AN EVALUATION OF STUDENT OUTCOMES: THE CAREERS IN RADIO BROADCASTING PROJECT AT FORT GAY, WEST VIRGINIA

by

Thomas J. Lozito

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APPROVED:

Ralph Ressler, Chairman

Steve R. Parson

J. Dale Oliver

Charles I. Jones

James P. Clouse

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This study is dedicated to Linda, my wife, and Christopher, my son, for their constant encouragement, love and sacrifice. And to our parents for all their love and support.

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Chapter 1

DESCRIPTION OF THE PROBLEM SITUATION

During the past five years, the influx of federal money into education has resulted in the development of numerous new and innovative programs throughout the United States. This has been no less true in the state of West Virginia. A particular school involving such a program was Fort Gay High School, Fort Gay, West Virginia. This school is located on the westernmost tip of West Virginia near Louisa, Kentucky. The town of Fort Gay is set in a rural environment with 93 percent of the land unsuitable for urban or extensive agricultural development due to excessive slope (Smith, 1970:94).

Fort Gay High School, a Title I ESEA (Elementary and Secondary Education Act) school in Wayne County, West Virginia, is unique in comparison to other high schools of its size in the United States. In 1973, the school received developmental funds to construct and operate a 7,800 watt FM public radio station. The station, WFGH 91.7, was sanctioned by the Federal Communication Commission (FCC) and maintained by the Wayne County Board of Education. Initial developmental funds for construction were provided by an Urban/Rural School Development Grant under EPDA (Education Professions Development Act, 1971).

In order to utilize the public radio station to its fullest potential, a Title III ESEA training grant proposal was funded by the

state of West Virginia. This three year grant entitled "Careers in Radio Broadcasting" was a career exploration project specifically designed to provide eighth through tenth grade students with realistic experience in all aspects of radio broadcasting. The primary goal of the project was to give students an opportunity to acquire related basic skills and knowledge in radio broadcasting.

Although new and innovative projects such as the "Careers in Radio Broadcasting" provide a stimulating and motivating way of educating our youth, they are largely exemplary in nature and therefore necessitate a methodical evaluation. Several factors make it desireable to follow-up the effectiveness of this particular project. These include program evaluation for accountability, future project development for special activities and career development for career related activities.

Program Evaluation

In a time of spiraling inflation, fiscal cutbacks, and a constant tightening of pursestrings, local school districts and state level departments keep accountability paramount in their minds. Economics have become a prime reason for accountability. Projects such as "Careers in Radio Broadcasting" need to justify their continued existence by producing evidence of having achieved proposed objectives. Educators and their local constituents feel the need to examine the results of their efforts in educational innovation in order to make future decisions pertaining to the modification and continuation of such exemplary programs.

Program evaluation is important because it provides evidence concerning the relative educational merits of programs, thus enabling educators to make more rational decisions about the theories and practices of program development and operation. Unfortunately, the time and support available for evaluation planning and implementation is minimal, and little is available to guide program developers in setting up useful evaluation designs.

Robert F. Kennedy was among the senators who forcefully insisted that the ESEA Programs carry a proviso requiring educators to be accountable for federal monies they receive and to file an evaluation report for each grant showing the results achieved from expenditures of the federal funds.

According to Lindvall (1961:4), the evaluation of achievement must be the culminating step in any educational process. Educational evaluation is any procedure that appraises the extent to which specified educational objectives have been achieved. This definition includes a major emphasis of the evaluation movement with an essential step in the process being the specification of the instructional objectives.

Project Development

A major goal of most federally funded projects is to provide interesting and motivating activities designed to augment academic achievement. The "Careers in Radio Broadcasting" project was also concerned with heightening achievement, interest, and attitudes of

students from this disadvantaged region of the state. A study, conducted by the U.S. Office of Education (1970:2), to determine the needs in the Fort Gay area for disadvantaged youth found that most students from the Fort Gay school attendance area lived on small farms in outlying hollows and hillsides. Few families had inside plumbing and most averaged less than $3,000 in yearly income. A large number of residents were unemployed and welfare recipients (60 percent). Many relied on the services of the Department of Public Assistance, and in some cases the third generation of families were accepting federal assistance.

Career Development

Students from this low socioeconomic community needed to develop interests, capacities, values, attitudes, and achievements through well planned career exploration activities. The "Careers in Radio Broadcasting" project designed a series of career related activities using an individualized approach that afforded students self-expression and the use of skills and knowledge in a career development context.

Super (1957:217-18) defines career development as a process that enables an individual to implement his self-concept. There are three major needs for which a person seeks satisfaction in work: (1) the need for human relations--to be recognized as a person, to be independent, and for status and prestige; (2) the need for activity--a means of self-expression, to use skill and knowledge, to express

interests and to express personal adequacy; (3) the need for a livelihood--to provide a standard of living, security, and satisfaction. Super states further that the maturation of an individual's abilities, interests, aptitudes, and his self-concept influence his career development.

The project also offered students a series of realistic work environments through a modular approach that simulated various duties and aspects in the field of radio broadcasting. This career development concept is further explained by Holland (1966:74). He believes that as an individual matures he develops a "type" of personality that enables him to achieve job satisfaction in one, or a particular combination, of six work "environments." These work environments are as follows: (1) realistic, (2) intellectual, (3) social, (4) conventional, (5) enterprising, and (6) artistic.

Students also need to explore a diversity of career options in order to make realistic career decisions. This theory of career development is presented by Ginzberg (1952:85) as a process covering three stages: (1) "fantasy" choice (ages six to eleven), (2) "tentative" choice (adolescence), and (3) "realistic" choice (late teens and early twenties). Ginzberg describes the process as a compromise of interests, values, and opportunities.

> Occupational choice is a decision-making process that extends from pre-puberty until the late teens or early twenties when the individual makes a definite occupational committment. Many educational and other preparatory and exploratory decisions along the way have the quality of irreversibility.

During the last decade, education has made significant advances in the area of cognitive growth of students. Until now, many of these advances have not been fully combined with career development theory under the heading of career education. Cognitive, affective, and psychomotor development theories, along with related theories of social and human development, became the educational ingredients for the concept of career education.

Intent of the Study

In accepting that the "Careers in Radio Broadcasting" project had as its implicit goals the academic and career development of students from Fort Gay High School, the intent of this study was to assess the impact of this project on the students by evaluating student outcome in light of its overall goals. Information that was obtained from this study: (1) served as a basis for those accountable for expenditures to make judgments regarding project continuation, (2) served as a final project evaluation for the West Virginia State Department of Education and Wayne County Board of Education, (3) served as a basis for the development of similar career exploration efforts.

THE PROBLEM

An evaluation study should identify change or lack of change resulting from the implementation of a new program. Ideally, some type of comparative data should be gathered with which to determine

the relative effectiveness of a new program. In the case of the "Careers in Radio Broadcasting" project, a summative evaluation strategy was proposed to examine student outcomes.

This evaluation strategy was based upon specific operational objectives formulated with criterion questions. The development of these objectives and questions further specified the scope of the study by delineating student outcomes that were of value to project officials. Both the operational objectives and criterion questions reflected the overall goals of the project. Educational accountability demands that effects of the project in terms of student outcomes be assessed. This would determine the degree to which proposed goals were achieved. The research problem then, was to evaluate the "Careers in Radio Broadcasting" project in terms of student outcomes.

OBJECTIVES OF THE STUDY

The general objective of this study was to determine whether the overall project goals had been achieved through the examination of student outcomes.

The specific objectives included an examination of student outcomes related to: (1) reading achievement, (2) school attendance, (3) acquisition of career-related skills in the operation of radio broadcasting equipment, (4) acquisition of knowledge of electronics and FCC rules and regulations, and (5) acquisition of positive career attitudes.

PURPOSE OF THE STUDY

The primary purpose of the study was to evaluate student outcomes and their effects related to the overall goals of the "Careers in Radio Broadcasting" project. In addition, this study attempted to: (1) measure various aspects of radio broadcasting, specifically technical skill in the operation of radio broadcasting equipment and knowledge of electronics and FCC rules and regulations, (2) examine achievement and behavioral patterns of the students, specifically reading achievement and school attendance, (3) provide a basis for judgmental decisions to those accountable for federal funds regarding project continuation, (4) examine career attitudes of the students to aid in the development of guidelines for similar career exploration projects.

DEFINITION OF TERMS

Career Exploration: Investigative activities and inquiries undertaken inside and outside the classroom to search out the necessary information about a future occupational or professional interest or goal (Good, 1973:80). Can also serve as a "dovetail" into a vocational education program.

Criterion Question: A question developed from operational objectives, if answered it will give an indication as to what objectives were achieved.

Operational Objective: An objective developed from project goals and objectives of this study. It is designed to focus on a specific skill, attitude, or knowledge acquired by students.

Public Radio: A nonprofit radio station with a programming format geared toward public service announcements.

Summative Evaluation: A final evaluation of the project at the end of a three year grant period. This evaluative research effort can be used to insure accountability of expenditures by providing evidence indicating whether the student outcomes from the project were successful.

LIMITATIONS OF THE STUDY

The scope of this study was limited in the following ways:

1. The study was limited to those students in grades nine and ten who had two years of successful completion in project activities and a comparative group of ninth and tenth grade students from Fort Gay High School.

2. The study was limited to demographic data obtained from school records, which included intelligence test scores, attendance records, reading achievement scores, and parents' occupations for purposes of establishing socioeconomic status.

BASIC ASSUMPTIONS

Assumptions made with respect to the study were:

1. Because of the evaluative nature of this study, it will never obtain the precision and control of research studies. This

study, however, has incorporated controls into the design to insure that an interaction of extraneous variables will not overly affect the project treatment, which in turn affect student outcomes.

2. Students entering into the program had no appreciable skills in the operation of radio broadcasting equipment, nor did they have appreciable knowledge in electronics or FCC rules and regulations.

HYPOTHESES

Consistent with the objectives of this study, the following null hypotheses were developed and tested for statistical significance.

1. There was no difference in reading achievement between those participating in the project and other students from Fort Gay High School.

2. There was no difference in school attendance between those participating in the project and other students from Fort Gay High School.

3. There was no difference in the level of skills in the operation of radio broadcast equipment between those participating in the project and other students from Fort Gay High School.

4. There was no difference in the level of knowledge of electronics and FCC rules and regulations between those participating in the project and other students from Fort Gay High School.

5. There was no difference in career attitudes and self-esteem between those participating in the project and other students from Fort Gay High School.

SUMMARY

The first chapter of this evaluative research effort cited several factors to be isolated and evaluated in this study. They include: (1) reading achievement, (2) school attendance, (3) radio broadcasting skill, (4) knowledge of electronics and FCC rules and regulations, and (5) career attitudes. The evaluation of these student outcomes will help determine whether the project goals were achieved.

The data obtained from this study provided evidence to those accountable for federal expenditure to make effective decisions. It also provided information concerning the effectiveness of the career-related activities; i.e., skills, knowledge, and attitudes that might be applied to similar career exploration efforts.

Chapter 2

A REVIEW OF RELATED LITERATURE AND RESEARCH

The use of radio in education is a relatively new idea and the "Careers in Radio Broadcasting" project was an adaptation of this innovative idea. To determine the effectiveness of such a new program, there were two theoretical and practical concerns germane to the success of this research effort. First was the potentiality of radio broadcasting when used as a media for instruction. Second was the need to develop an evaluation design that related to educational program decision-making and program accountability. For the purposes of this study, the review of the related literature and research focused on these two concerns.

THE NATURE AND STATUS OF RESEARCH DEALING WITH EDUCATIONAL RADIO

An Overview

A review of related research and literature revealed that considerable efforts had been exerted in the area of educational program development in radio broadcasting.

Education USA (1975:189) states that education and public broadcasting are natural allies. The advisory council of the Corporation for Public Broadcasting, in a study done in 1974, viewed students of that time as "everybody" and current curricula

as broad as the interests of that student body. The report further stated in the more than fifty years since the first radio station went on the air, "education and communication have had a wary, uncomfortable relationship as superpowers of the twentieth century."

In recognizing the potential of radio as a viable aid to education, the Senate Commerce Committee approved a five-year authorization for public broadcasting allocations where ceilings will begin at $88 million in fiscal 1976 and increase to $160 million by fiscal 1980 (Education USA, 1975:189).

Radio provides local communities with many services and topics of interest. Its ability to keep citizens abreast of educational trends cannot be overstated (National Association of Educational Broadcasters, 1973:4).

Various analysts have explored radio potential for instruction and have cited qualities of interest in the medium which make it educationally valuable. The following is a list of specific instructional tasks which radio can perform (Dole, 1954:57):

> Voters listen to live broadcasts of state legislation sessions and committee hearings in Hawaii, Georgia, Florida, Connecticut, Tennessee and a growing number of other states.
>
> Blacks in central Michigan are learning about community services from "Taking Care of Business" over WKAR, the Michigan State University station in East Lansing.
>
> Men and women in central Ohio are voicing complaints and asking questions about their own neighborhoods through the "Ombudsman" on WOSU, the public radio station of the Ohio State University.
>
> More than 300,000 children (over 80% of Wisconsin's elementary school pupils) are learning from regular broadcasts of the "Wisconsin School of the Air" from WHA in Madison.

> Elderly people in the hill country of northeastern Kentucky are getting new ideas and learning new skills through broadcasts from WMKY, the public radio station at Morehead State University (National Association of Education Broadcasters, 1973:11).

Another instructional advantage of radio is its ability to provide timely educational material which is reflected in the growing quantity of programming for the disadvantaged.

> KBPS in Portland, Oregon, received federal funding for a special instructional radio program aimed at the culturally deprived. The station has been able to produce four series for children including: (1) a newscast for slow learners, (2) broadcast of creative students' work, (3) dramatized biographies of Negroes and whites who have succeeded in spite of difficulties, and (4) a call-in series for the junior high school which discusses student problems.
>
> WFBE produced a creative writing participation series for the Flint, Michigan, inner schools.
>
> Station WFBE, Flint, Michigan, produced a dramatized weekly news summary.
>
> KDPS, Des Moines, Iowa, has produced "Mr. Achiever" for use in the inner city intermediate grades.
>
> Other series, such as WBAA's "Spotlight in Careers" and "The World of Science" featured up-to-date information in fields which are constantly changing.
>
> Station WVAA, Purdue University, produced "News in Review" for the intermediate grades and distributed the services throughout Indiana on its tape network (Forsythe: 1970:4).

Listening to instructional programs is not the only use of radio in education. Participation in a radio broadcasting experience enters the classroom as students discover how mass media decisions are made and how they affect society. Bittner (1974:21-23) describes DePaw University's FM radio station WGRE as a major emphasis on student involvement. On April 25, 1974, WGRE celebrated its twenty-fifth anniversary, beginning as the first 10 watt educational FM radio station in the United States.

Bittner (1974:27) goes on to state that decisions concerning station policy are almost totally student initiated, providing direct impact on other facets of student life. Special class projects, student research interests, fraternity and sorority activities, intramurals and campus elections all become part of the station's daily news schedules.

Public radio stations around the nation provide listeners with instructional and public programming schedules. Illustrating this are the following examples:

> WABE-FM is licensed to the Atlanta Board of Education and is mandated with dual responsibilities: to provide educational programming for the school children of Atlanta and Fulton County, to provide informative and entertaining programming which cannot be obtained on other stations in the greater metropolitan Atlanta area. WABE-FM was established in 1948 as part of an educational experiment involving the use of radio broadcasting to enhance the teachers' daily curriculum (Educational Broadcasting, 1974:29-32).

> KANV, a public radio station located in Lawrence, Kansas, concentrates its programming on dealing with current issues concerning the community of Lawrence. Brant (1973:19-23) explains a new concept that has received national recognition. Audio-Reader is a radio service that programs solely for the blind and physically handicapped, within a 50 mile radius of Lawrence. Newspapers, magazines, novels and all other types of printed matter are broadcast resulting in 12 hours of spoken word presentations.

Besides bringing education to a general audience, radio has also found a place directly in the classroom. Today's schools are committed to a variety of learning strategies, according to Spatafora (1974:48-53). Strategies such as the open classroom, individualized learning, multi-age grouping, and affective education are used. While different, each strategy shares a common concern for breaking up old teaching patterns and reaching out to create new learning experiences.

The electronic media can provide these new experiences "for what richer world of experience can teachers bring into the physical confines of their classrooms than radio" (Spatafora: 1974:55).

Although some teachers may be dubious about the lack of visual stimulation, radio is considered the unseen media and is alive and well, broadcasting some promising new series on many local educational stations. Some examples include the following:

> "Mr. Saymore Says" (preschool and kindergarten). The charming interaction between listener and characters on the series help to clarify useful concepts such as more or less, happy or sad, before and after.
>
> "Listening" (grades four through six). This show provides a valuable encounter with a rare skill--listening. Some of the series titles tell the story: "Identifying Details," "Identifying Main Ideas," "Making Inferences," and "Summarizing."
>
> "Our Living Language" (grades five and six). This stimulating series presents an overview of words--how they are used, how they are perceived, how they impact on people.
>
> "They Led the Way" (grades two through five). A provocative little package of biographical sketches, this series includes subjects as diverse but as influential as Jesse Owens, Prince Henry the Navigator and Sir Edmund Hillary (National Association of Educational Broadcasters, 1973:13).

EVALUATION DESIGN FOR EFFECTIVE DECISION-MAKING

Educational Evaluation

As in all new educational programs, a systematic approach to program evaluation had to be developed to assess educational strengths and weaknesses. Educational evaluation is, of course, a systematic process of determining the effectiveness of educational endeavors in the light of evidence. Tyler (1969:100) identified four subgroups:

1. Appraisal of academic achievement of individual pupils.
2. Diagnosis of learning difficulties of an individual pupil or an entire class.
3. Appraisal of the educational effectiveness of curriculum, instructional materials, and procedures and organizational arrangements.
4. Assessment of the educational progress of large populations to understand educational problems and develop sound public policy in education.

Combs (1967:v) agrees that an accurate assessment of educational outcomes is essential for sound program development and effective stimulation of growth in our educational structure. Assessment has always been an integral part of curriculum development and is a major responsibility of a curriculum developer. This responsibility is especially critical in a time of awakened public concern, massive federal commitment, and widespread public reappraisal of our educational endeavors. It is therefore necessary that curriculum workers develop new procedures for assessment far beyond present levels to meet properly the changing needs of our times.

Program Evaluation

Program evaluation is essential to systematic improvement in educational efficiency and effectiveness; an intensification of evaluative activities is highly desirable (Moss, 1968:1). Program evaluation is important because it provides evidence about the relative merits of programs, enabling educators to make more rational decisions about the theories and practices of program development and operations. Moss (1968:3) defines program evaluation as a process of attributing differences between actual and comparative outcomes to program characteristics, student characteristics and other intervening

influences and making judgments about the value of the program characteristics. The process is conducted for the purpose of making more rational decisions about programs.

A review of literature and research does not, however, show evaluation effort directed toward educational programs dealing with radio broadcasting. Since the "Careers in Radio Broadcasting" project was a new and innovative idea designed to meet the needs of a particular school system, a review of related literature in this subsection has addressed itself to evaluation designs in the form of techniques, procedures, and processes that could effectively assess such a project.

Evaluation Design

According to Coster (1969:7-8), a concern of both program development and evaluation is the actual outcome or products of the program. This, the planning and evaluation model, requires attention to seven principal components:

1. The value structure of a given society, including the social, economic, and political structure in which educational programs are developed and implemented.
2. The clientele and the attributes of the clientele for which programs are designed.
3. The goals of the programs, which are manifestation of the combined mix of the value structure of society and the attributes of the individual.
4. The objectives of the program.
5. The operational procedures; i.e., the methods, techniques, emphasis, and efforts, being utilized to obtain the objectives.
6. The resources, both material and human, provided to facilitate the attainment of the objectives.
7. The actual outcome or product of the program, as defined in terms of the objectives (Coster, 1969:7-8).

The above evaluation components may be directed toward an appraisal of the process of the program; that is, toward the operational

procedures and resources available to operate the program. Evaluation may also be directed toward an assessment of the actual outcomes or product of the program in order to fulfill accountability demands mandated by federal legislation.

> Value judgments are used extensively in application of process evaluation criteria and accreditation standards. Although the value judgments are based on experience and expertise, although they are based on the best evidence available as to what constitutes "good" or "sound" programs, and although they provide a motivation for program improvement, they are generally more subjective than objective and they generally do not provide for quantification of qualitative data. There is little or no evidence that the assumption of correlation between process and product variables is valid (Coster, 1969:492-530).

Coster further stated that the crux of the evaluation problem is the congruence between the actual outcomes of the program and the objectives of the program. The prime concern of the decision-maker is the extent to which the two entities are in "continuity." The prime function of an evaluation is to produce the information necessary to determine the extent to which these two entities are in accord. Therein lies the key to the role of evaluator in the decision-making process (Coster, 1969:10-11).

Program outcome as defined by Stake (1967:529), is the impact of the program on pupils, teachers, and others. For example, the pupil changes in abilities, achievements, and attitudes as a result of the educational experience. An evaluation design used by Olsen (1974:2) assessed student outcomes in terms of abilities, attitudes, and achievements resulting from a county-wide career education exemplary project. The results of the study were used as a basis to

determine whether the project had achieved its proposed goals and to imply academic and attitudinal strengths of the program in a career education context.

Stufflebeam (1971:129) defined evaluation as the ascertainment of value and decision; as the act of making up one's mind. "To make up one's mind, he must evaluate the alternatives so that he can choose the best one." In other words, evaluation is the process of delineating, obtaining, and providing useful information for judging decision alternatives.

Cronback and Suppes (1969:20-21) discuss decision-oriented evaluation as being a study in which the investigator is asked to provide information wanted by a decision-maker such as a school administrator, a government policy-maker, or the director of a project.

Stufflebeam (1971:130) and Welch (1970:52) agreed that an evaluation model gives administrators a tool by which the success of a program can be determined in order to make decisions about its continuation and improvement.

Product evaluation, according to Stufflebeam (1971:138), includes devising operational definitions of objectives; measuring criteria associated with objectives; comparing these measurements with predetermined absolute or relative standards; and making rational interpretations of the outcomes using the recorded context, input, and process information. He further describes a product evaluation model as providing information for deciding to continue, terminate, modify, or refocus (1971:139).

Welch (1970:55) uses a product evaluation model to give feedback as to the success of a program in achieving its objectives. A design of this type was developed by Welch, Lindboom, and Flahaven (1971:7) incorporating the use of specific operational objectives formulated with given criteria levels from five original program objectives.

Wick and Biggs (1971:24) contend that behavioral statements should be made in evaluating program outcomes. These statements should suggest testing instruments to assess all assumptions, both explicit and implicit.

In developing evaluation designs, Moursund (1973:8) points out that program evaluation, goals, and assumptions are often more complicated and difficult to uncover than they are in more traditional forms of research. The question, "Why are we doing this?" may be met with astonishment because it is such an "obvious" thing. Moursund contends that the question must be asked and answered before evaluation can proceed. Dexter (1966:9-10) has commented that much research is likely to be wasteful because such basic questions are not asked.

One of the fundamental goals of program evaluation is to determine whether a project or program is doing what it is intended to do; whether it is meeting its goals. In order to decide whether a goal is being met, one must know what that goal is (Moursund, 1973:8).

Scriven (1967:1) describes two types of program evaluation. Formative, where research goes on during the planning and development stages of a program and is an integral aspect of goal setting. Summative, where research takes place after the project is over (or after it has been running some predetermined length of time) and is aimed at determining whether program objectives have been met. Evaluation of objectives is the theme that runs throughout his work. He argues that even though project objectives are met, the project cannot be judged as valuable if the objectives themselves are not worthwhile. The suggestion by Scriven should be a critical concern in all evaluative research.

The question, "Why evaluate?" is further explained by Wentling and Lawson (1975:18-20). Reasons why evaluation is necessary and important can be presented as: (1) To aid in planning--evaluative information which provides measures of resources, limitations, and possibilities, is essential to establish and assess objectives, and it can be of use in developing plans; (2) To aid in decision-making--decisions, regardless of there magnitude, must be based on a certain amount of information. Decisions which are based on intuition alone often lead to undescribable outcomes; (3) To upgrade program personnel--a comprehensive evaluation system is capable of identifying deficiencies and strengths of personnel performance, thus, helping personnel to improve upon their performance; (4) To improve student achievement--evaluation of programs will nearly always contribute to the better service to the student; and (5) To insure the

accountability of expenditures--indicating whether the results of a program are worth the investment (Wentling and Lawson, 1975:18-20).

Wentling and Lawson (1975:28-29) explain that the primary objective of product evaluation is to determine the degree to which the intended objectives and goals have been met and to relate this to content, input, and process in the measurement and interpretation of the outcome. They further state that an adequate evaluation design should incorporate a solid product evaluation in addition to considering context, input, and process evaluation measure.

In conclusion, Popham (1975:8) makes a statement that can be used to summarize many of the theories presented in this section. "Systematic educational evaluation consists of a formal assessment of the worth of educational phenomena." Demands for accountability naturally lead to the formulation of evaluation designs capable of providing administrators with information which enables them to make sound, effective decisions.

SUMMARY OF RELATED LITERATURE AND RESEARCH

The purposes of the literature and research review for this study were: (1) To determine the current status of radio broadcasting and its relationship to education, including federal legislation as well as local and state programs and (2) To formulate a conceptual framework through identification of evaluative designs by which effective decisions were made in regard to the "Careers in Radio Broadcasting" project.

The review of literature has revealed a growing interest in radio broadcasting as a potential method for instruction, with instructional emphasis on programming to provide local communities with concerns relevant to their citizens. Federal allocations to construct radio broadcasting facilities and provide supplemental material and equipment to existing stations have tended to further prove this point.

Research has shown the need for educational assessment of programs for decision making, program development, and planning and educational accountability. All of these components working independently or together are the prime reasons why evaluation is an essential tool to administrators. A review of literature and related research also revealed major voids in the educational assessment of radio broadcasting programs. This lack of evidence further reinforces the necessity to evaluate student outcomes that incorporate radio broadcasting activities in a career education context.

Chapter 3

METHODOLOGY

This chapter is organized into two sections: (1) an explanation of the "Careers in Radio Broadcasting" project development and (2) the evaluation design of this study.

The first section is presented to familiarize the reader with background planning and project development, including the activity centered curriculum, the role of the advisory council, and project goals. The second section, which comprises the major portion of the chapter, contains the evaluation design used in this study. The evaluation design includes specific procedures, methods, techniques, instruments, and statistical analysis by which to assess student outcomes relative to the project.

PROJECT DEVELOPMENT

Contained in this section is basic information deemed essential for general understanding of the various aspects that were instrumental in developing goals and objectives of the "Careers in Radio Broadcasting" project.

Advisory Council

One of the first steps in the project's development was the establishment of an advisory council. WFGH-FM public radio station was established in 1973 by an Urban/Rural School Development grant

of $900,000 funded under Educational Professions Development Act 1971. The grant was placed under the supervision of the School Community Council selected from twenty-one elected members of the community. From this group, an advisory council was established to develop goals, curriculum, and activities for the "Careers in Radio Broadcasting" project. Project staff and school administrators were also involved in developing and supervising the project. The advisory council also served as a panel of experts in establishing evaluation objectives and methods to be used in this study.

Wayne County Board of Education

Having final policy-making decisions over the council is the county board of education. The Wayne County Board of Education is a county system similar to others in the state. All county policy with regard to education is governed by the county board of education. Wayne County Board of Education is therefore the fiscal agent of the Title III ESEA grant and is also accountable to the West Virginia State Department of Education for total operation of the project. The Wayne County Board of Education initially agreed to establish this project in Fort Gay and had ultimate decision-making power to continue the program when federal monies were phased out or terminated. This study was also to serve as a basis for the Board of Education to make future decisions regarding the project.

Project Goals

The advisory council and Wayne County Board of Education were instrumental in developing project goals in order to maximize the educational potential of WFGH public radio in offering skills, generating desirable attitudes, and knowledge associated with the expressed needs and aspirations of students from Fort Gay, as well as the expressed concerns of parents to offer a specific course in radio broadcasting.

The "Careers in Radio Broadcasting" project was instrumental in fulfilling the needs of both students and community through the establishment of related instructional curriculum. The proposal included a full-time, first-class radio technician as an instructor, and the acquisition of radio broadcast equipment used strictly for refinement of student skills.

The following project goals were used as a basis for the development of the operational objectives and criterion questions presented in this chapter:

1. The students will acquire positive career attitudes and self-esteem by exploring various careers available to them in the radio broadcast industry.
2. The students will acquire knowledge in basic electronics and FCC rules and regulations so they have the potential to pass the Federal Communication Commission third class licensing test.
3. The students will gain basic skills in the operation of radio broadcast equipment for programming and production.

Activity Centered Curriculum

The project was designed to meet the stated project goals through a systematic approach using nine activity modules presented in Table 1. These modules (Appendix A), while representing the systematic framework of the project, put the course content into a behavioral

Table 1

Synopsis of Modular Approach

	#1	#2	#3	#4
DURATION	(5 weeks)	(3 weeks)	(3 weeks)	(7 weeks)
MODULES	Career Overview in Radio Broadcasting	History of Radio Broadcasting	Management and Economics	Electronics
LEARNING ACTIVITIES	1) On-site visitation 2) Field trips 3) Read current materials on radio careers 4) Research occupations of self-interest 5) List related occupations in radio broadcasting	1) Learn names of people who have influenced radio broadcasting 2) Read books and periodicals related to radio broadcasting	1) Define equipment costs 2) Set up costs of commercial programming 3) List possible problems a station manager might face 4) Develop a chart of staff duties	1) Learn licensing laws 2) Demonstrate basic knowledge of electricity 3) Learn amateur rules and regulations 4) Learn schematic diagrams 5) Demonstrate skills for live remote hookup

	#5	#6	#7	#8	#9
DURATION	(4 weeks)	(3 weeks)	(3 weeks)	(3 weeks)	(5 weeks)
MODULES	Writing and Reporting	Program Direction and Planning	Sales and Promotion	Staff Assignment	Live Air Production
LEARNING ACTIVITIES	1) Write sample feature stories 2) Develop interviewing technique 3) Practice skill in news writing 4) Make a documentary on a topic of school or community concerns	1) Determine programming categories to be used at the station 2) List aspects that affect listening audience	1) Develop basic techniques in graphics and design 2) List aspects that make up a salable product 3) Design advertising to be used for promotional reasons	1) Develop an organizational chart 2) Assign program duties 3) Design a staff chart outlining responsibilities of each	1) Listen to practice tape 2) Simulate a 15 minutes radio program 3) Take over as program supervisor

perspective stressing attitudes, knowledge, and skills the students were to acquire.

All modules have objectives and activities presented in such a fashion that students learn at their own rate; each developing skills and knowledge through career related activities. All activities were designed in order that students work in the classroom or individually under the supervision of the instructor. A successful completion of three learning modules, "Career Overview of Radio Broadcasting," "History of Radio Broadcasting," and "Live Air Production" are required. A student may opt to enter or exit any other given module at will in order to get a general exposure to various fields in the broadcast industry (although a specified time in each was recommended). Others may specialize in one or two skill areas by selecting modules that conform with their interests. In this way, students were able to achieve maximum benefit using the modular approach.

EVALUATION DESIGN

The design of this study resembles that of an "ex-post-facto" design (Campbell and Stanley, 1963:12):

Group	Independent Variable	(Posttest) Dependent Variable
Experimental	X	O_1
Control		O_2

X--Careers in Radio Broadcasting Project Design
O_1--Student Outcomes in Project
O_2--Student Outcomes in Comparison Group
Design #3 Static Group Comparison

Evaluative Process

The evaluation design outlined in Figure 1 illustrates the evaluative process incorporated into this study. The objectives include specific objectives of the evaluation; "treatment" refers to the "Careers in Radio Broadcasting" project and curriculum, with data provided by test instruments. Student outcomes pertain to the results from test scores in the three domains: cognitive, affective, and psychomotor, with conclusions and recommendations included in a final evaluation report forwarded to both the Wayne County Board of Education and the West Virginia Department of Education.

The five processes defined below are implicit in all evaluation designs. They constitute the formal structure of the techniques and procedures used in the evaluation.

1. Specific objectives refer to possible benefits desired to be derived from participation in project activities. These objectives were developed by the project staff, advisory council, and the project director as specific objectives of this evaluation study.

2. Operational objectives developed from both project goals and objectives of this study made it possible to focus on specific aspects of the project.

3. Criterion questions served as the basis by which project outcomes were assessed. Developed from the hypotheses of this study and overall goals of the project, these questions, when answered, gave evidence as to whether or not the project goals had been attained. Criterion questions also suggest at least one data gathering technique.

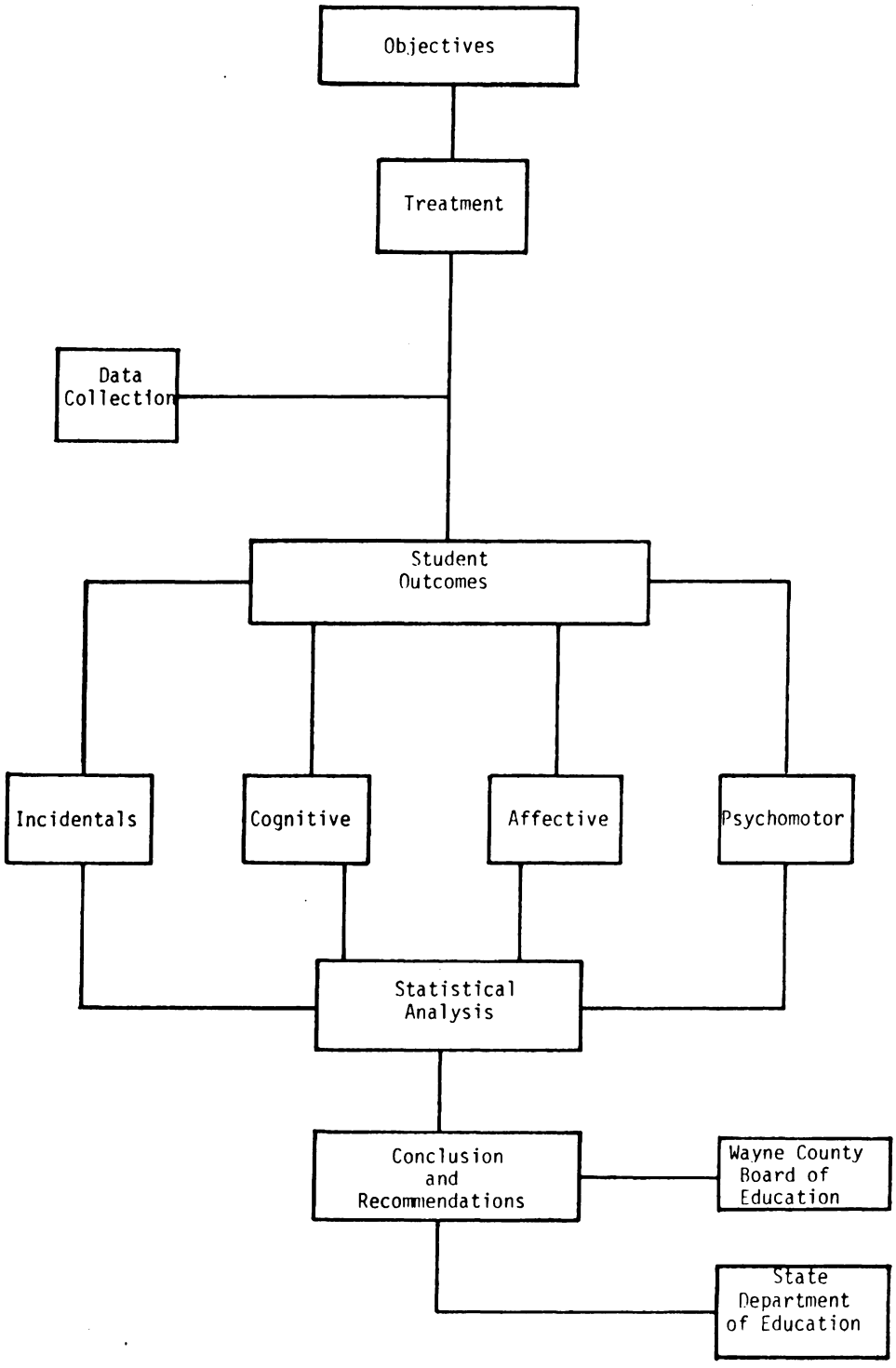

Figure 1

Evaluation Design of This Study

4. Data collection procedures refers to the specified instruments designed to obtain statistical data and their relationship to the research hypotheses.

5. Statistical analysis formulates the statistical procedure this study incorporated to test data for statistical significance.

Sample

This study made use of the table of random numbers (Kendell, 1938:164-68) to select thirty students in grades nine and ten (experimental group) who had successfully completed two years in the "Careers in Radio Broadcasting" project. In addition, thirty students (also in grades nine and ten) from Fort Gay High School (control group) who had not participated in the project were randomly selected. These two groups were then posttested in order that statistical comparisons could be computed.

Specific Objectives

The following objectives were developed to assess student outcomes relative to project activities after two years of successful completion in the project. They include the examination of:

1. Outcomes related to student reading achievement.

2. Outcomes related to student school attendance.

3. Outcomes related to student acquisition of skills in the operation of radio broadcast equipment.

4. Outcomes related to student acquisition of knowledge of electronics and FCC rules and regulations.

5. Outcomes related to student acquisition of positive career attitudes.

Operational Objectives

The following operational objectives were developed by the project staff and the project director to accurately measure student progress and to serve as a basis of measurement for the study.

1. The student will demonstrate his ability to read public service announcements, documentaries, and news stories on the air.

2. The student will learn how to read and utilize radio broadcasting logs so that when required to do so, each will be able to run a 30 minute program reading correctly and filling in properly all required logging spaces as prescribed by the rules and regulations of the FCC.

3. The student will learn the operation of the various equipment associated with audio production so that upon request, the student can properly name, describe the basic functions, and operate to an expertise that satisfies the instructor, the following equipment:

a. consol

b. reel to reel tape deck

c. turntables and pre amps

d. microphone

e. cartridge machine and recorder

f. cassette tape deck

g. phone line

4. The student will learn the basics of running a remote broadcast so that when required to do so each participant will perform the following functions with a 100 percent accuracy:

a. Demonstrate proper phone line hookups

b. Demonstrate proper amplifier hookups

c. Demonstrate proper placing of microphones under at least three different situations; i.e., noisy hall or auditorium, outdoors, small room

d. Demonstrate proper talk back procedures

e. Demonstrate ability to handle situation which requires adlibbing, time stretching, short schedule, technical difficulty

f. Demonstrate packing of equipment for traveling.

5. The students will gain positive attitudes toward themselves through specialized activities designed to meet individual interests, needs, and expectations.

6. The students will gain positive attitudes towards themselves and school by obtaining skills and knowledge they need for personal career development.

7. The students will acquire the attitude that the airwaves belong to the people, as stated in the Communications Act of 1934, so that when given several case studies concerning a decision of whether to utilize the broadcast facility for profit or community involvement, the student will consistently choose the community involvement.

8. The student will gain a positive attitude toward radio broadcasting by studying its history and by doing the following activities:

a. Read history of radio broadcasting

b. Learn names of people that have influenced the development of radio broadcasting.

9. The student will gain a basic knowledge of electronics so he has the potential to pass the FCC test for licensing by meeting the following activities:

a. Learn schematic diagrams

b. Demonstrate a basic knowledge of electricity

(1) Current, voltage, and resistence

(2) Measuring devices

(3) Frequency modulation

(4) Motors and generators

c. Learn licensing and laws: FCC Element I

d. Learn amateur rules and regulations

e. Learn voice communication: FCC Element II

f. Learn the basic electronics component of radio station.

Criterion Questions

The following criterion questions relate specifically to the overall project goals and hypotheses of this study. Each were used to identify particular skills, knowledge, and attitudes.

1. Through verbal articulation, during tape or live production, had the students increased their reading ability when compared to other students not in the project as measured by reading achievement scores?

2. Through special project activities designed to meet individual needs, had students shown an increase in school attendance, when compared to other students not in the project as measured by attendance records?

3. Through learning modules, designed to increase psychomotor and cognitive learning, had students acquired skills in the general operation of radio broadcast equipment, when compared to other students not in the project as measured by skills checklist?

4. Through learning modules designed to increase cognitive learning, had students acquired knowledge of electronics and FCC rules and regulations, when compared to other students not in the project as measured by the FCC preparatory tests?

5. By the very nature of exploring a variety of careers related activities in radio broadcasting, had the students acquired positive career attitudes and self-esteem which were different from other students not in the project, as measured by the Self Observation Scale?

DATA COLLECTION PROCEDURE

The following five procedures were used to secure statistical data for testing the null hypotheses of this study. Each instrument

was associated with the appropriate hypothesis. An overview accompanied each instrument consisting of: (1) type of data obtained, (2) validation-reliability, (3) pilot testing procedures of need, and (4) a brief description of items.

Test Instrument Associated with H_{01}

There was no difference in reading achievement between those participating in the project and other students from Fort Gay High School.

STS Educational Development Series Achievement Test, developed by Scholastic Testing Service, used Part 6--Reading Comprehension and Speed to assess reading achievement. Wayne County policy mandates yearly reading achievement tests be given to each grade level. In this way, student achievement in each school can be compared to county, state, and national norms.

Kuder-Richardson (KR 20) estimates of reliability coefficients are typically in the low .90's within school groups; however, these would be upper estimates in view of the speed factor. Stability coefficients over a one-year period are typically around .80. The correlations between these speed-within-comprehensive reading scores and other measures of pupil-achievement in school work are typically in the .50's, .60's, and .70's.

Borros (1961:44) summarizes the reading, English, and math achievement parts of the STS Educational Development Series as,

"providing a broad coverage of the typical general curriculum in grades 2-12, with a relatively high ceiling of difficulty. In the main, the quality of the item writing is good." Raw scores were used in the statistical analysis as part of the final results.

Test Instrument Associated with H_{02}

There was no difference in school attendance between those participating in the project and other students from Fort Gay High School.

This study made use of school attendance records kept on all students in accordance to state and national law. These records were used to ascertain differences in school attendance between students in the project (experimental) and those students who were not (control).

Attendance figures were reported on the number of days in school (average daily attendance). A score of one was tallied for each day attendance in school. A total of 180 (for number of days on school calendar) was possible.

Data Collection Procedure Associated with H_{03}

There was no difference in the levels of skills in the operation of radio broadcast equipment between those participating in the project and other students from Fort Gay High School.

Early in the project, an operational skill checklist was developed by the project staff and was content validated by means

of a jury of radio technicians and professional broadcasters (Appendix B) who reviewed the instrument for clarity and ambiguity. All items on the checklist were designed to assess major competencies with regard to student operations skills in radio broadcast equipment. The skill checklist has a reliability of .75 using a split-half pilot test administration with the Spearman-Brown prophecy formula. The checklist (Appendix C) contains items that tested cognitive and psychomotor learning on the part of the students. The instrument was administered by the first class radio instructor while the student being tested was seated at a broadcasting "board." Items were scored one point for a correct answer, none for an incorrect answer. A total score of thirty-two points was possible.

Test Instrument Associated with H_{04}

There was no difference in the level of knowledge of electronics and FCC rules and regulations between those participating in the project and other students from Fort Gay High School.

The Federal Communications Commission preparatory test was developed by the FCC as a study guide to help those who were interested in obtaining the Third Class Radiotelephone License with the Broadcast Endorsement.

The FCC, which administers the examination, had released a list of sample questions for study purposes. The material in the booklet, Study Guide and Reference Material for Commercial Operators Examinations, was based upon suggested study questions.

The FCC preparatory test (Appendix D) was a sample examination which was somewhat similar to that students encounter when taking the actual test. It was validated by a panel of radio technicians (Appendix B) and pilot tested to measure reliability which was .89 using a split-half administration and Spearman-Brown prophecy formula. Items on the test were designed to assess student knowledge on simple electronics and FCC rules and regulations.

The instrument was a multiple choice test. Each item contained four possible answers. Students were scored on number of questions correct, one point for each question. A total score of forty points was possible.

Test Instrument Associated with H_{05}

There was no difference in career attitudes and self-esteem between those who participated in the project and other students from Fort Gay High School.

The Self Observation Scale (SOS), Junior High Level, developed by the National Testing Service, is a direct, self-report, group administered instrument with empirically determined scales which measure the way in which students perceive themselves and their relationship to peers, teachers, and school. The SOS (Appendix E) differs from other similar instruments in: (a) the extensive validation study which has accompanied the national norming efforts, (b) the emphasis on the healthy and positive dimension of students' affective behavior.

and (c) the practical decision-making orientation rather than a research/theoretical orientation.

The affective development of a student does not usually receive the attention from educators that student cognitive and psychomotor development have enjoyed. The SOS was designed as a tool for monitoring important dimensions in the career development of students including self-esteem and career attitudes. Recently completed validation studies demonstrate that SOS scores were highly related to socio-economic status, ethnicity, reading, and math achievement as well as classroom behavior. Increasing evidence suggests that the influence of self-concept may be more pervasive than previously realized.

The SOS was designed with several objectives in mind. In addition to being an effective measure for educational and psychological research, the instrument was designed to be of use to the practicing teacher, counselor, and psychologist. Alternate uses for the SOS include:

> Student Evaluation--Teachers and counselors have a need for information about the affective development of children. The SOS provides reliable, valid feedback in a readily interpretable format.
>
> Program Evaluation--It is a rare educational program (e.g., Title I, Title III, Career Education, Special Education or Emergency School Assistance) that does not include objectives in the affective domain. The SOS is an economical program evaluation measure.
>
> Needs Assessment--The majority of needs assessment activity at both the state and local levels requires some measure in the affective domain. The SOS is group administered and requires a minimum of pupil time: advantages that are often of high priority in a needs assessment battery.

Local and State Testing Programs--Most local school systems, and an increasing number of state education agencies, are implementing regular (often annual) testing programs. The SOS provides an excellent opportunity for local and state education agencies to begin measuring the affective domain--a high priority area.

Scoring of the SOS was based on national norms. For each scale, a student received a standard score (T score) used in the statistical analysis. National percentile and stanine equivalents of this standard score also were provided. Responses to individual items were not given.

Statistical Analysis

In choosing the level of significance for this evaluation investigation, it was necessary to consider the consequence of two kinds of error: Type I error, the rejection of a true hypothesis, and Type II error, the failure to reject a false hypothesis.

The probability of a Type I error was controlled by the investigator through the level of significance chosen. Probability, however, of a Type II error is unknown. Holding all other things constant, the smaller the probability of a Type I error, the larger the probability of a Type II error. In this study, it was felt that making a Type I error would have the most serious consequence, as rejection of the null hypothesis when true would indicate relationship between independent and dependent variables which, in fact, did not exist. The level of significance for this study was set at .05, indicating that there was a 5 percent chance of a Type I error.

In most cases, however, the actual level which the data has been reported, as well as whether or not the significant level has been reached.

To control for extraneous variables, which singly or in interaction may account for observed differences in the dependent variables, a multivariate analysis of covariance was employed in the analysis of the data using IQ test scores (Slosson Intelligence Test) and Socioeconomic Status (SES) as covariates.

The multivariate analysis of covariance (MANOVA) uses the linear combination of the means to test for the significant difference between means of the final experimental data by adjusting initial difference in the data (Garrett, 1971:295-301). The MANOVA analyzes the differences between experimental and control groups on X after taking into account differences in some pertinent independent variables. Clyde Computing Service provided the program for the analysis of data (MANOVA on Large Computers; Program B0876MA1).

SUMMARY

Chapter 3 was primarily concerned with the evaluation design of the study. The selection of experimental and control groups was presented describing the selection procedure, enrollment in the program, and the number of students that constituted the sample.

The instruments used to collect the data for the study were described including the validity, reliability, and statistical analysis procedures.

Chapter 4

ANALYSIS AND PRESENTATION OF DATA

This chapter contains the analysis and presentation of data relative to the following dependent variables: (1) reading achievement scores, (2) school attendance, (3) equipment skill checklist scores, (4) FCC preparatory test scores, and (5) Self Observation Scale.

In order to insure a statistical control for use on intact groups, a multivariate analysis of covariance (MANCOVA) was carried out on the linear combination of the five dependent variables using IQ and SES as covariates. The MANCOVA "adjusts for" the effects of one or more uncontrolled variables, thus permitting a valid evaluation of the outcome of the experiment.

A test of regression slope revealed no significant difference between experimental and control groups ($F = .696$; P equal to .726) indicating that the pooled regression line is appropriate as required by the MANCOVA. The test for the within cell regression also revealed a significant adjustment for the two covariates ($F = 14.55$; P equal to .001), indicating that the covariates are active in this analysis. The results of the MANCOVA revealed that the experimental and control groups differed significantly at the .001 level ($F = 82.12$) on the five dependent variables considered simultaneously. The means of the

experimental and control groups after adjustment for the two covariates are presented in Table 2 along with the corresponding univariate F tests. While these univariate tests do not account for the intercorrelation among dependent variables, it is of interest to consider these results to see on which variables the greatest difference between groups exists. It is apparent that the greatest mean difference is with respect to the Skill Checklist (20.897 difference between groups on adjusted mean scores) and the FCC Preparatory Test (14.329 difference between groups on adjusted mean scores). These univariate F tests are statistically significant at the .001 level. A significant difference at the .05 level was also observed for the adjusted mean Reading Achievement scores (4.14 difference on adjusted mean scores), and for the Self Observation Scale (7.663 difference on adjusted mean scores). School Attendance, however, revealed no significant difference.

The outcomes indicated by the univariate analysis presented in Table 2 are as follows:

1. Reading Achievement Scores: A significant F-value (P less than .05) reflected much higher reading achievement in the experimental group.

2. School Attendance: A nonsignificant F-value (P greater than .05) reflected incidental differences existing between groups in the daily average attendance of the students.

3. Skill Checklist Test: A significant F-value (P less than .05) indicated substantial differences in favor of the experimental group in terms of their skill and knowledge in the operation of radio broadcasting equipment.

Table 2

Adjusted Mean Scores and Univariate
F Tests for Two Covariates

Dependent Variable	Adjusted Means Experimental	Control	Mean Square Between	Univariate F
Reading	37.87	32.19	395.77	4.46*
Skill Checklist	25.87	4.97	5380.32	376.59**
FCC Preparatory Test	30.68	16.35	2529.59	131.52**
School Attendance	154.23	158.37	211.20	.739
Self Observation Scale	54.15	46.59	105.65	10.33*

*significant at the .05 level with 1/56 degrees of freedom

**significant at the .001 level with 1/56 degrees of freedom

4. FCC Preparatory Test: A significant F-value (P less than .05) indicated substantial differences in favor of the experimental group on their knowledge of electronics and FCC rules and regulations.

5. Self Observation Scale: A significant F-value (P less than .05) indicated substantial differences in favor of the experimental group on career attitudes and self-esteem.

ANALYSIS OF THE NULL HYPOTHESES

A discussion of the null hypotheses as they relate to the statistical analysis is presented in this section.

Analysis Associated with H_{01}

The first hypothesis stated there would be no difference in reading achievement between those participating in the project and other students from Fort Gay High School. The data for the first hypothesis are presented in these results.

Groups	Adjusted Mean	Degrees of Freedom	Mean Square Between	F-Value
Experimental	37.867	1/56	395.77	4.455
Control	32.199			

An F-value of 4.455 derived from the univariate F-test (significant at the .05 level) led to the conclusion that the difference in reading achievement between students participating in the "Careers in Radio Broadcasting" project and those other students from

Fort Gay High School was statistically significant. It may therefore be stated that the null hypothesis was rejected.

Analysis Associated with H_{02}

The second hypothesis stated there would be no difference in school attendance between those participating in the project and other students from Fort Gay High School. The data for the second hypothesis are presented in these results.

Groups	Adjusted Mean	Degrees of Freedom	Mean Square Between	F-Value
Experimental	154.230	1/56	211.2	.394
Control	158.370			

An F-value of .739 derived from the univariate F-test led to the conclusion that the difference in school attendance between those participating in the "Careers in Radio Broadcasting" project and those other students from Fort Gay High School was not statistically significant. It may therefore be stated that the null hypothesis was sustained.

Analysis Associated with H_{03}

The third hypothesis stated there would be no difference in the level of skill in the operation of radio broadcast equipment between those students participating in the project and other students from Fort Gay High School. The data for the third hypothesis are presented in these results.

Groups	Adjusted Mean	Degrees of Freedom	Mean Square Between	F-Value
Experimental	25.865	1/56	5380.32	376.599
Control	4.968			

An F-value of 376.599 derived from the univariate F-test (significant at the .001 level) signifies that the difference in levels of skills in the operation of radio broadcasting equipment between students participating in the project and those other students from Fort Gay High School was statistically significant. It can be therefore stated that the null hypothesis was rejected.

Analysis Associated with H_{04}

The fourth hypothesis stated there would be no difference in the level of knowledge of electronics and FCC rules and regulations between students participating in the project and other students from Fort Gay High School. The data for the fourth hypothesis are presented in these results.

Groups	Adjusted Mean	Degrees of Freedom	Mean Square Between	F-Value
Experimental	30.681	1/56	2529.59	131.517
Control	16.352			

An F-value of 131.517 derived from the univariate F-test (significant at the .001 level) signifies that the difference in levels of knowledge of electronics and FCC rules and regulations

between students participating in the project and those other students from Fort Gay High School was statistically significant. It can therefore be stated that the null hypothesis was rejected.

Analysis Associated with H_{05}

The fifth hypothesis stated there would be no difference in career attitudes and self-esteem between those participating in the project and other students from Fort Gay High School. The data for the fifth hypothesis are presented in these results.

Groups	Adjusted Mean	Degrees of Freedom	Mean Square Between	F-Value
Experimental	54.15	1/56	105.65	10.332
Control	46.59			

An F-value of 10.33 derived from the univariate F-test (significant at the .05 level) led to the conclusion that the difference in career attitudes and self-esteem between those participating in the project and those other students at Fort Gay High School was statistically significant. It may therefore be stated that the null hypothesis was rejected.

SUMMARY

Chapter 4 contains the analysis and presentation of data. The multivariate analysis of covariance revealed significant differences between groups on four of the five dependent variables. These include reading achievement, skill checklist, FCC preparatory test, and Self

Observation Scale. Statistical significance between groups on these four dependent variables subsequently led to the rejection of four null hypotheses. School attendance did not reveal a significant difference, so consequently, that null hypothesis was sustained.

Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

The primary purpose of this study was to evaluate student outcomes and their effects related to the overall goals of the "Careers in Radio Broadcasting" project. In addition, this study attempted to measure various aspects of radio broadcasting, specifically technical skill in the operation of radio broadcasting equipment and knowledge of electronics and FCC rules and regulations; examine achievement and behavioral patterns of the students, specifically reading achievement and school attendance; provide a basis for judgmental decisions to those accountable for federal funds regarding project continuation; and examine career attitudes of the students to aid in the development of guidelines for similar career exploration projects.

Hypotheses

The following null hypotheses were developed and tested for statistical significance:

1. There was no difference in reading achievement between those participating in the project and other students from Fort Gay High School.

2. There was no difference in school attendance between those participating in the project and other students from Fort Gay High School.

3. There was no difference in the level of skills in the operation of radio broadcast equipment between those participating in the project and other students from Fort Gay High School.

4. There was no difference in the level of knowledge of electronics and FCC rules and regulations between those participating in the project and other students from Fort Gay High School.

5. There was no difference in career attitudes and self-esteem between those participating in the project and other students from Fort Gay High School.

A survey of research and literature was conducted in two salient areas. They were: (1) the potential of educational radio broadcasting, and (2) evaluative methodology related to educational program decision-making and accountability.

After identifying various evaluation designs, a combination of evaluative techniques were adopted for use in this study. This evaluation design made use of operational objectives, criterion questions, and a series of data collection procedures by which to assess student outcomes of the project.

Sample

Thirty students in grades nine and ten who were participating in the "Careers in Radio Broadcasting" project were randomly selected

(experimental group) after two years of successful completion in project activities. In addition, thirty students in grades nine and ten who were not participating in the project were also randomly selected (control group). These two groups were then tested using a series of instruments so that comparative data could be statistically analyzed.

Criterion Questions

Several criterion questions relative to this study were asked. These questions related specifically to the overall goals of the project and hypotheses of this study. Each of the following criterion questions were used to identify skills, knowledge, and attitudes.

1. Through verbal articulation, during tape or live production, had the students increased their reading ability when compared to other students not in the project as measured by reading achievement scores?

2. Through special project activities designed to meet individual needs, had students' school attendance increased when compared to other students not in the project as measured by attendance records?

3. Through learning modules, designed to increase psychomotor and cognitive learning, had students acquired skill in the general operation of radio broadcast equipment, when compared to other students not in the project as measured by skills checklist?

4. Through learning modules designed to increase cognitive learning, had students acquired knowledge of electronics and FCC rules and regulations, when compared to other students not in the project, as measured by the FCC Preparatory Test?

5. By the very nature of exploring a variety of career related activities in radio broadcasting, had the students acquired career attitudes and self-esteem different from other students not in the project, as measured by the Self Observation Scale?

CONCLUSIONS

On the basis of the analysis of data and above criterion questions, the following conclusions were drawn.

1. The answer to question number one was, "Yes, the students who had participated in the 'Careers in Radio Broadcasting' project showed a greater increase in reading achievement over students who had not participated in the project." The increase in reading achievement can be ascribed to a combination of factors including constant practice of verbal skills during taping and live production, activity based instruction, and realistic hands-on experience. Students in this situation can read an announcement and receive almost immediate appraisal on delivery and presentation via playback tape or personal audience response. A marked increase in reading achievement has long been a criterion of the success when evaluating school projects. As in this evaluation effort, the

increase in reading achievement shown by the students indicates one major success of the project.

2. The answer to question number two was, "No, the students who had participated in the 'Careers in Radio Broadcasting' project showed no appreciable increase in school attendance over students who had not participated in the project." However, upon inspection of initial school attendance data, before a statistical analysis was computed, it was noted that the students in the project attended school 2.6 days more overall than did students not in the project. The only question then, would this difference in school attendance between groups, although not statistically significant, constitute a practical significance?

3. The answer to question number three was, "Yes, the students who had participated in the 'Careers in Radio Broadcasting' project showed a significantly greater acquisition of skill in the general operation of radio broadcast equipment over students who had not participated in the project." Although it stands to reason that the student who had taken part in learning modules designed to increase psychomotor learning of broadcasting equipment would substantially outscore students who have never operated broadcasting equipment, the reason this question was asked relates directly to an overall goal of the project which stated, "The students will gain basic skills in the operation of radio broadcasting equipment for programming and production." It can therefore be concluded, through the foregoing statistical analysis, that this goal has been achieved.

4. The answer to question number four was, "Yes, the students who had participated in the 'Careers in Radio Broadcasting' project showed a significantly greater acquisition of knowledge of electronics and FCC rules and regulations over students who had not participated in the project." The same premise is substantiated in this conclusion as in question number three. This question primarily tested an overall goal of the project which stated, "The students will acquire knowledge in basic electronics and FCC rules and regulations so they have the potential to pass the Federal Communication Commission third class licensing test." Several students in the project have passed the third class licensing test given in the spring of 1976. Results from the FCC Preparatory Test indicate that 60 percent of the students in the project have the potential to pass this licensing test. It can be concluded that this goal has been achieved.

5. The answer to question number five was, "Yes, the students who had participated in the 'Careers in Radio Broadcasting' project showed more positive career attitudes and self-esteem over students who had not participated in the project." The positive career attitudes and self-esteem demonstrated by the students in the project can be attributed to the career development activities designed into the structure of this exploratory project. These activities gave students a chance to progress at their own rate and level of interest. Due to the major emphasis on career related activities, an overall goal was formulated which stated, "The students will acquire positive career attitudes and self-esteem by exploring various careers

available to them in the radio broadcasting industry." It can be therefore concluded from the statistical analysis that this goal was achieved.

The major conclusion drawn by this study was that the "Careers in Radio Broadcasting" project had achieved its goals as proposed to the West Virginia State Department of Education and Wayne County Board of Education. A student self-assessment questionnaire developed to ascertain student perceptions of project activities for the final evaluation report but not included as part of this study, also substantiated the overall findings presented in this study. Through this evaluation of student outcomes, a statistical data base was established so those accountable for federal expenditures allocated to the project could make judgmental decisions concerning project continuation.

RECOMMENDATIONS

1. Some combination of learning activities which include activity based instruction and the utilization of a modular approach should be used in developing new projects in career exploration.

2. An additional study should be conducted to determine the effectiveness of these learning activities and their relationship to career selections and academic achievement.

3. Career development projects at the exploratory level should be conducted in real occupational settings whenever possible.

4. Consideration should be given to the possible relationship of this project to other curriculum: both vocational and career related.

5. The "Careers in Radio Broadcasting" project should be continued with funds provided at the local level.

6. This evaluation design, which included the formulation of operational objectives, criterion questions and the use of comparative data, should be used by comparable career exploration projects which have not incorporated an evaluative design.

7. The "Careers in Radio Broadcasting" project could be expanded to include selected eleventh and twelfth grade students.

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APPENDICES

APPENDIX A

Activity Centered Curriculum

I. Career Overview in Radio Broadcasting

Objective

The students will explore various careers available to them in radio broadcasting industry by meeting stated activities.

1. List related occupations in radio broadcasting
2. Research of occupations students are interested in
3. Read current materials on radio careers
4. Visit other radio stations
5. On-site visitations

II. History of Radio Broadcasting

Objectives

The student will gain a positive attitude toward radio broadcasting by studying its history and doing the following activities.

1. Read history of radio broadcasting
2. Learn names of influential people who developed radio broadcasting

III. Management and Economics

Objective

To acquaint the student with the problems of the management of a radio station and the social, economics and legal responsibilities of a broadcasting operation by them doing stated activities.

Activities

1. Develop a chart of staff duties
2. Set up costs from commercial programming
3. Define equipment costs

IV. Electronics

Objective

To give the students a basic knowledge of electronics so they have the potential to pass FCC test for licensing by meeting the following activities.

Activities

1. Learn schematic diagrams
2. Demonstrate a basic knowledge of electricity
    a. Current, voltage, and resistance
    b. Measuring devices
    c. Frequency modulation
    d. Motors and generators
3. Learn licensing and laws: FCC Element I
4. Learn amateur rules and regulations
5. Learn voice communication: FCC Element II
6. Learn the basic electronics components of a station
7. Maintain and control the radio transmitter
8. Demonstrate skills for live remote broadcast
    a. Hook up
    b. Proper electronic techniques

V. Writing and Reporting

Objectives

The student will gain skills in journalistic writing to be used in news stories, documentaries and other news features, by completing the following activities.

The students will acquire skills in radio reporting by meeting the following activities.

Activities

1. Write sample feature stories
2. Develop interviewing techniques
3. Practice skills in news writing
4. Outline the correct combination of components that make up a documentary
    a. Articulation
    b. Tone
    c. Music
    d. Transmitter
    e. Interest
    f. Information
5. Reporting on simulated radio broadcast
6. Develop skills for live remote broadcast
    a. Information
    b. Preparation
    c. Location

VI. Program Directing and Planning

Objective

By meeting the stated activities the students will develop competencies in directing and planning programs in radio broadcasting.

Activities

1. Design on paper a radio station, illustrate all of the following:
   a. Equipment
   b. Building
   c. Topography
   d. Radio tower
   e. Console
   f. Budget
2. Consider the following components to make programing interesting:
   a. Continuity
   b. Variety
   c. Economy
   d. Grace
   e. Novelty
   f. Human interest
   g. Humor
   h. Involvement
   i. Build-up
   j. Using spoken language
   k. Personality
3. Determine categories of programing a station
   a. Adult popular music
   b. Conservative music

c. Top 40 stations

d. Conservative

e. All-news

f. Country and western music

g. Evaluation of promotion

4. Write examples and show how these aspects affect radio listening audience.

5. Design advertisements to be used for promotional reasons.

VII. Sales and Promotion

Objective

The students will obtain skills and knowledge in sales and promotion so they understand how these two factors can increase the listening audience by meeting these activities.

Activities

1. Develop techniques in graphic and design

2. List the off-air aspects that make up sales promotion

a. Research

b. Presentation

c. Barter

d. Merchandising

e. Trade press advertising

f. Success stories and premiums

g. Evaluation of promotion

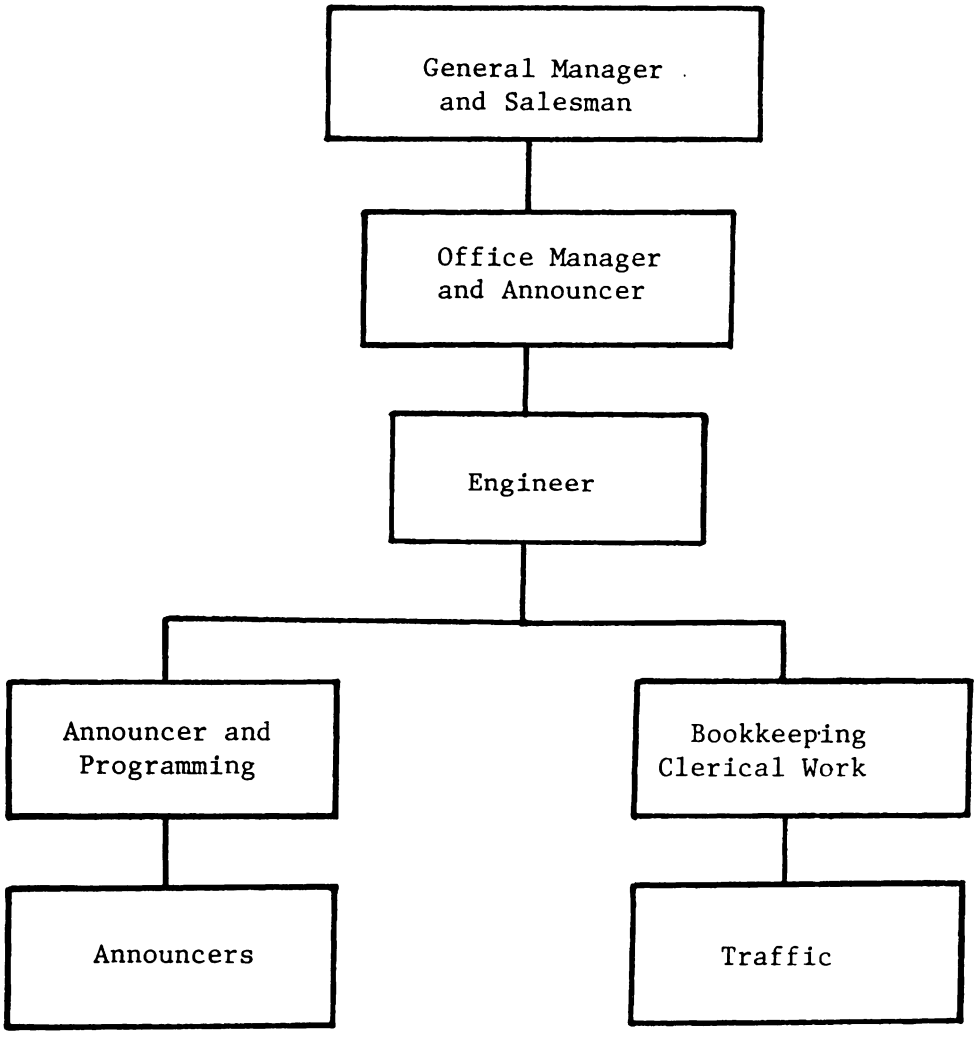
3. Write examples to show how these aspects affect radio listening audience.
4. Design some advertising to be used for promotional reasons.

VIII. Staff Assignments

Objective

The students will organize the staff so that each person has a specific duty and responsibility, by designing a staff chart similar to the following:

Activities



IX. Live Air Production

Objective

The student will be exposed to practical live air production under the instructor's supervision.

Activities

As each area is completed and objectives met, the student will be preparing for the final step, which is live air production.

All the skills, attitudes and knowledge the students have gained through their classroom activities are designed to instill selfconfidence and a degree of professionalism.

APPENDIX B

Panel of Experts

Jack O'Shay	Program Director WKEE Radio Huntington, West Virginia
Dwight Hensley	First class radio technician WKYY Radio Louisa, Kentucky
Chuck DeSantis	First class radio technician Consulting Engineer Middletown, Ohio
Keith Spears	Project Director WFGH Radio Fort Gay, West Virginia
Vernon Stanfill	First class radio technician Project Supervisor WFGH Radio Fort Gay, West Virginia

APPENDIX C

Operational Skills Checklist

Student No._____

OPERATIONAL SKILLS CHECKLIST
TESTING CRITERIA FOR ESEA TITLE III STUDENTS

1. _____ Utilize program log
2. _____ Utilize transmitter log
3. _____ Demonstrate proper procedure for turning on filaments on transmitter
4. _____ Demonstrate remote control meter readings:
   - _____ Filament voltage
   - _____ Total output power
   - _____ Plate voltage
   - _____ Plate current
   - _____ Tower light sampling readings
   - _____ Screen grid
5. _____ Demonstrate proper procedure for turning on plate voltage on transmitter
6. _____ Demonstrate turning FM monitor on
7. _____ Utilize information given by frequency monitor to determine transmitters output frequency
8. _____ Explain the purpose of the peak modulation indicator
9. _____ Demonstrate the use of the peak modulation indicator dial
10. _____ Demonstrate the turning on, and the basic purpose of the "Level Devil" (AGC unit)
11. _____ Demonstrate utilization of patch cords and explain the patch panel

12. _____ Demonstrate the proper technique for:

    _____ Record cueing

    _____ Cartridge machine operation (recording and playback)

    _____ Open reel tape machine operation

    _____ Cassette deck operations

    _____ Receiver tuning adjustment

    _____ Headphones and associate control box

    _____ EBS receiver ("Air Alert")

    _____ Air and remote microphones

    _____ Telephone line inputs

    _____ Reading digital clock

    _____ Selection of cartridges from rack

13. _____ Demonstrate parts of audio consol

14. _____ Demonstrate use of live copy manual

15. _____ Proper use of 2-way radio

APPENDIX D

FCC Preparatory Test

Student No._____

FCC Preparatory Test

1) The maximum penalty for violating a provision of the Communications Act is

   a) $500 a day during which the offense occurred
   b) $10,000
   c) imprisonment for 1 year
   d) $10,000 and imprisonment for 1 year

2) The maximum penalty for breaking an FCC rule is

   a) $500 a day during which the offense occurred
   b) $10,000
   c) imprisonment for 1 year
   d) $10,000 and imprisonment for 1 year

3) Radio stations are inspected by the

   a) FAA
   b) EBS
   c) FCC
   d) EAN

4) After what period of time is it impossible to renew an <u>expired</u> license?

   a) 2 years
   b) 5 years
   c) 1 year
   d) none of the above

5) To rebroadcast a message which was received from another station, the rebroadcasting station must have

   a) good lawyers
   b) a tape recorder. Permission is not needed.
   c) an EBS monitoring receiver
   d) the permission of the originating station

6) If an operator loses his license, he should

a) forget it
b) wait until the end of his 5 year period and try to renew it
c) write his congressman
d) apply for a duplicate and post a copy of the application

7) Errors in the station logs should normally be corrected by

a) the person owning the station
b) one of the secretaries
c) the first class operator
d) the one who made the error

8) Superfluous or unnecessary signals

a) tie up the channel
b) are unlawful
c) are unprofessional
d) all of the above

9) If an operator receives a notice that he has violated an FCC rule, he has _____ days to reply.

a) 10
b) 15
c) 30
d) 360

10) If an operator receives a notice that his license is suspended, he has _____ days to apply for a hearing.

a) 10
b) 15
c) 30
d) 360

11) The radio operator's license is issued for

a) 1 year
b) 5 years
c) 10 years
d) indefinitely

12) Clear means that

a) the weather is good
b) my transmission is over and I expect a response
c) my transmission is over and I do not expect a response
d) I will comply with your request

13) The top priority message is

a) an urgent message
b) a government message
c) an EBS test message
d) a distress message

14) The second priority message is

a) an urgent message
b) a government message
c) an EBS test message
d) a distress message

15) Obstruction marking and lighting details for a tower of a station are found in the

a) operating log
b) station authorization license papers
c) third class operator's permit
d) proof of performance papers

16) A guest speaker uses profane language on the air without warning the operator. Who is responsible?

a) the guest speaker
b) the first class operator
c) the program director
d) the operator on duty

17) During an emergency, a radio operator may violate certain rules and terms of the station license

a) in order to broadcast commercial announcements
b) to give emergency notification to the public
c) to make routine newscasts
d) none of the above

18) When separating parts of a message, the operator says:

a) period
b) out
c) break
d) over

19) Shouting in the microphone will

a) give a clearer signal
b) give a louder, clearer signal
c) make up for a noisy location of the microphone
d) distort the signal badly

20) When using a microphone in a noisy location, the operator should

a) shout into the microphone
b) turn the microphone gain up
c) not worry about it
d) cup his hands over the microphone

21) A third class radio operator may make transmitter repairs and frequency adjustments

a) if the first class operator is not available
b) if the station licensee has given his permission
c) under no circumstances
d) when he is by himself

22) A third class radio operator may

a) turn the transmitter on
b) turn the transmitter off
c) make minor power variation corrections
d) all of the above

23) When in doubt on anything regarding technical matters,

a) go to the station licensee
b) do whatever seems best to you
c) go to the first class operator or the FCC rules
d) send a telegram to the FAA

24) "Daytime" is

a) local sunrise to local sunset
b) 6 a.m. to 6 p.m.
c) 5 a.m. to 5 p.m.
d) not defined

25) An AM station can broadcast FM

a) during nightime hours
b) during emergencies only
c) under no circumstances
d) during an EBS alert

26) When taking a meter reading, the operator finds the plate current a little high, he should

a) reduce the current to the proper value and take the reading and log it
b) take the reading, log it, then reduce the current to the proper value
c) increase the modulation
d) ignore the meter reading

27) The operator should post his license

a) at the studio location
b) at the transmitter location
c) in the room where the transmitter is actually controlled
d) none of the above

28) During a continuous program such as a play or religious service, if it would interrupt the program to make the ID, the operator should

a) interrupt the program
b) give the ID at the first interruption or logical opportunity
c) call the first class operator
d) remove the station from the air

29) The station ID, which is given at the beginning and ending of operation, and hourly should contain

a) the call letters and frequency
b) the city and name of the licensee
c) the city immediately followed by the call letters
d) the call letters immediately followed by the location

30) If the operator believes that any piece of equipment is not working properly, he should

a) pretend he did not notice it
b) log it using the value it should be
c) write the details to the FCC
d) call the first class operator immediately

31) A correction to the log is accomplished by

a) completely covering it up
b) neatly erasing it
c) putting one line through the error, initialing and dating it
d) pasting the correct reading on top of the error

32) If a transmitter remote control unit malfunctions, the operator

a) should log the previous readings
b) should ignore it
c) should notify the first class operator
d) should shut the transmitter off, notify the first class operator, and commence operation from the transmitter

33) If the automatic device for turning on the tower lights malfunctions, the tower lights should

a) be turned on when it gets dark
b) be flashed on and off by hand
c) be left off until the trouble is corrected
d) be turned on and burn continuously

34) In order to broadcast Subsidiary Communciations consisting of FM background music for subscribers, you must

a) have an SCA authorization from the FCC
b) keep a brief log describing the material transmitted and when turned on
c) both of the above
d) none of the above

35) Which is not one of the three generally kept station logs?

a) operating log
b) maintenance log
c) commercial log
d) program log

36) The time when the transmitter just begins supplying power to the antenna should be entered in the

a) maintenance log
b) program log
c) operation log
d) none of the above

37) In order to comply with the EBS requirements, the operator should

a) keep the EBS receiver tuned to the assigned station to receive an alert
b) make an entry in the log of all alerts received
c) broadcast a test alert once each week
d) all of the above

38) If the operator at the remote control point cannot adjust the antenna current for the correct operating power by adjusting the plate voltage or plate current, he should

a) discontinue operation by remote control and operate from the transmitter
b) lower the audio signal level thereby decreasing the modulation
c) notify the FAA by telephone
d) monitor the modulation with an oscilloscope

39) The requirement that the transmitter or remote control equipment be in view of and accessible to the operator is to

a) prevent operation of the equipment by unauthorized personnel
b) be available to note any failure of the equipment
c) provide continuous monitoring of the transmitted signal
d) all of the above

40) If the antenna current is 5 amperes and the antenna resistance is 40 ohms, the power of the AM transmitter as computed from the formula antenna current squared times the antenna resistance is

a) 1,000 watts (1 kW)
b) 200 watts
c) 8,000 watts (8 kW)
d) 1,600 watts (1.6 kW)

APPENDIX E

Self Observation Scale

SELF OBSERVATION SCALES (SOS)

W. G. Katzenmeyer and A. Jackson Stenner

JUNIOR HIGH LEVEL
FORM C

IMPORTANT DIRECTIONS FOR MARKING THIS SHEET

Use black lead pencil only (No. 2 or No. 2½).
Do NOT use ink or ballpoint pen.
Make heavy black marks that fill the circle completely.
Erase cleanly any response you wish to change.
Make no stray marks on this sheet.
Answer each item Yes or No.
Complete the information section on the back of this sheet as directed.

DO NOT MARK ABOVE THIS LINE

1. My teachers make sure I always understand what they want me to do. (Y) (N)	13. At times I have been worried beyond reason about something that really didn't matter. (Y) (N)	25. When I do something wrong, my teachers correct me without hurting my feelings. (Y) (N)
2. My teachers expect too much of me. (Y) (N)	14. I worry quite a bit over possible troubles. (Y) (N)	26. This school is like a jail. (Y) (N)
3. I can be depended on. (Y) (N)	15. My teachers listen to what I have to say. (Y) (N)	27. I think I will be successful in life. (Y) (N)
4. I worry about my school performance. (Y) (N)	16. I can give a good report in front of the class. (Y) (N)	28. My teachers like to help me. (Y) (N)
5. I am proud of most things I do. (Y) (N)	17. I have a good memory. (Y) (N)	29. I often worry about what other students think of me. (Y) (N)
6. I like my teachers. (Y) (N)	18. In discussions with my friends, my point of view usually wins. (Y) (N)	30. Other students look to me for leadership. (Y) (N)
7. Compared to one year ago, I worry more. (Y) (N)	19. Most of my friends don't care what I think. (Y) (N)	31. Most of the time I feel sorry for someone who is hurt. (Y) (N)
8. Almost all my teachers are very good. (Y) (N)	20. I am considered to be a leader by my friends. (Y) (N)	32. Most mornings I look forward to going to school. (Y) (N)
9. I enjoy talking in front of a group of people. (Y) (N)	21. At times I lose sleep over worry. (Y) (N)	33. I try to help new students feel welcome. (Y) (N)
10. I am proud of my school. (Y) (N)	22. I don't have many friends. (Y) (N)	34. I like school better than I used to. (Y) (N)
11. When I look in the mirror I like what I see. (Y) (N)	23. If people knew what I'm really like, they would steer clear of me. (Y) (N)	35. I do a lot of things very well. (Y) (N)
12. I am slower than most people in learning new things. (Y) (N)	24. I feel good when I'm at school. (Y) (N)	36. I often find myself worrying about something. (Y) (N)

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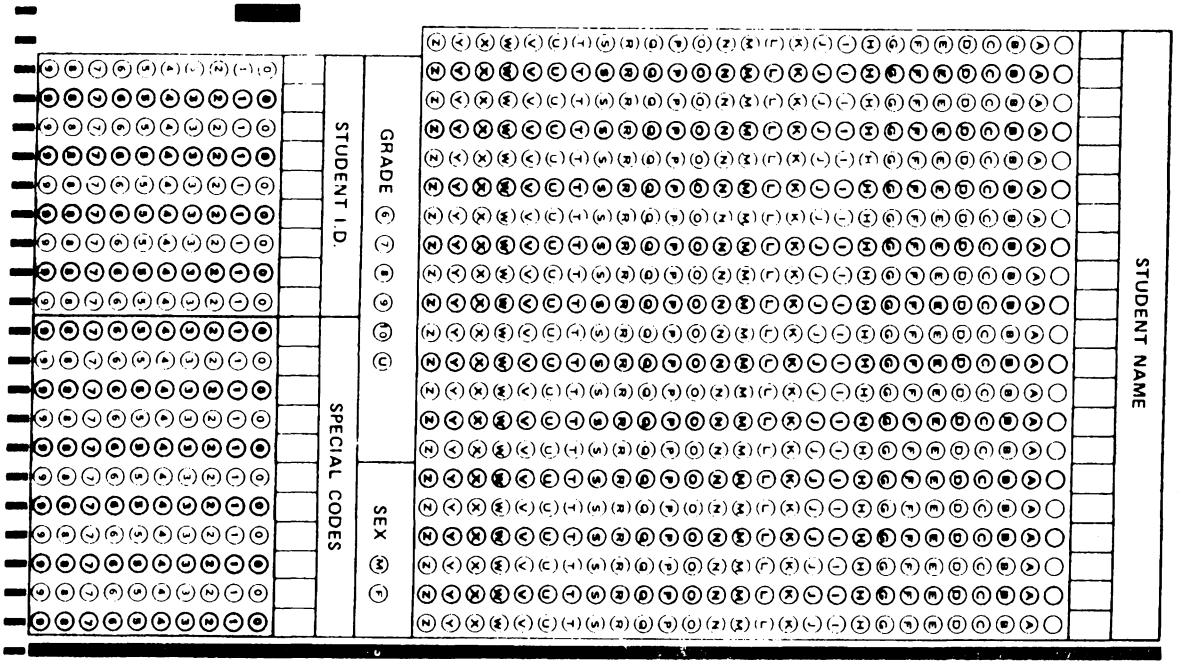

37. I like teaching little children. (Y) (N)	49. It is hard for me to make friends. (Y) (N)	61. I can count on my friends when I'm in trouble. (Y) (N)
38. I like to learn about new things. (Y) (N)	50. I would change school if I could. (Y) (N)	62. I am easy to like. (Y) (N)
39. I am the type who has few close friends. (Y) (N)	51. I don't like most of the students in my class. (Y) (N)	63. I am not too crazy about little children. (Y) (N)
40. I like to stay home from school. (Y) (N)	52. Younger kids usually bore me. (Y) (N)	64. I like school better than my friends do. (Y) (N)
41. Compared to one year ago, I have more friends. (Y) (N)	53. Most teachers treat students poorly. (Y) (N)	65. Most people that are successful have been lucky. (Y) (N)
42. I usually like my teachers. (Y) (N)	54. At school other people really care about me. (Y) (N)	66. I worry about losing my friends. (Y) (N)
43. I make friends easily. (Y) (N)	55. I am proud of my school work. (Y) (N)	67. Most things are too hard to do. (Y) (N)
44. Other students are usually fair to me. (Y) (N)	56. School frequently keeps me from doing what I want to do. (Y) (N)	68. I can't be depended on. (Y) (N)
45. I am a cheerful person. (Y) (N)	57. People who are like me don't have a good chance to be successful. (Y) (N)	69. I have several friends whom I trust almost completely. (Y) (N)
46. I am fun to be with. (Y) (N)	58. School is a big hassle. (Y) (N)	70. I am not a very happy person. (Y) (N)
47. My teachers are not very friendly with students. (Y) (N)	59. Other students look to me for ideas. (Y) (N)	71. I worry a lot about school work. (Y) (N)
48. I am considered to be a leader by my teachers. (Y) (N)	60. I am a good student. (Y) (N)	72. I try to avoid hurting other people's feelings. (Y) (N)

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AN EVALUATION OF STUDENT OUTCOMES: THE CAREERS IN RADIO BROADCASTING PROJECT AT FORT GAY, WEST VIRGINIA

by

Thomas J. Lozito

Abstract

During the past five years, the influx of federal money into education has resulted in the development of numerous new and innovative programs throughout the United States. Such a program was implemented in a small rural community in an Appalachian region of West Virginia. The "Careers in Radio Broadcasting" project, located in Fort Gay, West Virginia, was a career exploration project funded by Title III ESEA.

The purpose of this study was to evaluate student outcomes and their effects related to the overall goals of the "Careers in Radio Broadcasting" project. In addition, this study attempted to: (1) measure technical skill in the operation of radio broadcasting equipment and knowledge of basic electronics and FCC rules and regulations, (2) examine reading achievement and school attendance, (3) provide a basis for judgmental decisions to those accountable for federal funds regarding project continuation, (4) examine career attitudes of the students to aid in the development of guidelines for similar career exploration projects.

Specifically, this study included an examination of student outcomes related to: (1) reading achievement, (2) school attendance, (3) acquisition of career-related skills in the operation of radio

broadcasting equipment, (4) acquisition of knowledge of electronics and FCC rules and regulations, and (5) acquisition of positive career attitudes.

The sample consisted of thirty students in grades nine and ten who were participating in the "Careers in Radio Broadcasting" project and were randomly selected after two years of successful completion in project activities. In addition, thirty students in grades nine and ten who were not participating in the project were also randomly selected. These two groups were then tested using a series of instruments so that comparative data could be collected. A multivariate analysis of covariance was then computed on the data to determine statistical significance.

On the basis of the statistical analysis presented in the study, the following results were obtained.

1. There was a significant difference in reading achievement between those students participating in the project and other students from Fort Gay High School.

2. There was no significant difference in school attendance between those students participating in the project and other students from Fort Gay High School.

3. There was a significant difference in the level of skill in the operation of radio broadcasting equipment between those students participating in the project and other students from Fort Gay High School.

4. There was a significant difference in the level of knowledge of electronics and FCC rules and regulations between those students participating in the project and other students from Fort Gay High School.

5. There was a significant difference in career attitudes and self-esteem between those students participating in the project and other students from Fort Gay High School.