.2474, as shown in Table XXXIV, for the locus of control "powerful others" posttest mean scores of the "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students. The F value does not exceed the specified table value at the $\alpha = .05$ with 1 and 263 degrees of freedom; therefore, the null hypothesis was accepted.

Hypothesis 16.3--There will be no significant difference between the locus of control "chance" mean scores of "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

TABLE XXXV

LOCUS OF CONTROL "CHANCE" POSTTEST MEAN SCORES OF "BUSINESS CAREER" AND "NON-BUSINESS CAREER" INTRODUCTION TO BUSINESS "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS
(Analysis of Variance Summary)

Source	SS	DF	MS	F
Between groups	97.5736	1	97.5736	1.7682
Within groups	14512.6000	263	55.1810	
Total	14610.1736	264	152.7546	

Table XXXV displays the F value of 1.7682 obtained by administering the analysis of variance statistical test to the locus of control "chance" posttest mean scores of "business career" and "non-business career" introduction to business "open-circuit instructional television" students. Since the F value does not exceed the specified table value at the $\alpha = .05$ with 1 and 263 degrees of freedom, the null hypothesis was accepted.

Treatment of Additional Questions

The purposes of this study raised additional questions beyond those forming the basis of the hypotheses. The additional questions were concerned with the variables of age, sex, careers, ethnic groups, business majors, and course grades of the "on-campus" and "open-circuit instructional television" students participating in this study. These questions were not tested statistically; however, data were gathered from the student's personal history file located in the district's computer system and from the testing instruments completed at the beginning and end of the semester. The original questions will be restated. A table will provide the findings and an interpretation of the findings will be given.

1. Age.
    a. Does the mean age of the community college introduction to business "on-campus" students differ from the "open-circuit instructional television" students?
    b. Does age make a difference in the achievement scores in either group?
    c. Do the locus of control scores change with age in either group?

d. Does attitude--toward the world of work, business, employers, and free enterprise--change with age in either group?

TABLE XXXVI

AGE DISTRIBUTION AND MEAN SCORES FOR ACHIEVEMENT, LOCUS OF CONTROL, AND ATTITUDE OF INTRODUCTION TO BUSINESS "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

	On-Campus		Open-Circuit	
	Mean Score	n	Mean Score	n
Age	23.1	98	29.8	260
Age 27 and below				
Achievement	80.20	54	85.87	105
Internal	37.10	80	37.81	110
Powerful Others	31.80	80	30.06	110
Chance	30.58	80	29.09	110
Attitude	169.28	80	169.65	110
Age 28 and above				
Achievement	88.73	11	91.29	147
Internal	38.17	18	39.55	152
Powerful Others	28.50	18	30.39	152
Chance	26.06	18	29.06	152
Attitude	178.28	18	169.65	152

As depicted in Table XXXVI the mean age for the "on-campus" students was 23.1 and the mean age for the "open-circuit instructional television" students was 29.8. The achievement scores for the students, age 27 and below, were lower than those for the students, age 28 and above. The locus of control mean scores vary from scale to scale between the two groups participating in this study. The

attitude mean score for both groups of "open-circuit instructional television" students was the same; whereas, the attitude for the younger "on-campus" students was lower than the older students.

2. Sex.

   a. Does the sex distribution of the community college introduction to business "on-campus" students differ from the "open-circuit instructional television" students?

   b. Do the achievement scores differ based on sex in either group?

   c. Do the locus of control scores change with sex in either group?

   d. Does attitude--toward the world of work, business, employers, and free enterprise--change with sex in either group?

TABLE XXXVII

DISTRIBUTION OF MALE AND FEMALE INTRODUCTION TO BUSINESS "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

Sex	On-Campus		Open-Circuit	
	Number	Per Cent	Number	Per Cent
Males	57	58	114	44
Females	41	42	147	56
Total	98	100	261	100

Table XXXVII gives the number and per cent of male and female students participating in the "on-campus" and "open-circuit instructional television" groups. There were 14 per cent more males taking the course on campus than by open-circuit instructional television while 14 per cent more females were enrolled in the "open-circuit instructional television" group than were enrolled in the "on-campus" group. There were 12 per cent more females than males enrolled in the "open-circuit instructional television" group and 16 per cent more males than females enrolled in the "on-campus" group.

TABLE XXXVIII

MEAN SCORES FOR ACHIEVEMENT, LOCUS OF CONTROL, AND ATTITUDE OF INTRODUCTION TO BUSINESS MALE AND FEMALE "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

	On-Campus		Open-Circuit	
	Mean Score	n	Mean Score	n
Males				
Achievement	80.94	33	88.73	112
Internal	37.19	57	38.73	114
Powerful Others	31.53	57	31.38	114
Chance	30.53	57	30.04	114
Attitude	169.88	57	162.63	114
Females				
Achievement	82.38	32	89.27	140
Internal	37.44	41	38.89	148
Powerful Others	30.73	41	29.39	148
Chance	28.66	41	28.32	148
Attitude	172.39	41	175.05	148

The achievement, locus of control, and attitude mean scores for the male and female "introduction to business" students participating in this study are given in Table XXXVIII. The achievement mean for the male students was 80.94 for the "on-campus" group and 88.73 for the "open-circuit instructional television" group. The achievement mean was higher for the "open-circuit instructional television" female students than the "on-campus" female students. Minor differences were found between the groups for the locus of control scales. The attitude mean score for female students was higher than the attitude mean score for male students.

3. Careers.

   a. Which career is most often chosen by the community college introduction to business "on-campus" students and by the "open-circuit instructional television" students as the first choice?

   b. Which career is most often chosen as the second choice by either group?

   c. Which career is most often chosen as the third choice by either group?

   d. Which career is most often chosen as the fourth choice by either group?

TABLE XXXIX

CAREER CHOICES SELECTED FROM THE STUDENT CAREER INTEREST SURVEY BY THE INTRODUCTION TO BUSINESS "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

Choices	On-Campus*		Open-Circuit**	
	Career Number***	Per Cent	Career Number	Per Cent
1	14	16.67	14	19.71
2	14	10.78	14	12.90
3	94	7.84	14	8.24
4	13	5.88	22	5.38

* n = 102
** n = 279
***14 = Business Management
94 = Advertising/Public Relations
13 = Bookkeeper
22 = Personnel Work

In Table XXXIX are shown the specific careers selected from the Student Career Interest Survey instrument along with the percentage of "on-campus" and "open-circuit instructional television" students choosing the careers. Business management was chosen as first, second, and third choice of careers by the "open-circuit instructional television" students, while personnel work was chosen as fourth choice. The "on-campus" students also chose business management as their first and second choice of careers. Advertising and public relations was chosen as third choice and bookkeeper

was chosen as fourth choice. In all cases less than one-fifth of the students chose a particular career.

4. Ethnic Groups.

   a. Does attitude--toward the world of work, business, employers, and free enterprise--differ among the Caucasion, Negro, and Latin American ethnic groups of "on-campus" students?

   b. Does the attitude coefficient differ among the ethnic groups of "open-circuit instructional television" students?

TABLE XL

DISTRIBUTION OF ETHNIC GROUPS AND ATTITUDE MEANS FOR INTRODUCTION TO BUSINESS "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

Ethnic Groups	On-Campus		Open-Circuit	
	n	Attitude Mean	n	Attitude Mean
Caucasion	69	172.22	226	163.50
Negro	25	163.00	26	162.46
Latin American	3	198.00	8	168.00
American Indian	0	0	1	117.00

The distribution of ethnic groups and attitude means for the introduction to business students participating in this study are given in Table XL. The majority

in both groups were Caucasion. The Latin Americans had a higher attitude mean than the other ethnic groups within both the "on-campus" and "open-circuit instructional television" students.

5. Business Majors.

   a. Do students indicating a major in business in the community college introduction to business "on-campus" group make higher achievement scores than those who do not indicate a business major?

   b. Do students indicating a major in business in the community college introduction to business "open-circuit instructional television" group make higher achievement scores than those who do not indicate a business major?

TABLE XLI

ACHIEVEMENT MEAN SCORES FOR "BUSINESS MAJORS" AND "NON-BUSINESS MAJORS" ENROLLED IN THE INTRODUCTION TO BUSINESS "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" GROUPS

Majors	On-Campus		Open-Circuit	
	Mean Score	n	Mean Score	n
Business	76.00	6	89.50	228
Non-business	82.22	59	88.97	224

As shown in Table XLI, the achievement mean score for the "on-campus" business majors was 76 while the achievement mean score for the non-business majors was 82.22. The achievement mean score for the "open-circuit instructional television" business majors was 89.50 while the achievement mean score for the non-business majors was 88.97. Both the business majors and the non-business majors scored higher in the "open-circuit instructional television" group than the "on-campus" group.

6. Course Grades

   a. Do the achievement test scores compare favorably with the end of the semester course grades for the community college introduction to business "on-campus" students?

   b. Do the achievement test scores compare favorably with the end of the semester course grades for the community college introduction to business "open-circuit instructional television" students?

TABLE XLII

PERCENTAGE DISTRIBUTION OF END OF SEMESTER GRADES AND ACHIEVEMENT TEST SCORES FOR INTRODUCTION TO BUSINESS "ON-CAMPUS" AND "OPEN-CIRCUIT INSTRUCTIONAL TELEVISION" STUDENTS

Grades/Scores	On-Campus*		Open-Circuit**	
	Semester Grades	Test Scores	Semester Grades	Test Scores
A (90-100)	26	31	38	66
B (80-89)	38	33	35	22
C (70-79)	24	22	16	8
D (60-69)	8	6	9	2
F (below 60)	4	8	2	1

*n = 90
**n = 279

Table XLII depicts the percentage distribution of semester grades and achievement test scores for the community college introduction to business "on-campus" and "open-circuit instructional television" students. As can be seen, a greater percentage of both groups made 90 to 100 on the achievement test than made an "A" in the course; while, a greater percentage of both groups made a "B" in the course than made 80 to 89 on the achievement test, "C" in the course than made 70 to 79 on the achievement test, and "D" in the course than made 60 to 69 on the achievement test. A greater percentage of "on-campus" students made below 60

on the achievement test than made an "F" in the course; however, this was not true for the "open-circuit instructional television" group at the bottom level.

There was a wider range of percentage points between the semester grades and achievement test scores at the "A" level for the "open-circuit instructional television" students than for the "on-campus" students. The differences were 28 percentage points for the "open-circuit instructional television" students and 5 percentage points for the "on-campus" students. For the passing grades (A, B, C, and D), there was a greater difference between the semester grades and the achievement test scores of the "open-circuit instructional television" students than the differences between the semester grades and achievement test scores of the "on-campus" students.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was designed to learn more about community college "introduction to business" students who enroll in traditionally taught "on-campus" classes and those who enroll in "open-circuit instructional television" classes. With the growing popularity of offering credit for "open-circuit instructional television" courses, inquirers are beginning to raise important questions about the students and their progress. Educational administrators must be cognizant of the type of students who generally enroll in instructional television classes and how they compare to "on-campus" students before they can make intelligent decisions about offering the courses in their community.

The problem of this study was a comparison of the career interests, locus of control reinforcement, student attitude, and achievement scores of community college introduction to business "on-campus" students and "open-circuit instructional television" students. The purposes of the study included making comparisons of the variables between the "on-campus" and "open-circuit instructional

television" students and making comparisons between individual variables for each group of students tested.

Four instruments were used to gather the data for this study:

1. The Student Career Interest Survey measured the career interests of students. From the Student Career Interest Survey instrument, a panel of experts selected the ten business careers that were used to separate the students into "business career" and "non-business career" groups. The ten business careers included: accountant, banking, bookkeeper, business management, data processing, insurance agent/sales, investments/stocks/bonds, office/clerical, personnel work, and secretary/stenographer. Before a student was classified as a "business career" student, two of the selected business careers must be listed as first and second career choices on the Student Career Interest Survey instrument. The remaining students were grouped in the "non-business career" category.

2. The Levenson's "I," "P," and "C" Locus of Control measured the extent to which students perceive contingency relationships between their actions and their outcomes. The locus of control instrument measured three scales: internals, powerful others, and chance. "Internals" believe that some control resides within themselves, "powerful others" believe that control resides in powerful

other people, and "chance" people believe that life is controlled by accidental happenings.

3. The Semantic Differential measured the student's attitude. Scales were designed to measure (1) attitude toward business, (2) attitude toward employers, (3) attitude toward free enterprise, and (4) attitude toward the world of work.

4. An achievement test measured the student's comprehension of the course objectives. The achievement test was prepared from the course objectives of the "on-campus" and "open-circuit instructional television" classes participating in this study. Approval for each test question was obtained from the instructors of the participating classes.

This study involved two groups of community college students. The "on-campus" group consisted of one class of introduction to business students from each of four community colleges in a multicampus district. The "open-circuit instructional television" group was comprised of all the students taking introduction to business via open-circuit instructional television in the multicampus district. The number of usable responses from the "on-campus" students ranged from 68 to 102 while the usable responses from the "open-circuit instructional television" students ranged from 239 to 277.

The students were asked during the first week of the semester to complete testing instruments concerning career interests, locus of control reinforcement, and attitude. During the final week of the semester, the students were asked again to complete the same three testing instruments along with an achievement test. The data gathered from the testing instruments were subjected to one of the following statistical techniques: difference between two correlated proportions, difference between two independent proportions, t-test for related samples, analysis of covariance, t-test for independent samples, Pearson product-moment correlation, and one-way analysis of variance.

There were forty-nine null hypotheses established to test the differences between the four variables studied. Of the forty-nine null hypotheses tested, fifteen were found to be significant at the $\alpha = .05$. The findings were organized and discussed under six categories. The rest of this chapter will give a summary of the findings, conclusions of the findings, and recommendations based on the findings and conclusions.

1. Comparisons were made of career interests of community college introduction to business "on-campus" and "open-circuit instructional television" students. The Student Career Interest Survey instrument was used as a pretest at the beginning of the semester and

again as a posttest at the end of the semester. The instrument was scored against the ten business careers selected by the panel of experts. The major findings derived from the analysis of the data include the following:

a. The proportion of "on-campus" students who chose business careers was not significantly different from the proportion of "open-circuit instructional television" students who chose business careers after completing an "introduction to business" course.

b. The proportion of "on-campus" and "open-circuit instructional television" students who chose business careers on the pretest was not significantly different from the proportion of students who chose business careers on the posttest in either group.

2. Comparisons were made of locus of control reinforcement of community college introduction to business "on-campus" and "open-circuit instructional television" students. Levenson's "I," "P," and "C" Locus of Control instrument was administered as a pretest at the beginning of the semester and as a posttest at the end of the semester. Analysis of the data revealed the following findings:

a. A significant difference was found to exist in the "internal," "powerful others," and "chance" posttest mean scores between the community college introduction to business "on-campus" students and the "open-circuit instructional television" students.

b. A significant change occurred during the semester in the "internal," "powerful others," and "chance" mean scores for the "open-circuit instructional television" students while the "on-campus" students experienced a significant change in only the "powerful others" scale.

3. Comparisons of student attitude toward free enterprise, business, world of work, and employers were made of community college introduction to business "on-campus" and "open-circuit instructional television" students. A Semantic Differential instrument was designed to measure the attitude variables. The data were subjected to statistical analysis which resulted in the following findings:

a. The attitudes toward business, world of work, free enterprise, and employers were not significantly different between the community college "on-campus" and "open-circuit instructional

television" students after completing a semester of introduction to business.

b. The attitudes toward business, world of work, free enterprise, and employers did not change significantly during the semester for either the community college introduction to business "on-campus" students or the "open-circuit instructional television" students.

4. A comparison of the achievement posttest mean scores was made of community college introduction to business "on-campus" and "open-circuit instructional television" students. An achievement test was constructed from the learning objectives stated in the syllabi for the classes participating in this study. Analysis of the data resulted in the following findings:

   a. The achievement posttest mean score for the community college introduction to business "on-campus" students was significantly different from the achievement posttest mean score for the "open-circuit instructional television" students.

   b. The achievement posttest mean score for the "on-campus" students was 81.0147 while the achievement posttest mean score for the "open-circuit instructional television" students was 89.458.

5. Comparisons were made among attitude, locus of control, achievement, business-career students, and non-business-career students of community college introduction to business "on-campus" students. Data were gathered by the Student Career Interest Survey, Levenson's "I," "P," and "C" Locus of Control, Semantic Differential, and an achievement test. The ten business careers selected by the panel of experts were used to categorize the students into "business career" and "non-business career" groups. The major findings that evolved from the analysis of the data include:

   a. The attitude "coefficient" significantly correlates with the "achievement test" scores and the locus of control "internal" scores for the community college introduction to business "on-campus" students.

   b. The attitude "coefficient" did not correlate significantly with the locus of control "powerful others" scores and "chance" scores for the community college introduction to business "on-campus" students.

   c. The locus of control "internal," "powerful others," and "chance" scores did not correlate significantly with the "achievement test" scores for the community college introduction to business "on-campus" students.

d. There was no significant difference between the "achievement test" means of "business career" and "non-business career" community college introduction to business "on-campus" students.

e. There was no significant difference between the means of the attitude "coefficient" of "business career" and "non-business career" community college introduction to business "on-campus" students.

f. There was no significant difference between the means of the locus of control "internal," "powerful others," and "chance" scores of "business career" and "non-business career" community college introduction to business "on-campus" students.

6. Comparisons were made among attitude, locus of control, achievement, business-career students, and non-business-career students of community college introduction to business "open-circuit instructional television" students. The data used in comparing the variables were gathered by the Student Career Interest Survey, Levenson's "I," "P," and "C" Locus of Control, Semantic Differential, and an achievement test. The students were categorized into "business career" and "non-business career" groups according to the ten business careers

selected by the panel of experts from the Student Career Interest Survey. Statistical measures were applied to the data which resulted in the following major findings:

a. The attitude "coefficient" significantly correlates with the "achievement test" scores, the locus of control "powerful others" scores, and the locus of control "chance" scores for the community college introduction to business "open-circuit instructional television" students.

b. The attitude "coefficient" did not correlate significantly with the locus of control "internal" scores for the community college introduction to business "open-circuit instructional television" students.

c. The locus of control "internal" scores and "powerful others" scores did not correlate significantly with the "achievement test" scores for the community college introduction to business "open-circuit instructional television" students.

d. The locus of control "chance" scores significantly correlated with the "achievement test" scores for the community college introduction to business "open-circuit instructional television" students.

e. There was no significant difference between the "achievement test" mean scores of the "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

f. There was no significant difference between the mean of the attitude "coefficient" of "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

g. There was a significant difference between the locus of control "internal" mean scores of "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

h. There was no significant difference between the locus of control "powerful others" mean scores or "chance" mean scores of "business career" and "non-business career" community college introduction to business "open-circuit instructional television" students.

Brief Summary of the Findings

1. Career interests

   a. No significant difference in posttest proportion between the groups

b. No significant difference between pretest and posttest proportion in either group

2. Locus of control

Scales	Pretest/Posttest		Posttest Both groups
	On-campus	Open-circuit	
I	none	yes*	yes
P	yes	yes	yes
C	none	yes	yes

*indicates a significant difference was found.

3. Attitude

a. No significant difference in posttest means between the groups

b. No significant difference between pretest and posttest means in either group

4. Achievement

a. A significant difference between group means

b. Mean score was greater for "open-circuit" group

5. Within the "on-campus" group

a. Attitude

1) Relates to achievement scores

2) Relates to "internal" scores

3) Does not relate to "powerful others" and "chance" scores

b. Achievement

1) Does not relate to the "internal" scores

2) Does not relate to the "powerful others" scores

3) Does not relate to the "chance" scores

c. "Business career" students versus "non-business career" students

1) No significant difference in achievement scores

2) No significant difference in attitude scores

3) No significant difference in locus of control scores

6. Within the "open-circuit instructional television" group

a. Attitude

1) Relates to achievement scores

2) Relates to "powerful others" and "chance" scores

3) Does not relate to the "internal" scores

b. Achievement

1) Does not relate to "internal" and "powerful others" scores

2) Relates to "chance" scores

c. "Business career" students versus "non-business career students

1) No significant difference in achievement scores
2) No significant difference in attitude scores
3) No significant difference in "powerful others" and "chance" scores
4) A significant difference in "internal" scores

Conclusions

The major conclusions which were derived from the analysis of the data and of the findings are as follows:

1. For the subjects in this study, a similar proportion of "on-campus" and "open-circuit instructional television" students chose business careers after completing an "introduction to business" course.

2. After completing an "introduction to business" course, the "open-circuit instructional television" students in this study expressed a significantly greater degree of "internal" control over their life than they expressed at the beginning of the semester.

3. For both the "on-campus" and the "open-circuit instructional television" groups measured in this study, the subjects, at the end of the semester, believed that "powerful others" have a significantly greater control over their life than they believed at the beginning of the semester.

4. After completing an "introduction to business" course, the "open-circuit instructional television" students tested in this study believed that "chance" had a significantly greater control over their life than they believed at the beginning of the course.

5. For the students participating in this study, the attitudes--toward business, world of work, free enterprise, and employers--expressed by the "on-campus" students were similar to those expressed by the "open-circuit instructional television" students after completing a semester of "introduction to business."

6. The "open-circuit instructional television" students participating in this study exhibited a significantly greater mean score on the achievement test after completing an "introduction to business" course than did the "on-campus" students participating in this study.

7. For the introduction to business "on-campus" students participating in this study, the attitude "coefficient" significantly correlated with the "achievement test" scores and the locus of control "internal" scores, while at the same time the attitude "coefficient" did not correlate significantly with the locus of control "powerful others" scores and "chance" scores.

8. There was no significant relationship discovered between the "achievement test" scores and the locus of

control "internal," "powerful others," and "chance" scores for the community college introduction to business "on-campus" students participating in this study.

9. For the "on-campus" students measured in this study, there was no significant difference between the "business career" and "non-business career" groups for the three variables: achievement, attitude, and locus of control.

10. For the introduction to business "open-circuit instructional television" students participating in this study, the attitude "coefficient" significantly correlated with the "achievement test" scores and the locus of control "powerful others" scores and "chance" scores, while at the same time the attitude "coefficient" did not correlate significantly with the locus of control "internal" scores.

11. There was a significant relationship found to exist between the "achievement test" scores and the locus of control "chance" scores for the introduction to business "open-circuit instructional television" students who took part in this study.

12. The "business career" students displayed a greater "internal" control than the "non-business career" students on the locus of control instrument after completing an "introduction to business" course via open-circuit instructional television.

Discussion and Implications

From the samples drawn, no significant change in "business career" choices was evidenced from the beginning of the semester to the end of the semester. However, there was a greater proportion of "on-campus" students who changed their career interest to business careers during the semester than the "open-circuit instructional television" students. One explanation was that the "on-campus" students changed their interest to business because of instructor influence, class assignments, or student discussions of jobs. Also, the "on-campus" students were, on the average, twenty-three years old and probably many students were taking the course to determine whether or not they would like to have a business career. Whereas, the "open-circuit instructional television" students were almost seven years older than the "on-campus" students with many of the "open-circuit" students already working in their chosen career field.

The "open-circuit instructional television" students exhibited a significantly greater "internal" control than the "on-campus" students measured in this study after completing a semester of introduction to business. The "open-circuit instructional television" students became significantly more "powerful others" controlled than the "on-campus" students; even though, the mean for the

"on-campus" group was greater than the "open-circuit instructional television" group. The pretest mean score for the "on-campus" group was 29.517, while the pretest mean score for the "open-circuit instructional television" group was 18.674. It was interesting to note that the "open-circuit instructional television" group pretested below the norm mean scores for male and female college undergraduates which were 19.09 and 19.58, respectively, while the "on-campus" group pretested far above the norm means. The "open-circuit instructional television" group posttested with a mean of 30.025 which was just .803 points below the mean score for the "on-campus" group. This signifies that the "open-circuit instructional television" group raised their mean score by 11.351 points, while the "on-campus" group raised their mean score by 1.311 points. A first impression might be that the means were incorrectly calculated for the "open-circuit instructional television" group. To clarify any questions about accuracy in computations, the means were recalculated for both groups. One question raised by the investigator was whether or not the interviews of business owners, professionals, and consultants in the television programs had an affect on the student's belief about his reinforcement control. Did the student view the interviewees as "powerful others" who might have control over their life? The investigator felt

that the interviewees and the on-location filming served as a powerful-others force which caused the students to mark the testing instrument differently at the end of the semester than at the beginning of the semester. The students may have realized for the first time how many people and things affect their daily lives. The "powerful others" scores of "on-campus" students may have been affected to a greater degree if the instructor had utilized community resources in the classroom. One example of community resources would be presentations by businessmen.

The "open-circuit instructional television" students showed a significantly greater change toward "chance" control during the semester than the "on-campus" students measured in this study. It was also interesting to note that with the "chance" scale the "open-circuit instructional television" students tested only slightly above the mean norms for college undergraduates, while the "on-campus" students tested far above the mean norms. For example, the male mean norm score was 13.52 and the female mean norm score was 17.74, and the pretest mean score for the "open-circuit instructional television" group was 17.849 and the mean score for the "on-campus" group was 29.092. As with the "powerful others" control means, the "open-circuit instructional television" group posttested less than one point below the "on-campus" group with the posttest mean

score for the first group being 28.741 and the second group being 29.506. This denotes that the "open-circuit instructional television" group raised their mean score by 10.892, while the "on-campus" group raised their posttest mean score by .414 points. Due to the vast difference in the mean scores, the data were recalculated for both groups. Another question raised by the investigator was concerned with the importance of the type of information provided in the television programs through the examples, illustrations, and interviews. Did the information cause the student to change his belief about his life's control; or was the student caught in a transitional period between collecting the information and assembling its worth as part of the individual's value system? One implication for instructors of "on-campus" classes is that the risk aspect of business be included in the course objectives.

The "open-circuit instructional television" students participating in this study exhibited a significantly greater mean score on the achievement test after completing an "introduction to business" course than did the "on-campus" students participating in this study. To determine whether or not the investigator injected unnecessary bias in the construction of the achievement test, the means were computed for three "on-campus" classes taught by the investigator. These classes were not included in the

"on-campus" group analyzed in this study. The "achievement test" mean score was 81.54 for the investigator's classes while the "achievement test" mean score was 81.01 for the "on-campus" students participating in this study. As can be determined, the difference between the means was minute. One possible explanation for the "open-circuit instructional television" students making a higher achievement mean score was that the student's course materials may have been better organized and prepared than the course materials for the "on-campus" students. For example, the study guide for the "open-circuit instructional television" course included pretest and posttest questions for the learning objectives for every lesson. The students may have gained experience in answering objective questions and gained additional knowledge about the course objectives through the many step-by-step exercises provided in the study guide. One implication is that "on-campus" instructors do a better job of preparing course materials for their students.

For the "on-campus" students measured in this study, there was no significant difference between the "business career" and "non-business career" groups for the three variables: achievement, attitude, and locus of control. Even though the means were not significant, it is interesting to note that the "non-business career" group earned a higher mean than the "business career" group on the achievement

test, while the "business career" group earned a higher mean than the "non-business career" group on the attitude "coefficient." The mean scores for all three locus of control scales were higher for the "business career" group than for the "non-business career" group although they were not significantly higher. An explanation was that the "business career" students have a job and could not devote as much study time to the course as the students who were not working.

The "business career" students displayed a greater "internal" control than the "non-business career" students on the locus of control instrument after completing an "introduction to business" course via open-circuit instructional television. At the same time no significant difference was discovered between the two groups of students on achievement, attitude, locus of control "powerful others" and locus of control "chance" scores. However, the "business career" group made a higher mean score on the achievement test, the attitude "coefficient," locus of control "powerful others," and locus of control "chance" scales than the "non-business career" group. One explanation was that the "business career" students were already working and had developed a sense of responsibility, a positive attitude toward work, and realized the affect other people have on their lives.

Recommendations

Based on the data gathered and analyzed in this study, the following recommendations appear to be in order:

1. Community college administrators consider offering introduction to business as an "open-circuit," "closed-circuit," or "individualized module" instructional television course.

2. Community colleges include traditionally taught "introduction to business" courses in their curriculum.

3. Money be budgeted for extensive revisions, such as for entire telecast programs, every three years and for minor revisions, such as updating interviews, every year.

4. "Introduction to business" instructors participate in business and civic organizations to gain knowledge of business leaders and utilize community resources in enriching their "on-campus" classes and in providing a more realistic view of business and its operations to the student.

5. "Introduction to business" instructors include assignments in the course that require the student to integrate current business practices with basic principles.

6. "Introduction to business" instructors place more emphasis on creasing a positive attitude toward business and its operations and providing information about business

careers, particularly if these objectives are included in the course syllabus.

7. The "open-circuit instructional television" course be made available to other community college districts in the United States and foreign countries since it is an effective method of instruction.

8. Due to the vast difference in the "powerful others" and "chance" scores of the "open-circuit instructional television" students, the locus of control instrument be readministered at the end of one year and again at the end of two years to the same students.

9. A study be conducted with other groups of introduction to business "on-campus" students and "open-circuit instructional television" students using a different instrument to test achievement.

10. Other college-credit business courses be considered for "open-circuit instructional television" development and production since the "introduction to business" course has been an effective method of instruction.

APPENDICES

APPENDIX A

COUNCIL X EXPLORING COMMITTEE

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APPENDIX B

STUDENT CAREER INTEREST SURVEY

Are you taking this course by T.V.? ___yes ___ no

INSTRUCTIONS: Put one letter or number in each square. Select four occupations from the CAREER LIST and enter their code numbers in order of your career interests.

SOCIAL SECURITY NUMBER | **CAREER INTEREST** | **SEX**

	First	Second	Third	Fourth	
[ ][ ][ ]-[ ][ ]-[ ][ ][ ][ ]	[ ][ ][ ]	[ ][ ][ ]	[ ][ ][ ]	[ ][ ][ ]	[ ]

M = male
F = female

CAREER INTERESTS

AGRI/BUSINESS & NATURAL SCIENCE

001 Biologist
002 Farmer/Rancher
003 Fish/Wildlife Management
004 Florist/Horticulture/Landscaping
005 Forestry/Lumber
006 Geologist/Geophysicist
007 Marine Biologist/Oceanologist
008 Meterologists
009 Vecerinarian
010 Zoologist/Zoo Director/Curator

BUSINESS & OFFICE OCCUPATIONS

011 Accountant
012 Banking
013 Bookkeeper
014 Business Management
015 Data Processing
016 Insurance Agent/Sales
017 Insurance Underwriter/Adjuster
018 Investments/Stocks/Bonds
019 Lawyer/Legal
020 Office/Clerical
021 PBX/Telephone Operator
022 Personnel Work
023 Real Estate
024 Secretary/Stenographer

COMMUNICATIONS & MEDIA

025 Journalist-Writer
026 Photographer
027 Printer/Lithographer/Engraver
028 Radio/T.V. Broadcaster
029 Radio/T.V. News Reporter
030 Radio/T.V. Repair
031 Radio/T.V. Production

CONSTRUCTION

032 Air Conditioning/Refrigeration
033 Architect
034 Brick/Stone/Tile
035 Building Contractor
036 Carpenter
037 Construction Management
038 Draftsman
039 Electrician
040 Heavy Equipment Operator
041 Masonry/Concrete
042 Painter/Paperhanger
043 Plumbing
044 Sheetmetal
045 Steel Worker

FINE ARTS & HUMANITIES

046 Choreography
047 Dramatics/Theatre Arts
048 Fashion Design
049 Interior/Designer/Decorator
050 Musician (Choral)
051 Musician (Instrumental)
052 Set Design/Lighting/Costuming

HEALTH SERVICES

053 Anesthetist
054 Dental Assistant/Technician
055 Dietician
056 Dentist
057 Hospital Administrator
058 Medical Lab Technician
059 Mental Health Technician
060 Mortician
061 Nurse
062 Occupational Therapist
063 Optometrist
064 Pharmacist
065 Physical Therapist
066 Physician/Surgeon
067 Public Health Service/Ecologist
068 X-Ray Technician

HOSPITALITY AND RECREATION

069 Arts & Crafts Director
070 Baker
071 Coaching
072 Gourmet Chef
073 Hotel/Motel Management
074 Parks & Recreation
075 Restaurant Management
076 Waiter/Waitress

MANUFACTURING

077 Aerospace Engineer/Technician
078 Chemical & Petroleum Engineer/Tech
079 Chemist
080 Civil Engineer/Technician
081 Electrical & Electronics Engineer/Tech
082 Food Processing Technician
083 Hydraulics Engineer/Technician
084 Industrial Engineer/Technician
085 Industrial/Product Designer
086 Machinist/Tool & Die
087 Mathematician
088 Mechanical Engineer/Technician
089 Metallurgist
090 Plastics Engineer/Technician
091 Physicist
092 Quality Control Technology
093 Welder/Flamecutter

MARKETING & DISTRIBUTION

094 Advertising/Public Relations
095 Buyer/Purchasing Agent
096 Cashier/Clerk/Sales
097 Chemical/Pharmaceutical/Sales
098 Fashion Model
099 Manufacturer's Representative/Sales
100 Market Economist
101 Retail Merchandising
102 Retail Store Manager
103 Warehousing/Shipping

PERSONAL SERVICE

104 Barber
105 Clergyman/Missionary
106 Cosmetologist/Beautician
107 Tailor/Dressmaker
108 Watchmaker/Jewelry Repair

PUBLIC SERVICE

109 Air Force
110 Army
111 Child Care/Day Nursery
112 Counselor/Psychologist
113 Fireman/Rescue Service
114 Government/City/State/Federal
115 Law Enforcement
116 Librarian
117 Marines
118 Navy
119 Postal Service
120 Social & Welfare Technician
121 Teacher Aide
122 Teacher (Elementary School)
123 Teacher (Secondary)
124 Teacher (College/Univ.)
125 Youth Work

TRANSPORTATION

126 Auto Body Repair
127 Auto Mechanic
128 Aviation Administration
129 Aviation Hostess
130 Aviation Pilot
131 Aviation Services/Reservations
132 Bus Driving
133 Truck Driving

APPENDIX C

LEVENSON'S "I," "P," AND "C" LOCUS OF CONTROL

SOCIAL SECURITY NUMBER

DIRECTIONS:

Following is a series of attitude statements. Each represents a commonly held opinion and there are no right or wrong answers. You will probably disagree with some items and agree with others. We are interested in the extent to which you agree or disagree with such matters of opinion.

Read each statement carefully. Then indicate the extent to which you agree or disagree by circling the number behind each statement. The numbers and their meaning are indicated below:

If you agree strongly: circle +3
If you agree somewhat: circle +2
If you agree slightly: circle +1

If you disagree slightly: circle -1
If you disagree somewhat: circle -2
If you disagree strongly: circle -3

First impressions are usually best in such matters. Reach each statement, then decide how you wish to answer. Give your opinion to every statement. If you find that the number to be used in answering does not really show your opinion, use the one which is closest to the way you feel.

	Strongly Disagree	Disagree Somewhat	Slightly Disagree	Slightly Agree	Agree Somewhat	Strongly Agree
1. Whether or not I get to be a leader depends mostly on my ability.	-3	-2	-1	+1	+2	+3
2. To a great extent my life is controlled by accidental happenings.	-3	-2	-1	+1	+2	+3
3. I feel like what happens in my life is mostly determined by powerful people.	-3	-2	-1	+1	+2	+3
4. Whether or not I get into a car accident depends mostly on how good a driver I am.	-3	-2	-1	+1	+2	+3
5. When I make plans, I am almost certain to make them work.	-3	-2	-1	+1	+2	+3
6. Often there is no chance of protecting my personal interest from bad luck happenings.	-3	-2	-1	+1	+2	+3
7. When I get what I want it's usually because I'm lucky.	-3	-2	-1	+1	+2	+3
8. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power.	-3	-2	-1	+1	+2	+3
9. How many friends I have depends on how nice a person I am.	-3	-2	-1	+1	+2	+3
10. I have often found that what is going to happen will happen.	-3	-2	-1	+1	+2	+3
11. My life is chiefly controlled by powerful others.	-3	-2	-1	+1	+2	+3

		Strongly Disagree	Disagree Somewhat	Slightly Disagree	Slightly Agree	Agree Somewhat	Strongly Agree
12.	Whether or not I get into a car accident is mostly a matter of luck.	-3	-2	-1	+1	+2	+3
13.	People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups.	-3	-2	-1	+1	+2	+3
14.	It's not always wise for me to plan too far ahead because many things may turn out to be a matter of good or bad fortune.	-3	-2	-1	+1	+2	+3
15.	Getting what I want requires pleasing those people above me.	-3	-2	-1	+1	+2	+3
16.	Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time.	-3	-2	-1	+1	+2	+3
17.	If important people were to decide they didn't like me, I probably wouldn't make many friends.	-3	-2	-1	+1	+2	+3
18.	I am usually able to protect my personal interests.	-3	-2	-1	+1	+2	+3
19.	I can pretty much determine what will happen in my life.	-3	-2	-1	+1	+2	+3
20.	Whether or not I get into a car accident depends mostly on the other driver.	-3	-2	-1	+1	+2	+3

	Strongly Disagree	Disagree Somewhat	Slightly Disagree	Slightly Agree	Agree Somewhat	Strongly Agree
21. When I get what I want, it's usually because I worked hard for it.	-3	-2	-1	+1	+2	+3
22. In order to have my plans work, I I make sure that they fit in with the desires of people who have power over me.	-3	-2	-1	+1	+2	+3
23. My life is determined by my own actions.	-3	-2	-1	+1	+2	+3
24. It's chiefly a matter of fate whether or not I have a few friends or many friends.	-3	-2	-1	+1	+2	+3

APPENDIX D

SEMANTIC DIFFERENTIAL

SOCIAL SECURITY NUMBER

DIRECTIONS:

On the following pages you will find a word or group of words which you will be asked to rate according to ten pairs of adjectives.

For example, you might find the word

SCHOOL

followed by Good___:___:___:___:___:___:___Bad

If you think of schools as being very good, you would mark it this way:

SCHOOL

Good_x_:___:___:___:___:___:___Bad

If you think of schools as being somewhat bad, you would mark it this way:

SCHOOL

Good___:___:___:___:___:_x_:___Bad

If you think of schools as being neither good nor bad, you would mark it this way:

SCHOOL

Good___:___:___:_x_:___:___:___Bad

Some of the adjective pairs may not seem to be appropriate. However, mark each pair of adjectives on the space that seems best to you. Do not pause or ponder over your

answers. Mark them quickly by putting an "X" between each pair of adjectives.

EMPLOYERS

Unpleasant	___:___:___:___:___:___:___	Pleasant
Bad	___:___:___:___:___:___:___	Good
Unimportant	___:___:___:___:___:___:___	Important
Small	___:___:___:___:___:___:___	Large
Fast	___:___:___:___:___:___:___	Slow
Sharp	___:___:___:___:___:___:___	Dull
Worthless	___:___:___:___:___:___:___	Valuable
Nice	___:___:___:___:___:___:___	Awful
Weak	___:___:___:___:___:___:___	Strong
Unsuccessful	___:___:___:___:___:___:___	Successful

WORLD OF WORK

Worthless	___:___:___:___:___:___:___	Valuable
Good	___:___:___:___:___:___:___	Bad
Strong	___:___:___:___:___:___:___	Weak
Fast	___:___:___:___:___:___:___	Slow
Unsuccessful	___:___:___:___:___:___:___	Successful
Unimportant	___:___:___:___:___:___:___	Important
Sharp	___:___:___:___:___:___:___	Dull
Nice	___:___:___:___:___:___:___	Awful
Small	___:___:___:___:___:___:___	Large

BUSINESS

Bad	___:___:___:___:___:___:___	Good
Strong	___:___:___:___:___:___:___	Weak
Unsuccessful	___:___:___:___:___:___:___	Successful
Slow	___:___:___:___:___:___:___	Fast
Nice	___:___:___:___:___:___:___	Awful
Dull	___:___:___:___:___:___:___	Sharp
Important	___:___:___:___:___:___:___	Unimportant
Pleasant	___:___:___:___:___:___:___	Unpleasant
Valuable	___:___:___:___:___:___:___	Worthless
Small	___:___:___:___:___:___:___	Large

FREE ENTERPRISE

Sharp	___:___:___:___:___:___:___	Dull
Weak	___:___:___:___:___:___:___	Strong
Fast	___:___:___:___:___:___:___	Slow
Unsuccessful	___:___:___:___:___:___:___	Successful
Good	___:___:___:___:___:___:___	Bad
Pleasant	___:___:___:___:___:___:___	Pleasant
Awful	___:___:___:___:___:___:___	Nice
Worthless	___:___:___:___:___:___:___	Valuable
Large	___:___:___:___:___:___:___	Small
Important	___:___:___:___:___:___:___	Unimportant

APPENDIX E

BUSINESS 105 COMPREHENSIVE EXAMINATION

TRUE/FALSE QUESTIONS

DIRECTIONS: Each of the following statements is either true or false. If the statement is true, circle the "T" at the left. If the statement is false, circle the "F" at the left of the statement.

T F 1. The economic system in the United States is one in which profit is the reward for an individual's risk in a business venture.

T F 2. In a "free market" goods are bought and sold mainly through government agencies.

T F 3. For mutual assent to exist in a valid contract, there must be an offer followed by an acceptance exactly as the offer was made.

T F 4. Profit is the amount that the product costs the consumer.

T F 5. Oligopoly assumes a market situation in which comparatively few firms produce identical or similar goods and where sellers have the ability to influence price by changing the volume of goods produced.

T F 6. In the sole proprietorship, one important advantage is the unlimited personal liability of the owner.

T F 7. The objective of a business is to make and sell a product or perform a service at a profit.

T F 8. In a general partnership, the acts of each partner are binding upon the other partners.

T F 9. One of the disadvantages of the corporation is the fact that shareholders have difficulty in transferring stock to others.

T F 10. Those who form the corporation are known as the underwriters.

T F 11. Corporation charters are usually granted by a local county clerk.

T F 12. The major cause of failure of a small business can be attributed to failure in management.

T F 13. Before a business can become a corporation, it must secure a charter.

T F 14. A business is generally faced with three types of financial needs: money to get the firm going, money to keep it going, and money to expand it.

T F 15. Equity capital is the same as borrowed capital.

T F 16. If you own 20 shares of stock and receive a two-for-one stock split, your 20 shares then becomes 40.

T F 17. One of the reasons for an interview is to determine the appearance of the applicant.

T F 18. AFL stands for American Family of Labor.

T F 19. Getting the goods and services into the hands of the consumer at the right time, place, and at the right price can make or break a business.

T F 20. Production is responsible for the changing of the form of raw materials into useful products.

T F 21. Transportation widens the market.

T F 22. A contract carrier is one who transports his own goods.

T F 23. A programmer is an individual who writes the set of instructions to be used in the computer.

T F 24. Computers can operate themselves without the aid of man.

MULTIPLE CHOICE

DIRECTIONS: Each of the statements given below can be completed correctly with one of the items listed. Choose this item and circle the letter that precedes your choice.

25. Which one of the following is not a basic fundamental of capitalism?

    a. freedom to contract
    b. government direction
    c. opportunity to compete
    d. right to own property

26. At the federal level, the largest single tax revenue source is:

    a. inheritance tax
    b. import tax on automobiles
    c. personal income tax
    d. excise tax

27. The basis of the personal income tax is:

    a. benefit principle
    b. regressive principle
    c. ability-to-pay principle
    d. liability principle

28. A tax levied by states based on separate bequests made to individual heirs as directed by the will of the deceased.

    a. excise tax
    b. gift tax
    c. inheritance tax
    d. public tax

29. Who pays the social security tax:

    a. employee
    b. employer
    c. neither employee or employer
    d. both employee and employer

30. The elements of a contract include:

    a. lawful purpose
    b. consideration
    c. mutual assent
    d. legal form
    e. all of the above

31. The most widely used forms of business ownership in the United States is the:

    a. limited partnership
    b. general partnership
    c. sole proprietorship
    d. corporation

32. The parties to a franchise agreement are the:

    a. licenser and franchisor
    b. franchisee and middleman
    c. landlord and tenant
    d. franchisee and franchisor

33. Where the organization pattern has a clearly identified chain of command, this is called:

    a. committee
    b. functional
    c. line
    d. line and staff

34. One of the most important disadvantages of the general partnership is its:

    a. degree of central control exercised by the senior partner
    b. amount of unlimited personal liability of the general partners
    c. requirement for large sums of capital to begin operation
    d. difficulty in finding a suitable business firm title

35. A written authorization signed by a stockholder giving someone else the right to vote his shares at a corporation meeting is called a:

    a. permit
    b. proctor
    c. bylaw
    d. proxy

36. An advantage of franchising to the franchisee is that:

    a. he can get into business without know-how
    b. the amount of money required to set up a business may be less than would be needed in a non-franchised operation
    c. he will get help with site selection
    d. all of the above

37. The purpose of the Small Business Administration is:

    a. to help small-business owners gain access to capital and credit
    b. to help small businesses obtain a fair share of government contracts
    c. to make available to small-business owners managerial, production, and technical counsel
    d. all of the above

38. The largest market for trading in listed stocks and bonds in this country:

    a. New York Stock Exchange
    b. Midwest Stock Exchange
    c. American Stock Exchange
    d. Pacific Stock Exchange

39. The sale of stock in units of less than 100 shares is called a/an:

    a. round lot
    b. odd lot
    c. speculation
    d. stock dividend

40. Bonds that are backed solely by the general credit of the firm are:

    a. registered bonds
    b. coupon bonds
    c. debenture bonds
    d. income bonds

41. A union whose members are engaged in a skilled trade is a/an:

    a. brotherhood
    b. craft union
    c. independent union
    d. industrial union

42. A union that is not affiliated with a labor federation is known as a/an:

    a. apprentice union
    b. brotherhood
    c. craft union
    d. independent union

43. The financial report that gives a picture of the financial condition of the business at a given time is the:

    a. balance sheet
    b. income statement
    c. earnings statement
    d. ledger accounts

44. A method most commonly used in settling labor-management grievances is:

    a. arbitration
    b. disciplinary layoffs
    c. law suit
    d. picketing

45. An advancement that places an employee in a higher level position is a:

    a. turnover
    b. separation
    c. transfer
    d. promotion

46. One of the most important purposes of advertising is to:

    a. provide propaganda
    b. help people make new business decisions
    c. recruit new customers
    d. spend the advertiser's budget

47. One of the most important steps in selling involves:

    a. taking the customer out to lunch
    b. taking the customer out to coffee
    c. being punctual
    d. creating the prospect's desire to buy

48. A small local merchant can best use which media for advertising?

    a. national magazines
    b. large city newspapers
    c. local newspapers
    d. poster

49. Goods and services that are produced in this country and sold abroad are called:

    a. exports
    b. imports
    c. embargoes
    d. balance of trade

50. A favorable balance of trade occurs when:

    a. a nation exports more than it imports
    b. a nation exports the same as it imports
    c. a nation imports more than it exports
    d. none of the above

APPENDIX F

LETTER TO TELECOURSE STUDENTS

WHO MISSED ORIENTATION

Mountain View College
4849 West Illinois Avenue
Dallas, Texas 75211
October 1, 1976

Dear Telecourse Business 105 Students:

In checking the records for the students of It's Everybody's Business, I find that you did not attend an orientation session scheduled at the beginning of this semester. As a result, I do not have in your file a completed copy of the attached questionnaires.

The questionnaires are designed to find out more about career interests and attitudes of Business 105 students. They were completed at orientation as a requirement of the course for this semester.

To complete your records, I would appreciate your taking a few minutes to fill out the attached questionnaires and return in the self-addressed, stamped envelope. Thank you for your assistance.

If you have any questions about the questionnaires, please call me on MWF: 9:00-10:00 a.m., 12 Noon-1:00 p.m. or T Th: 9:30-11:30 a.m. My telephone number is 746-4118.

I hope you are doing well in the course and finding it informative and interesting.

Sincerely yours,

Kathy Hegar
District Coordinator

Attachment

APPENDIX G

MEMORANDUM TO INSTRUCTORS

OFFICE OF SPECIAL SERVICES

MEMORANDUM

TO: Craig Christopherson, Grover Gillett, Bea Smith, Melba Benson, Rose Marie Pelcher, Annetta Ray

FROM: Linda Agler

SUBJECT: Pre-testing of Business 105 Students for Telecourse Evaluation

DATE: August 20, 1976

The pre-testing of Business 105 telecourse and control group students will occur during the first class week. It should take approximately 25 minutes to administer the questionnaires. Please read the following standardized instructions to your classes when you administer the questionnaires, so that no bias will enter the study due to a lack of standardization of the testing.

> In order to find out more about the career interests and attitudes of Business 105 students, we are asking you to complete the forms which you have been given. Each packet should have four pieces of paper. Please be sure that your social security number is on each page. Please fill them out quickly, and do not ponder over your answers.

Encourage all students to complete the forms, but do not force them to do so. If students do not have time to complete them, take their test kit to the testing center and have them make arrangements to complete them at the test center (or elsewhere) during the next week. Return all testing materials to Linda Agler at the Office of Special Services, room 303 at the District, or to Kathy Hegar at Mountain View College. Please feel free to call me at 2153, or Kathy at 4118, if you have any questions.

APPENDIX H

PANEL OF EXPERTS USED FOR SELECTING BUSINESS CAREERS FROM THE STUDENT CAREER INTEREST SURVEY INSTRUMENT

Advisory Committee Members

Ms. Norma Schiff
Management Systems Department
East Texas Motor Freight System
P. O. Box 10125
Dallas, Texas 75207

Mr. Fred Harris
Director of Personnel
Burgess Industries
8101 Carpenter Freeway
Dallas, Texas 75247

Mr. Bill Fincanon
Southwestern Bell Telephone Company
3422 Janwood
Garland, Texas 75042

Ms. Charlene Calvert
District Manager of Market Support Services
Xerox Corporation
3636 McKinney
Dallas, Texas 75204

Mr. Albert J. Biggio, President
Robert Nicholson Seed Company
1016 North Oak Cliff Boulevard
Dallas, Texas 75208

Ms. Betty Baldridge
Buyer for Furniture
Sanger-Harris Company
4429 Hanover
Dallas, Texas 75225

Ms. Mary Ellen Coldiron
Richardson Independent School District
400 South Greenville
Richardson, Texas 75080

Mr. Tom Clark
Texas Instruments
6000 Denton Drive
Dallas, Texas 75204

Business Division Chairmen

Christine Smart, El Centro College

Ray Attner, Eastfield College

John Nelson, Mountain View College

Curtis Clark, Richland College

Vocational-Technical Deans

Carey Rector, El Centro College

Virginia Dobbs, Eastfield College

Pat Plocek, Mountain View College

Ken Permenter, Richland College

Director of Program Development

Dexter L. Betts

LETTER TO ADVISORY COMMITTEE MEMBERS

SERVING ON PANEL OF EXPERTS

Mountain View College
4849 West Illinois Avenue
Dallas, Texas 75211
October 8, 1976

Dear

The Dallas County Community College District is presently conducting a research study involving students enrolled in an introductory business course. One of the elements of the study concerns finding out information about the career interests of these students.

The attached instrument was given to each student at the beginning of the semester. It will be given again at the end of the semester to the same students. Before statistics can be computed on the information gathered from the instruments, the business careers must be determined. I would appreciate your assistance in selecting the ones which are business careers. Would you study the attached instrument and place a check mark (√) in front of each one that you consider to be a business career. A self-addressed stamped envelope is enclosed for your immediate return.

If you have any questions, please do not hesitate to call me at 746-4118 or 746-4116. I certainly appreciate your taking the time to help in this study.

Sincerely,

Kathy Hegar
District Coordinator

Enclosure

MEMORANDUM TO DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

PERSONNEL SERVING ON PANEL OF EXPERTS

TO: Dexter L. Betts
Voc-Tech Deans:
Carey Rector
Virginia Dobbs
Pat Plocek
Ken Permenter
Business Division Chairmen:
Christine Smart
Ray Attner
John Nelson
Curtis Clark

FROM: Kathy Hegar

DATE: October 8, 1976

SUBJECT: Career Instrument for Introduction to Business Study

The Dallas County Community College District is presently conducting a research study involving students enrolled in the Business 105 telecourse and certain on-campus introduction to business classes. One of the elements of the study concerns finding out information about the career interests of these students.

The attached instrument was given to each student at the beginning of the semester. It will be given again at the end of the semester to the same students. Before statistics can be computed on the information gathered from the instruments, the business careers must be determined. I would appreciate your assistance in selecting the ones which are business careers. Would you study the attached instrument and place a check mark (√) in front of each one that you consider to be a business career. Please return the completed instrument as soon as possible.

If you have any questions, please do not hesitate to call me at 746-4118 or 746-4116. I certainly appreciate your taking the time to help in this study.

Attachment

APPENDIX I

BUSINESS TOPICS COVERED

1. Economic system
2. Free market
3. Supply and demand
4. Business firm
5. UCC (Uniform Commercial Code)
6. Contract
7. Mutual assent
8. Capitalism
9. Sales tax
10. Federal tax
11. Personal income basis
12. Inheritance tax
13. Social security
14. Business ownership
15. Franchise
16. Controlling
17. Line organization
18. Advantage of sole proprietorship
19. Objective of a business
20. Disadvantage of corporation
21. Unity of command
22. Job descriptions
23. Staff function
24. Disadvantage of line and staff
25. Corporation charter
26. Small business failure
27. General partnership
28. SBA (Small Business Administration)
29. Corporation
30. New York Stock Exchange
31. Bond
32. Odd lot
33. Stock split
34. Promissory note
35. Working capital
36. Equity capital
37. Unlisted stock
38. Risk
39. Premium
40. Principle of insurance--law of averages

41. Debenture bonds
42. Current ratio
43. Craft union
44. Independent union
45. Grievance procedure
46. Balance sheet
47. Arbitration
48. Data processing
49. Entrepreneurship
50. Profit
51. Oligopoly
52. Social responsibility
53. Gift and estate tax
54. Advantage of corporations
55. Proxy
56. Banking
57. Business location
58. BBB (Better Business Bureau)
59. Commercial banks
60. Office of Minority Business Enterprise
61. Financial needs of business
62. Prospectus
63. Mortgage bonds
64. Autocratic leadership
65. Coordination
66. Organization
67. Informal organization
68. Interview
69. Resume
70. Promotion
71. Flexible working hours
72. Labor union
73. National Labor Relations Board
74. R & D (Research and development
75. Consumer Price Index
76. Statistics
77. Marketing
78. Public warehouses
79. Advertising
80. National advertising
81. Selling
82. Media
83. Point-of-purchase
84. Exports
85. Cartel
86. Balance of trade
87. Multinational corp.
88. Embargoes
89. Plant location
90. Perpetual inventory

91. Productivity
92. Production
93. Transportation
94. Traffic manager
95. Containerized shipping
96. Contract carrier
97. Channels of distribution
98. Wholesaler
99. Mutual insurance company
100. Programmer

APPENDIX J

PROPOSITIONS EXTRACTED FROM LEARNING FROM TELEVISION: WHAT THE RESEARCH SAYS

by Godwin C. Chu and Wilbur Schramm

I. Do Pupils Learn from Television?

1. Given favorable conditions, children learn efficiently from instructional television.

2. By and large, instructional television can more easily be used effectively for primary and secondary school students than for college students.

3. So far as we can tell from present evidence, television can be used efficiently to teach any subject matter where one-way communication will contribute to learning.

II. What Have We Learned About the Efficient Use of Instructional Television in a School System?

4. Television is most effective as a tool for learning when used in a suitable context of learning activities at the receiving end.

5. Television is more likely to be an efficient part of an educational system when it is applied to an educational problem of sufficient magnitude to call forth broad support.

6. Television is more likely to be an efficient tool of learning if it is planned and organized efficiently.

III. What Have We Learned About the Treatment, Situation, and Pupil Variables?

7. There is no evidence to suggest that visual magnification or large-size screen will improve learning from television in general.

8. There is insufficient evidence to suggest that color will improve learning from film or television.

9. Where learning of perceptual-motor skills is required, a subjective angle presentation on television will tend to be more effective than an objective angle presentation.

10. There is no clear evidence on the kind of variations in production techniques that significantly contribute to learning from instructional television. However, students will learn better when the visuals are presented in a continuous order and carefully planned both by the television team and the studio teacher.

11. Attention-gaining cues that are irrelevant to the subject matter will most probably have a negative effect on learning from instructional television.

12. There is no consistent evidence to suggest that either humor or animation significantly contributes to learning from instructional television.

13. Subtitles tend to improve learning from instructional television, particularly when the original program is not well organized.

14. There is insufficient evidence to suggest that dramatic presentation will result in more learning than will expository presentation in instructional television.

15. Inserting questions in a television program does not seem to improve learning, but giving the students a rest pause does.

16. Whether a television program is used to begin or to end a daily lesson by the classroom teacher makes no difference in learning.

17. Repeated showings of a television program will result in more learning, up to a point. But teacher-directed follow-up, where available, is more effective than a second showing of the same program.

18. If saving time is important, a television program can probably be shortened and still achieve the minimum requirement of teaching.

19. There is no clear evidence to suggest whether eye-contact in television instruction will affect the amount of learning.

20. Problem-solving instruction on television is more effective than lecturing where the materials taught involve the solving of a problem.

21. The students are likely to acquire the same amount of learning from instructional television whether the materials are presented as a lecture, or in an interview, or in a panel discussion.

22. Where accurate perception of images is an important part of learning, wide viewing angle and long distance will interfere with learning from instructional television.

23. Adequate attention provided by the classroom teacher will, in most cases at least, remedy the adverse effect due to a wide viewing angle.

24. Noise will reduce the effectiveness of learning from film and television so far as part of the learning comes from the auditory medium.

25. Instructional television appears to be equally effective with small and large viewing groups.

26. Instructional television may or may not be more effective with homogeneously grouped students, depending on other factors in the learning situation.

27. Whether instructional television can teach students who view at home as effectively as students in the classroom seems to depend on other conditions.

28. At the college level, permissive attendance does not seem, by itself, to reduce the effectiveness of instructional television.

29. Students will learn more from instructional television under motivated conditions than under unmotivated conditions.

30. Learning from television by the students does not seem necessarily to be handicapped by the lack of prompt feedback to the instructor.

31. Showing, testing, revising an instructional television program will help substitute for lack of live feedback to the teacher, and make for more learning by the students.

32. The lack of opportunity for students to raise questions and participate in free discussion would seem to reduce the effectiveness of learning from instructional television, particularly if the students are fairly advanced or the material is relatively complicated.

33. If a student being taught by instructional television can be given immediate knowledge of whether he has responded correctly, he will learn more.

34. Students taught by television tend to miss the personal teacher-student contact, but there is insufficient evidence to suggest that the lack of such contact will impair learning from instructional television.

35. Practice, whether by overt or covert response, will improve learning from instructional television if the practice is appropriate to the learning task, and if the practice does not constitute an interference.

36. Note-taking while viewing instructional television is likely to interfere with learning if time for it is not provided in the telecast.

IV. Attitudes Toward Instructional Television

37. Teachers and pupils are more favorable toward the use of instructional television in elementary school than in secondary school and college.

38. Administrators are more likely to be favorable toward instructional television than are teachers.

39. Voluntary home students of television college classes tend to be more favorable toward learning

by television than are the students who take these same televised courses in the classroom.

40. At the college level, students tend to prefer small discussion classes to television classes, television classes to large lecture classes.

41. There is evidence of a Hawthorne effect among students beginning to use instructional television, but no firm evidence that attitudes toward the medium necessarily improve or worsen with time.

42. Favorable attitudes are distributed widely enough among different televised courses to cast doubt on the assumption that some academic subjects, per se, may be disliked as material for instructional television.

43. Liking instructional television is not always correlated with learning from it.

44. Among the factors that determine teachers' attitudes toward instructional television are (a) how the perceive the degree of threat to the classroom teacher; (b) how they estimate the likelihood of mechanized instruction replacing direct contact with students; (c) how they estimate the effectiveness of instructional television; (d) the difficulties they see in the way of using modern techniques; (e) how conservative they are, and whether they trust or distrust educational experimentation.

45. Among the factors that determine pupils' attitudes toward instructional television are (a) how much contact they think they will have with a teacher; (b) how they compare the relative abilities of the studio and classroom teachers; (c) whether they find instructional television boring or interesting; (d) the nature of the televised programs they have seen; (e) the conditions of viewing.

V. Learning from Television in Developing Regions

46. There is no evidence to lead us to believe that children learn any less efficiently from television in developing countries than elsewhere.

47. Under suitable conditions, television has been shown to be capable of highly motivating learning in developing regions.

48. Illiterate people need to learn certain pictorial conventions. There is some evidence suggesting that these conventions are not hard to learn.

49. When media are introduced for upgrading the level of instruction, then it has proved very important to train teachers in their proper use and to keep in close touch with them.

50. Resistance to television and other media is likely to be no less in developing countries, but the size and urgency of the problems are likely to provide greater incentive for overcoming it.

51. Feedback from the classroom teacher to the studio teacher will be helpful to effective use of the media.

52. There is ample evidence that the new media, particularly television, are effective for in-service training of teachers for developing regions.

VI. Learning from Television: Learning from Other Media

53. Given favorable conditions, pupils can learn from any instructional media that are now available.

54. There appears to be little if any difference between learning from television and learning from film, if the two media are used the same way.

55. Television and radio have certain advantages over films in flexibility and deliverability.

56. Radio is less expensive than television; economy of scale usually governs cost comparisons of television and film.

57. More complete control of film by the classroom teacher gives it a potential advantage over television.

48. The use of visual images will improve learning of manual tasks, as well as other learning where

visual images can facilitate the association process. Otherwise, visual images can cause distraction and interfere with learning.

59. There is some evidence to suggest that moving visual images will improve learning if the continuity of action is an essential part of the learning task.

60. Student response is effectively controlled by programmed methods, regardless of the instructional medium.

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