

CHARACTERISTICS, INTERESTS, AND ATTITUDES TOWARD  
LEARNING OF PRINT-HANDICAPPED ADULT LISTENERS  
OF THE NORTH TEXAS RADIO READING SERVICE

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A DISSERTATION

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BY

LINDA STIFF ATWILL, B.A., M.ED.

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## CHAPTER I

### INTRODUCTION

Throughout the United States there are over sixty radio stations designated as radio reading services (RRS). The function of these services is to provide, via radio broadcast, the reading of printed material to blind and otherwise print-handicapped persons. This study began as an analysis of the idea of using a radio reading service as an alternative delivery system for offering both credit and non-credit educational courses to print-handicapped adults.

In 1979, blending her knowledge and background in radio, television, multi-media and adult education, this researcher wrote a proposal for a radio course for print-handicapped adults. This concept of radio courses for the blind, and others who for whatever reason cannot read the printed page, differs from other educational radio and television endeavors. The difference lies in the concept of multi-sensory, multi-media experiential learning combined with the broadcast delivery of the auditory portion of a course. That which the sighted adult learner experiences visually would be transformed, through the use of multi-media, into tactile, auditory, or olfactory stimuli to enable the print-handicapped adult to experience the visual aspects of a

course through other senses.

The allotment of air time for such an endeavor can only be justifiable if the attitudes toward learning and the assessed interests of a print-handicapped listening audience indicated that those to be served are receptive to and accepting of such an alternative delivery system. One of the conditions of learning is that "the learners feel a need to learn" (Knowles, 1977, p. 52). However, organized and systematic assessment of print-handicapped adults is a relatively recent development in education (Rusalem, 1970, p. 1).

In adult education the starting point in program planning is always the adults' interests (Knowles, 1977, p. 79). ". . . it is almost universally predictable that programs that are based on what somebody (even advisory councils) thinks people 'ought' to learn will fail" (Knowles, 1977, p. 79).

In the needs assessment study done by the Massachusetts Commission for the Blind, Delaney (1978) reports on needs of blind people. Although many of the needs identified by directors of agencies and professionals who work with the print handicapped corresponded to those needs that the blind or visually impaired state as their real needs, there were discrepancies. Sighted staff, board members, and volunteers in agencies for the blind should rely on reliable research rather than assumption.



In writing on needs and interests in program planning, Knowles (1977) writes:

Since interests are expressions of preference among alternative activities, the only valid source of information about the interests of adults is the individuals themselves. This may seem to be a simple and self-evident truth that is trite to state, but it is surprising how many of us - adult educators and others - in actual practice act on assumptions about what people would be interested in rather than finding out from them. (p. 95)

It is known that adults tend to resist learning under conditions that are incongruent with their self-concept as autonomous individuals (Knowles, 1977, p. 40).

Eduard C. Lindeman, an American pioneer in adult education theory, stated in 1926 that learning for the adult learner "begins by giving attention to situations in which he finds himself, to problems which include obstacles to his self-fulfillment" (Gessner, 1956, p. 160). Knowles (1977) writes, "the problem orientation of the learners implies that the most appropriate starting point for every learning experience is the problems and concerns that the adults have on their minds as they enter" (p. 49). Blindness is primarily a social fact that has been explored very little by sociologists (Kim, 1970). The sociological implications of being print-handicapped are of importance to educators. It is necessary in many instances to arrange suitable modification of existing programs or to stimulate the establishment of entirely new learning opportunity in order to meet the

specific needs of the print-handicapped adult (Dabelstein, 1962, p. 200).

The concept of multi-sensory, multi-media radio courses is an example of modifying an existing program. In assessing the attitudes and interests of those served by a program perhaps potentialities and opportunities for better serving those persons can be revealed. The larger study of which this dissertation is a part will analyze how best to design and implement this non-traditional concept of adult continuing education.

### Statement of the Problem

As stated, little organized and systematic research has been done to assess the attitudes and interests of the print-handicapped adult. Analyzing the idea of using a radio reading service as an alternative delivery system for offering educational courses to print-handicapped adults requires recognizing specific problems. What are the attitudes toward learning of those to be served? Who, in fact, are those to be served? What are their interests? What impact does one's handicap have on one's desire to learn? Are existing materials and facilities adequate for the print-handicapped adult to learn?

This study deals with the attitudes and interests of print-handicapped adults who are listeners of North Texas

Radio Reading Service, NTRB (the formal radio station call-sign). The problem undertaken was a survey of the attitudes toward learning that are specifically oriented to this population.

### Purposes of the Study

The purposes of this study were: (1) to determine the attitudes toward learning manifested by a sample of print-handicapped adults, (2) to analyze factors that may affect attitudes toward learning, (3) gather data concerning whether there is justification for utilizing a radio reading service as an alternative delivery system for educational course offerings, and (4) to describe attributes of a sample of print-handicapped adults who are listeners of a specific radio reading service.

### Rationale for the Study

Webster (1971) suggests that:

One lesson that academic persons may learn from marketing experts, and a lesson especially relevant to continuing education, is the importance of understanding the consumer and involving his motivation in the program planning rather than to assume that the institution is marketing pure gold and that those who do not partake of it are "poorly motivated" or in some other ways not up to snuff. (p. 42)

Although this researcher does not feel that she is marketing "pure gold," Webster's point is well taken. This researcher concedes that perhaps the first step toward

realizing the potential of radio and multi-media as an alternative educational delivery system was three steps back.

It was realized that a radio course had been designed for print-handicapped adults based upon certain assumptions. These assumptions were:

- (1) that a radio reading service, if it was available, is a primary source of communication for a print-handicapped adult.
- (2) that a radio reading service, which broadcasts on a sub-carrier frequency, has the programming potential of offering to the print-handicapped adult a means of continuing education.
- (3) that using air time of a radio reading service to offer a pilot radio course would be a worthwhile expenditure and experiment. Participation and effectiveness of the pilot will be measured in a separate research study at the time of delivery.
- (4) that being print handicapped influences an individual's participation in learning-centered activities.
- (5) that being print handicapped presents obstacles to learning.
- (6) that frustration is often a deterrent to learning.
- (7) that the visual aspects of learning are important enough to the learning process that there is merit in transforming them so that they can be

experienced through other senses.

- (8) that an entertaining, professionally produced, educational offering via radio combined with multi-sensory, multi-media experiential learning would afford the print-handicapped adult an easier learning experience.
- (9) that a positive learning experience for an individual might whet his or her appetite for continued learning.

Assumptions are not necessarily factual. Mere assumptions alone are not enough to justify air time.

An exploratory study was done in February of 1980. Using the NTRB Advisory Board list, approximately 40 listeners were contacted by telephone. These individuals were those consulted by the station for programming decisions. It was found that not one of those individuals on the list was below 55 years of age. The relevance of this to the rationale for this study is that certain questions began to emerge.

Who is the listening audience?

How old are the listeners?

What are the percentages of male and female listeners?

What are their listening preferences and interests?

What is their range of educational background?

What are their attitudes toward learning?

It was realized that answers to these questions had been based on assumption, or, at best, on projection.

If in fact the concept of radio courses for print-handicapped adults holds promise, then when is it best to make these offerings available to those for whom the idea was designed? What environment is conducive to successful implementation?

Creativity must sometimes be accompanied by practicality and mindfulness of purpose. The purpose of developing this concept of radio courses was not to create a multimedia phenomenon, but to use the vast potential of multimedia to create a learning experience of value to the print-handicapped adult. This point can be understood further if one reflects on the recent sequel to Star Wars. The Empire Strikes Back is a masterpiece of special effects creativity. The audience is presented with an awesome barrage of technical wizardry, a marvelous example of the art of film making. The storyline, however, was secondary, if even vaguely existent.

In this investigation the data were used to examine the potential of blending the art of adult education and the art of the utilization of media to fulfill an educational purpose. Expertise in the fields of radio and multi-media, as well as an understanding of the adult learner, were essential. It is this multi-faceted approach, this blending

of fields of knowledge, that is so often missing in educational broadcasting endeavors.

Throughout the various aspects of this project there runs a particular strand of continuity. It is the concept of translating, not from one language to another, but from one sense to another, and from one field of knowledge to another.

This investigation was a research study within the field of adult continuing education. In the review of the literature and related research, no studies were found related to the attitudes toward learning of the print-handicapped adult. In regard to the socio-demographic data analyzed in this study, there is an ongoing need in the field to know more about the blind and otherwise print-handicapped individuals in this country. There are three main factors which must blend together for the realization of the educational potential of radio courses for the print-handicapped: factual data, creativity, and technical ability. Generalizable to the population from which the sample for this research was randomly selected, this study fulfills the first of those factors.

### Major Research Questions

In this introduction many questions have been raised. An explanation of the basis of those questions has been

given. Those questions led to the formulation of the major research questions of this study.

1. What relationship exists between specific socio-demographic characteristics and respondent attitudes toward learning?
2. What relationship exists between specific socio-demographic characteristics and subject responses to factors that may affect attitudes toward learning?
3. Does the attitude portion of the instrument measure those factors as conceptually designed?
4. How might the 27 items be reduced in numbers while retaining optimum effectiveness of the instrument?
5. What specific factors, including interest in educational radio courses and number of books and/or magazines read per month significantly predict respondents' attitudes toward learning?
6. Does level of education influence respondent attitudes toward learning?
7. What are respondent attitudes toward outside support systems?

### Limitations

1. The study was limited by the fact that the population was restricted to print-handicapped adults who are



listeners of North Texas Radio for the Blind. The listeners must live within an 85 mile radius of Dallas, Texas to be able to pick up the NTRB broadcast signal. Generalization to any larger population is thereby precluded.

2. The instrument used was developed by this investigator specifically for this study. It is realized that the development of an instrument was a study in itself. Although extensive care was taken to insure validity and reliability, the instrument has not been used previously in other studies. To the knowledge of this researcher no research has been done specific to this population and the focus of this study. There is not to her knowledge a pre-existing instrument to meet the unique needs of this study.

3. The study was limited by the fact that the data yielded by the instrument were restricted by the instrument variables themselves.

4. The study was limited by the fact that the sample only represented approximately 13% (12.88%) of the total population of the NTRB audience.

5. The study was limited by the fact that there are questions on the survey instrument that are not directly relevant to the interests and attitudes toward learning of print-handicapped adults. It should be noted that this dissertation is part of a larger study. The additional items on the instrument are included for two reasons. One,

certain information is necessary for the future development and technical production of multi-sensory, multi-media radio courses. Two, other questions were asked to increase the data base on print-handicapped Americans. Some of these data will be used as a basis for further research.

It should be noted that this study involves two very different professions--adult education and broadcast-film arts. The questionnaire, as well as the study itself, reflect the blending of fields of knowledge. To the educator, some of the questions might appear irrelevant to this research. To the producer, the broadcast media professional, the answers to those questions are essential to planning and production. Consequently, only selected items on the questionnaire will be analyzed in this study.

### Definition of Terms

print-handicapped adult - an individual, 18 years of age or older, who for whatever reason, cannot read the printed page. The term "print-handicapped" is all inclusive of all forms of visual impairment as well as other circumstances that would prevent an individual from being able to read.

radio reading service - a radio station, the sole purpose of which is to broadcast the reading of printed material such as newspapers, magazines, books, etc. to the

print-handicapped.

side band or sub-carrier frequency - a radio frequency that exists above or below a main FM radio channel. Most radio reading services broadcast on a sub-carrier frequency, utilizing the transmitter of a main FM channel. This sub-carrier frequency or side band signal cannot be picked up with a regular commercial radio. Radio receivers equipped with a special crystal tuned to a specific side band signal are necessary to reception.

radio receiver/receiver/set - special radio necessary to pick up the NTRB broadcast signal. It is possible with this receiver to pick up both the main channel and the side band broadcasts. These radio receivers cost approximately \$60 per set and are loaned at no cost to the listener. There is no charge to the listener for the set or the reading service. The request is made that when the listener dies that the set be returned to the station so that it can then be loaned to someone else.

set number/receiver number - the identification number assigned to each radio. This is analogous to the registration or engine number on an automobile.

multi-media - the using, involving or encompassing of several media (Webster, 1969), a blending of elements and traditional arts such as sculpture and music and

teaching, with technological ability. Lester (1968) states that the goal of multi-media is to involve audiences or participants in an experience on a direct, even visceral level. It is a composition using two or more senses, utilized as a unified instrument of communication (Griffin, 1971).

Burke (1972) defines multi-media as a presentation or display in which two or more electronically-powered communications media are juxtaposed--possibly with other media as well--to produce a total effect that transcends the sum of the components.

As relates to this project, the term multi-media is all encompassing of these definitions and further incorporates the use of environment and the elements therein. Environment is a medium, whether natural or manufactured, as well as those elements of an environment such as light or darkness, temperature, noise level, sound, space, etc. An environment can be adapted and effects manufactured to create an educational tool (Atwill, 1978).

multi-sensory - appealing to or exciting more than one sense.

The Population

The population for this study is composed of those print-handicapped adults who comprise the NTRB listening audience. The listeners live within an 85 mile radius of Dallas, Texas, the area which the NTRB signal covers.

## CHAPTER II

### REVIEW OF THE LITERATURE AND RELATED RESEARCH

In the review of the literature and research related to this study, several diverse areas will be addressed. The first of these areas is a discussion of the influence of myths, taboos and stereotypes with which the print handicapped must contend. The relevance of this discussion is evidenced in a statement of Malcolm Knowles,

Because an adult defines himself largely by his experience, he has a deep investment in its value. And so when he finds himself in a situation in which his experience is not being used, or its worth is minimized, it is not just his experience that is being rejected-- he feels rejected as a person. (1977, p. 44)

Kim (1970) discusses how blindness restricts certain behaviors and functions and explains that the social effects of sightlessness extend far beyond those areas of activities where sight is essential to adequately function. The first section of this review is an explanation of the social consequences borne of stereotypes of the print handicapped. This study explores this factor as it may affect the print-handicapped adults' attitudes toward learning.

The second area addressed is the philosophy of adult education which serves as a foundation for this research. The main thrust of this section is the meeting of human need.

The applicability of this philosophy to meeting the specific needs of the print-handicapped adult learner is shown.

Research studies and dissertations related to the educational needs and other needs of handicapped adults are summarized. In a number of these studies the attitudes of handicapped adults are analyzed.

Finally, there will be a capsulization of research done by the American Foundation for the Blind (AFB), the Library of Congress, and National Public Radio (NPR). This study is concerned in part with socio-demographic data of a sample of print-handicapped adults, as are studies done by the aforementioned institutions.

### The Influence of Myths, Taboos, and Stereotypes With Which the Print Handicapped Must Contend

In her book, The Unseen Minority, Frances Koestler (1976) discusses the myths, taboos and stereotypes associated with blindness. What she describes is a nightmare that has continued for centuries, and only recently, within the last fifty years, have blind human beings, both adults and children experienced a gradual emancipation from being victims of ignorance and superstition, indifference and loathing, and casual pity of the sighted world.

David Hartman (1979), in his book, White Coat, White Cane, explains the popular image of the blind. He states

that he hates that image, "not only for what the sighted see in it but for the way it makes the blind see themselves: the tapping white cane, the tin cup, an ancient picture of poor wretches by the side of the road wailing 'Alms for the blind.' The blind beggar, like one word." He writes about the Bible and states that it is merciless to the blind, referring to Christ's healing of the blind beggar, one word, and the phrase "the blind leading the blind." These references and others in literature are cited as perpetuating the image of helplessness and aimlessness, a living being to be pitied.

David Hartman's (1979) book is about a man's triumph against incredible odds. The book is about himself. David Hartman is a medical doctor who happens to be totally blind.

Both Koestler and Hartman discuss how darkness is synonymous with death and evil. Koestler points out that the Bible refers to light as good, "And God saw the light, that it was good" and it warns against "the powers of darkness." Lucifer is the Angel of Darkness.

Not only is the Bible cited as a source for the image the sighted have of the blind. Even in children's literature, as Hartman mentions in his reference to Treasure Island, there exists the implication that disability is often connected with evil. Hartman is of course referring to Captain Hook, the pirate blind beggar.



There is the phrase "the living dead." Koestler discusses the Talmudic command that "in the encountering of a blind person, one must pronounce the same benediction as was customary on the death of a near relative." The myths, the taboos, and stereotypes have been so engendered that darkness as death has become part of psychiatric theory.

A great deal has been written on the myths and fallacies, the origin and propagation of their existence. To cover this aspect of blindness is a study in itself. This brief synopsis of Hartman's and Koestler's comments is given because the subject is a very real obstacle to the print handicapped. One does not need visual acuity to sense the negative attitudes of others.

Questions arise as to what effect these centuries old ways of thinking have on the blind and print-handicapped adults of today. Hardy and Cull (1972) suggest that attitudinal studies be conducted in an attempt to understand the effect that certain attitudes of the sighted public have on how a blind person reacts to society and some of the reasons for certain behavioral patterns. In addition, Hardy and Cull state "it is also very important to study the attitudes of blind persons toward the sighted community to determine what differences exist, if any, and how much differences can be minimized."

On acceptance of print handicap, Lashley writes:

Nothing is to be gained by denying and suppressing the handicap. On the contrary, a more healthy attitude will be assured by facing the handicap realistically and utilizing all available means of compensation. (1962, p. 509)

In his discussion of how one reacts to and manages sensory loss, Dr. Kenneth Altshuler (1968), a psychiatrist, states that "society's attitudes and uncertainties are continuing sources of discomfiture to the blind and may even retard progress in readjustment" (p. 27). He also discusses at length the attitudes of the newly blind, the process of acceptance of being blind, and adjustment to the loss. Initially, there is a period of shock followed by depression. The thought of facing "reality factors," such as mobility, maintaining interpersonal relationships, being unable to read the printed page, may prolong the mourning; but, on the other hand, the mastery of a task "can offer the powerful spur of legitimate success and hasten further readaptation" (p. 26). Altshuler concurs with Blank (1963) and Knudsen, et al. (1958) in stating

. . . a healthy prior personality, success in previous education, and the ability to establish a marriage and responsible social relationships before blindness occurred are all associated with success in adjustment to handicap. (Altshuler, p. 28)

### Meeting Human Need

The meeting of human need should be the base objective of adult education. Most important studies written about higher education have been written in terms of the needs of institutions (Ford Foundation Task Force, 1971). It is the needs of society and the diversity of adult learners that must be of primary concern to foster successful and meaningful adult and continuing education. Gould (1976) stressed,

It is an attitude that puts the student first and the institution second, concentrates more on the former's needs than the latter's convenience, encourages diversity of individual opportunity, and de-emphasizes time and space or even course requirements in favor of competence and, where applicable, performance . . . . It has concern for the learner of any age and circumstance, for the degree aspirant or the person who finds a sufficient reward in enriching life through constant, periodic, or occasional study. (pp. 17-18)

Being print handicapped is a human circumstance in which there are certain specific needs that merit humanistic consideration.

Bowe (1978) explains in his book, Handicapping America, that attitudinal, educational, architectural, occupational, legal and personal barriers are "constraining the spirits and bodies of millions of American people" (p. xii). In 1978, there were approximately 36 million Americans with disabilities.

In his discussion of attitudinal, educational, and architectural barriers with which the disabled must contend,

he cites the 1976 study done by Abt Associates of Cambridge, Massachusetts. In the study 3,038 colleges were asked to participate in a survey of barriers to disabled students. One-third of the 3,038 colleges agreed to participate. The colleges were given seven months to respond. At the end of the response period only 500 had replied to the survey instrument. Of the 500 colleges that responded 120 had special provisions to meet the needs of handicapped students. Bowe concludes by saying, "the survey is revealing of college and university programs for what it did not find as for what it did. Only one-sixth of the colleges asked to participate completed the self-evaluation questionnaire, raising serious questions as to the scope and depth of the programs offered in higher education as a whole" (pp. 26-27).

Disabled people seek very basic rights - a place to live, an education (Bowe, 1978). The barriers to even the most basic human needs are enormous. As Bowe points out, a six inch curb can stop a man.

In regard to education, the Ford Foundation Task Force (1971) states in the preface of its report,

There is a widespread assumption that the responsibility of the system is to provide opportunities for successful students, rather than inspiring an exciting and useful education for every student at every step.  
(p. vii)

The Task Force asserts that the traditional concepts of who can be a student, and when, and what a college is must be

broadened. It states that "many alternative paths to education" are needed (p. vii).

On the same point, Bowe (1978) writes:

For two hundred years, we have designed a nation for the average, normal, able-bodied majority, little realizing that millions cannot enter many of our buildings, ride our subways and buses, enjoy our educational and recreational programs and facilities, and use our communications systems. (p. viii)

When education is available, "the stress is upon remediation of disability without a corresponding emphasis on development of abilities (Bowe, 1978, p. 26). Mattress and broom making were the first major work items for the blind to learn as life long professions (Gallagher, 1976). With facts such as these and reading the documentation that abounds on schools and education for blind children, it is evident that the main emphasis is on daily living skills, mobility training and other basics in education. Referring to past practices, Gallagher states that "They had educated their students but not for employment." Bowe (1978) asserts that undereducation at the lower levels restricts the opportunities of disabled youth and adults to continue their education. It is essential that non-traditional education, using alternative delivery systems, be available to the adult learner.

The adult learner cannot be precisely defined, for each individual is as unique as his or her individual needs (Atwill, 1978). Juliet Bindt (1952), author of A Handbook

for the Blind, writes:

. . . no two blind persons are alike. The legal definition of blindness includes 10 percent vision. One blind man may not be able to see a bright light; another may see a pin shining on the floor or briefly read a newspaper at close range. (p. xi)

Degree of vision, type of disability, age are only three factors that would give cause to make provisions for individual need.

Howard McClusky, an authority in the fields of gerontology and adult education, states that one of the great frontiers of adult education is to create a kind of learning environment that is uniquely appropriate to older people - uniquely appropriate to their needs, their motivation, and pattern of life (p. 112). "The elderly share the common priority of seeking new definitions to lifelong development and involvement" (Korim, 1974, p. 17). Jackson, Parker, and Olgren (1979) concur that the U.S. is becoming a society of older people. They state that the number of 25 to 34 year olds increased 44% during the 1970's. The older American offers another challenge for adult continuing education. Lowman and Kirchner (1979), in a statistical brief entitled "Elderly Blind and Visually Impaired Persons: Projected Numbers in the Year 2000," write:

By the year 200, according to the U.S. Bureau of the Census projections, there will be just over 260 million Americans, an increase of about 20 percent over the total population in 1977. The subgroup of elderly persons - those who are 65 years of age or older - is, however, expected to increase at the substantially

higher rate of 36 percent. The number of persons in this elderly group will increase from about 23 million in 1977 to almost 32 million in the year 2000. (p. 69)

As Lowman and Kirchner point out, "older people (especially the very old) have much higher rates of visual impairment than do the young" (p. 69). They cite the findings of the demographic research done by Hatfield (1973) and Trouern-Trend (1968) that shows that "age is the single most powerful predictor of the prevalence of blindness and visual impairment" (p. 69).

Being print-handicapped, at whatever age, interferes with mobility. Transportation is the single most significant problem print-handicapped people face in participating in activities. Gary Ketler, the broadcast engineer for North Texas Radio for the Blind, stated in a private communication that by the time he went through the "hassle" of getting to the classroom he was not in any condition to learn. Gary Ketler is blind. The conversation dealt with his returning to college to finish his degree. One can ride only so many buses and run into so many fire plugs, chairs, and curbs before one is mentally and physically tired. Educators agree that learning should be a positive experience.

There are segments in our society that are not easily accessible, nor are the traditional delivery systems available to them. The adult learner is often a distant learner who requires non-traditional delivery systems (Jackson,

Parker, & Olgren, 1979). In Wisconsin there exists a teleconferencing network that offers continuing professional education to engineers. Participants can earn Continuing Education Units. The key to the project is flexibility. Time and subject matter can be adapted to meet need. As Jackson, Parker and Olgren point out, educational resources can be extended to adult learners in many distant locations via telephone.

The teleconferencing network is not designed for the print-handicapped, but the idea of utilizing a commodity that almost every American has close at hand could be the answer to meeting some of the needs of the print-handicapped. The technological abilities exist to meet individual need. It is imagination that is needed to link resources. It is thinking in terms of multi-media, blending technology with the art of adult education.

Discussions of imagination and utilization of technology are usually followed by discussions on cost and budgets. "Far too often any discussion of cost is limited only to the question of expenditure reduction. But cost consciousness goes beyond budget consciousness" (Ford Foundation Task Force, 1971, p. 28). Fortier and Keeping (1977) conclude that special courses for the blind are expensive and point out that the return on an educational investment can be measured in terms of the difference between what a blind person paying



no taxes and drawing a disability pension receives from the public treasury, in contrast to what the same blind person pays in taxes when gainfully employed. Fortier and Keeping were referring to their advances in the field of computer programming that make available positions in that profession for the blind.

In defense of expensive production costs for special programming courses for the blind, Fortier and Keeping ask two questions. One, who can calculate the financial return on hope? And, two, who can put a dollar value on human self-fulfillment? They conclude by saying that everyone can understand such values, and few would question their importance.

This author agrees with Webster's (1971) statement that a precious value in all education focuses on the self-fulfillment of the individual learner. In the manpower perspective, each person is a pair of hands or a set of skills to accomplish a job, whether measured singularly, as a team, or by the thousands. Self-fulfillment and the pursuit of individual interests is the individual's perspective of continuing education, which is not always the same as a place in the manpower pool. (p. 49)

The adult learner is an individual, not merely a cog in the workings of some economic machinery. He or she is a human being seeking fulfillment, not a product to be put through an assembly line process. Educators of the adult learner have an immense responsibility. They must be aware of need and constantly alert to the increasing diversity of need that is growing as a result of and can be met in part by

technological advancement, the desire of adults to outrun obsolescence, and the effort of adult learners to enrich their lives. Students need help to become spinners in the ever increasing technological web rather than becoming victims of it (Atwill, 1978). It is essential that adult educators maintain vitality, optimism, and responsiveness to change and human need and, at all costs, fight isolation, for isolation is deathly to us as educators and to the adults we endeavor to teach (Webster, 1971, p. 51). The keys to the ability to meet human need in adult and continuing education are flexibility, adaptability, experimentation, and imagination (Atwill, 1978). This philosophy is evidenced in the work of Sir Francis Campbell.

As far back as 1834, the diversified educational needs of blind people were recognized. To serve the blind adult outside of institutions, Home Visiting Societies were created "to assist and ameliorate the condition of the aged and destitute blind poor in London . . ." (Edgar, 1962). By 1884, 79 Home Visiting Societies were in operation and home teaching was beginning to come into its own as a profession.

A multi-sensory approach to learning was emerging during the latter 1800's. Not only was literature produced in Braille but so were maps and music. This development increased the range of employment for the blind, which naturally follows increase in educational opportunity (Edgar,

1962). It was through the recognition of and response to the specific needs of the print handicapped that learning is facilitated.

Sir Francis Campbell wrote the 1876 Encyclopedia article entitled "Blind." Campbell created the most modern up-to-date school for the blind in the world, known as the Royal Normal College for the Blind (Bledsoe, 1976). Campbell, an American, had taken up residence in the British Isles where he convinced Queen Victoria to fund his venture. As Bledsoe (1976) writes, Campbell's program was "a kind of American Revolution in the field of work for the blind. Moreover, he did it on British soil, and British capital paid for it" (p. 105).

An excerpt from Campbell's 1876 Encyclopedia article is

A school for the higher education of the blind should be specially adapted to the condition and wants of the persons to be trained. In it the course of study should be the same as in our best colleges. All instruction should be oral, and the apparatus and modes of illustration be addressed to the touch. It should be supplied with text-books, maps, diagrams, and the like, in raised characters. It should have large collections of models of various kinds, such as weights, measures, tools, machinery, and the like; mannikins and models showing the anatomy of plants and animals, as well as their outward form. It should have collections of shells, crystals, minerals, and the like; models and sections showing geological strata; philosophical apparatus adapted to the touch; in short, everything that can be represented by tangible forms. (Campbell, 1976, p. 122; Campbell, 1876, pp. 717-724)

An amazing similarity can be found in the philosophies of Campbell and Atwill (1979). It is interesting that their

efforts are more than a hundred years apart. The proposal for multi-sensory, multi-media radio courses for the print-handicapped (Atwill, 1979) was written without any knowledge of Sir Francis Campbell or his work. It is ironic that the above excerpt from Campbell's 106 year old article could be used to explain Atwill's idea of multi-sensory, multi-media radio courses.

It was Warren Bledsoe who wrote the introduction to the excerpts of Sir Francis Campbell's article that were reprinted in Blindness 1976. Bledsoe (1972) also wrote the "History and Philosophy of Work for the Blind," a chapter in the book Social and Rehabilitation Services for the Blind (Hardy & Cull, 1972). In his interesting literary work, Bledsoe shares with the reader a credo he wrote. It is a job description for those who would work for the blind; but, moreover, it is the philosophy that should undergird all efforts for the print-handicapped.

Credo Ascribed to Certain Masters of the Art of Teaching Blind People. I hold the art of teaching people how to perform without sight among the highest callings which a human being may answer with his life. If at any time, through my own infirmity, or to fill a power vacuum, the day comes when I must become a mere executive, supervisor or administrator, I will remember that, no matter how it seems to the worldly, the true apex of work for the blind is personal service in direct contact with blind people, and that all organized work for the blind has no other end but this, as fully and well-performed as available knowledge permits.

During the years when it is my privilege to practice the art, I will do my uttermost, not only to extend my own effectiveness, and the effectiveness of

others, but also to devise ways of imparting efficiency with all the tact and kindness of which I am capable, bearing in mind that the most cherished attribute a person has is his self-esteem, based on a sense of worth, the quintessence of which is independence.

I will keep in mind that a severe handicap, particularly in its early stages or if it goes for a long time untended, requires that an individual be a constant recipient of so much help that the burden recurrently seems intolerable, and that my actions and attitudes should never increase this burden by any kind of ostentation in my bearing toward my work or blind people. Without morbid self-effacement or subservience, I will avoid any form of encroachment upon the individuality of those I help, and will steadily perform in such a way as to encourage them to rely on and be preoccupied with those persons it is most natural and desirable for them to know and to love.

To my working hours I will give the most complete attention of the most creative kind of which I am capable, dwelling constantly on every practicality which can render a human being without sight a person of value in his own eyes.

I will guard my tongue and my time, but give generously my knowledge and experience to others who are also devoted to this art which is my calling.

I will reserve my scorn for those who aspire to be my colleagues without true respect for the calling, who are cynical toward all these things in which I believe, and without diligence and care in performing their duties. These I will relentlessly harry out of the field by open and aboveboard strictures and sanctions without any regard for influence which such persons may muster to counterattack.

I will not spoil blind people, or encourage them to become mere charming enslavers of those around them. I will look to the long view in helping them, not to ease of the moment. But I will stop short of making myself a compulsive taskmaster over the people whom I serve.

No matter how my battles go, once a conflict is resolved, I will put it behind me and rest and recondition my heart, mind, and body for further action.  
(Campbell, 1976, pp. 62-63)

Franken (1977) conducted a study to identify the cognitive, psychomotor, and affective characteristics of handicapped students, aged 14-21. The study focused on the

students' perceived needs in the community and in future education and training. Franken's study involved surveying a 20% sample of the students' teachers rather than the students themselves.

The handicapped students were mostly male, English speaking Caucasians with varying disabilities. The major results of the study revealed that these students need instruction using all learning modalities in an environment restricted to a small number of students. It was stated that this could best be accomplished in a vocational-technical adult education institution. The study concluded that training in vocational education is needed for these handicapped youth and adults. Among the seven recommendations made were that vocational education programs be planned and implemented for the handicapped and that colleges and universities offer courses related to working with the handicapped.

A study by Camaren (1975) revealed that there were numerous barriers to serving the educational needs of the handicapped. Twenty-nine different barriers were identified and grouped into five major areas: (1) awareness/acceptance of the handicapped, (2) social-interpersonal relations, (3) program administration and funding, (4) school curriculum, and (5) counselor/teacher problems.

Kemp (1972) conducted a study to delineate some of the characteristics of disabled persons which contribute significantly to success in three settings: college, skill training, and work evaluation/work experience. The performance of the subjects was examined to determine if the factors contributing to objective measures of success varied because of program demands or the student's initial abilities. The study involved the interviewing of 82 students. These students were observed in their programs and assessments made of their: (1) work assets, (2) goals, (3) disability, (4) degree of interpersonal support from family and friends, (5) attitude toward disability, (6) interpersonal dominance, (7) locus of control, (8) ability to manage others, and (9) performance in vocational setting. It was found that success for disabled persons is determined by different factors over the long process of vocational readiness. Success early in training is determined by advancement to better training. Kemp states this requires job skills and a positive attitude toward learning and work. Later success requires the additional factor of emotional stability.

Lazar, et al. (1976) researched the attitudes of 26 physically handicapped and 26 nonhandicapped university students. The students were compared in terms of social adjustment, instructional goals desired, and acceptance/rejection of handicap. Three instruments were administered: (1) a

measure of social adjustment, (2) an evaluation of affective and cognitive attitudes toward instructional goals, and (3) a scale of attitudes of acceptance or rejection. The results indicated that the two groups did not differ in their social adjustment or in their attitude toward the concept of "handicapped." The nonhandicapped students were found to be more affectively directed. The handicapped students were found to be more cognitively directed.

Smith (1969) conducted a study to ascertain whether completion of a college preparatory program for visually impaired high school graduates would enhance a student's chances of successful completion of the freshman year in college. The study concluded that self-concept is a significant variable in discriminating between visually impaired students who attend and do not attend college preparatory programs. Self concept was found to be predictor of those visually impaired students who are likely to persist through their freshman year of college.

Smith (1969) found that anxiety, although present in the students, was not a significant variable in his study either as a discriminator or as a predictor. However, self-concept and attendance at a college preparatory program were seen as variables which were related to the rate of attrition.



Meighan (1970) initiated a study from the supposition that a handicap such as blindness has a definite and distinct effect upon the development of personality. Meighan's research revealed that his 203 visually-handicapped subjects' scores on the basic dimensions of self-concept were all in an extremely negative direction. Each of the demographic subgroups in the study significantly differed from the Norm group but were not significantly different from each other. The results from correlations of self-concept scores with scores on the Stanford Achievement Paragraph Reading and Language Ability revealed no significant relationship between the subjects' self-concepts and their academic achievements.

In a study by Graham (1974), it was found that handicapped students had significantly greater information needs in the areas of federal loans, aptitude testing, scholarships, social security benefits, jobs, medical benefits, course prerequisites, work experience, elective courses, and welfare benefits. The personal needs of the handicapped were significantly higher in problems. Personal goals, sexual adjustment, taking tests, reading, writing and study skills, low grades, and economic resources were the problems cited as being significantly higher.

Related Research Done by the American Foundation  
for the Blind, the Library of Congress, and  
National Public Radio

Data as to the approximate numbers of Americans who are print handicapped is based only on projection. The literature on the blind and visually impaired reiterates the problems from text to text.

Kirchner and Lowman (1978) state that "data relevant for particular purposes, such as planning or evaluating services, are hard to find or do not exist" (p. 329). They continue by saying that what is available is likely to be inadequate. The data "may be out-of-date, biased, or poorly documented" and, in most cases, "not directly comparable from one source to another" (p. 329).

It is for this reason that the Social and Behavioral Analysis Division of the American Foundation for the Blind (AFB) undertook the task of providing Statistical Briefs. The purpose of the Series was "to provide useful information on the social and demographic characteristics of the visually impaired and blind population in the United States" (Kirchner & Lowman, 1978, p. 239).

The Statistical Briefs are what the title implies. To re-write the concise information in the Briefs would be repetitious. It makes little sense to capsulize what has

already been reduced and is clearly precise. What will be done is to discuss statistics, specific points or ideas that are pertinent to this study and to show how this information has been incorporated into this research.

The first point deals with the previously mentioned point on available data. In a long distance telephone conversation with Ms. Kirchner, the problem of data being unreliable and biased was discussed. An example, the problem can occur when well meaning agencies enlist their volunteers to survey the agency's clients. It is a common practice for volunteers to contact listeners to inquire if they are enjoying the service. The intent is usually well meant and the contact between station and listener is vital. There must be input and communication between those serving and those being served. However, there are inherent problems from the standpoint of research. As was heard from the American Foundation for the Blind and National Public Radio, there is a need for "third party" research.

The Statistical Briefs not only provide socio-demographic data but also provide a definition of terms. The person unfamiliar with the field might use "blind," "visually impaired" or "print handicapped" interchangeably. Someone who is "print handicapped" may not be visually impaired at all. For instance, the "legally blind" and the "severely visually impaired" are two different populations.

"These two populations overlap to an unknown degree" (Kirchner & Lowman, 1978).

As to exact figures on the number of print-handicapped adults, there are none. Lowman and Kirchner state that it is unlikely that there will ever be a single best estimate of the prevalence of serious vision problems. They recommend that "at least two types of estimate be used as a basis for program planning" (p. 331). By so doing, each type of estimate could compensate for the limitation of the other.

In the Statistical Brief entitled, "Visual Handicap: Statistical Data on a Social Process," Peterson, Lowman, and Kirchner (1978) write:

Planning and evaluation of different types of programs should be based on statistical measures of concepts that are directly related to specific program objectives. (p. 419)

That is precisely the reason for the larger study of which this dissertation is a part. It is to be a basis for planning and evaluating multi-sensory, multi-media radio courses for print-handicapped adults.

Peterson, et al. explain that handicap results from an interplay between the actual physical disability, one's attitude toward himself, the attitudes of others, and social circumstance. Expectations of others as well as the individual's personal characteristics work together to create handicap. The social context of handicapping has not been seriously researched (Peterson, et al., 1978).

The National Center for Health Statistics conducted a survey in 1971 that revealed that "nearly 38% of the newsprint disabled reported that they incurred some limitation of activity" (Peterson, et al., 1978, p. 420). Peterson, Lowman and Kirchner's discussion of that study is relevant to this study.

One may infer that persons with a reading disability are not only more likely to have some handicap in life than are persons with other types of visual loss, but they are also more likely to be more seriously handicapped because of their vision problems.

Even though the "newsprint disabled" are more than four times as likely as the other group to report any limitations, the other side of the coin is equally notable - 62% of the same "newsprint disabled" group report that they have no handicap in the life activity areas that have been specified. This 62% of the "newsprint disabled" may benefit from services such as low vision aids or training in independent living. However, they may not feel they need social or vocational rehabilitation services.

Because the prevalence of "newsprint disability" increases with age, we would expect the proportion of elderly people to be higher among the "newsprint disabled" reporting visual handicap than among those reporting no visual handicap. However, the proportion of persons 65 years of age and over is 70% in both groups (NCHS, 1975), indicating that the reporting of visual handicap is affected by some factor or factors in addition to visual disability.

As pointed out earlier, perception of visual handicap is affected not only by the presence of visual disorder, impairment or disability, but also by role expectations (held by self or other). Although the elderly are more likely to be "newsprint disabled," they are probably less likely to report that they are handicapped (limited in activity), since their role expectations may be lower than those of younger persons. Thus, two factors associated with aging can be seen to affect the prevalence of visual handicap: (1) higher prevalence of visual disability, and (2) lower role expectations. The former would tend to increase reported visual handicap while the latter would tend to decrease it. (p. 420)

Dr. Yoon Hongh Kim (1970) conducted a study entitled, "The Community of the Blind - Applying the Theory of Community Formation." Kim's study extends the theory of community to the social life of the blind. "It is theorized that the relation of the blind to the sighted community is sociologically similar to that of racial or cultural minority groups to the majority community" (Kim, 1970, p. 113).

Kim asks many of the same questions on his interview schedule that are asked on the survey instrument for this study. One questionnaire would not satisfy the purposes of the other but Kim's instrument holds much interest. He inquires if the subject's spouse (if he or she is married) has visual difficulties. He devotes a series of questions to participation in community organizations and another to personal friends and interpersonal relationships. He concludes his questionnaire with 32 statements to which the subject is to respond "strongly agree," "agree," "disagree," or "strongly disagree." An example of the attitude statement is:

85. I try to keep myself informed about what is happening among the visually handicapped as much as possible.

SA        A        D        SD        (p. 142)

"Organized and systematic assessment of blind persons is a relatively recent development in education and rehabilitation" (Rusalem, 1970, p. 1). Rusalem began his introduction to "The Assessment of Blind Persons: The Challenge"

with that statement. He continues:

If the evaluation of blind persons is to move toward greater utility and relevance for education and rehabilitation, validity will need to be perceived not only as residing in constructs, logic, and internal consistency, but in practical predictive value in real-life service and community situations. (p. 4)

Returning to the Statistical Briefs, the fourth in the series discusses the latest data on visual disability (Kirchner & Peterson, 1979). The Brief deals with the Health Interview Survey (HIS) conducted by the National Center for Health Statistics. "Since 1957, NCHS-HIS has conducted interviews every week of every year on a wide range of health topics for samples of over 40,000 households, containing over 110,000 individuals, throughout the nation" (Kirchner & Peterson, 1979, p. 151). Every six years the HIS addresses the question of visual disability. Kirchner and Peterson point out the problems of six year time lapses in the collection of data. It is the intent of NCHS to collect data on an annual basis on visual disability. NCHS plans to gather data on one-sixth of each annual sample.

It is noted that annual income is asked in the 1975 NCHS survey. A question relating to income was not included on the survey instrument for this study. The reason is the fear of alienation of the subject. Data on amount of income are not included in the purposes of this research.

The large numbers with which NCHS and HIS studies deal are awesome when one considers studies such as this one.

Kirchner and Peterson point out, however, that there is merit in sub-groups. They state that in broad groups, socio-demographic data tend to lose their relevance to some planning needs (1979, p. 153). The reason for drawing subjects for this study from the listening audience of NTRB, rather than the general print-handicapped population, is two-fold. One, this study is directed toward those ultimately to be served. Two, in the pilot study for this research and in validating the master computer print-out list of listeners, it was found that many of the listeners are not on the Dallas Lighthouse for the Blind or the State Commission for the Blind records. Cross checking is often done to facilitate the administration of available services to those who need those services. This confirms the fact that there are many "hidden blind." Most of those persons who are listeners of NTRB who are not recorded as being print handicapped elsewhere are over 60 years of age. This is in line with the reports of Goldstein (1968), Josephson (1963), Nuttall and Delaney (1978), and Lowman and Kirchner (Elderly blind, 1979).

According to the Executive Summary of "Reading with Print Limitations," 12 out of every 1,000 persons in the United States have print limitations (1979). There are only minor regional variations in the prevalence rate.

The Summary is an account of the findings from "A Survey to Determine the Extent of the Eligible User Population Not



Currently Being Served or Not Aware of the Programs of the Library of Congress, National Library Service for the Blind and Physically Handicapped." The abstract written for that study concisely explains the findings of the study.

Over three million Americans ages six years and older who reside in private households and health care institutions are either unable to read or use regular print or have difficulty in doing so. Approximately 12% of the target household population and two to four percent of the target institutional population are currently using the Talking Book and Braille Program of the National Library Service for the Blind and Physically Handicapped (NLS/BPH). Another three percent of the target household population formerly used NLS materials but stopped over a year ago. Awareness of the NLS program is about 57% in the target households and even higher--86%--among institutional staff. About 25% of the non-user group expressed considerable interest in trying the present program and there appears to be considerable potential to expand use of the program among non-users who are not presently interested in trying the program by enhancing still further various aspects of the program. (p. 1)

In the previous discussion, examples of the Statistical Briefs and other research done by the American Foundation for the Blind have been explained. These studies emphasize the prevalence of print handicap in the United States. The population for which the sample for this study was drawn is but a subset of the national print handicapped population.

## CHAPTER III

### DESIGN OF THE STUDY

#### Description of the Population

As stated in the introduction, the population for this study was composed of those print-handicapped adults who comprised the NTRB listening audience. The listeners live within an 85 mile radius of Dallas, Texas, the area which the NTRB signal covers.

Before randomly selecting the sample for this study, an effort was made to describe the audience population demographically. This was possible by referring to the individual application submitted by each listener prior to his or her being loaned a radio receiver. (A sample of the actual application form for securing a radio is included in Appendix A of this paper.) On that form, name, address, age group, telephone number, sex, and agency or physician certification are indicated.

There are five age groups listed on the application form, Under 18, 18 to 30, 31 to 45, 45 to 60, and Over 60. It is realized that these age groups do not correspond to current research and literature on adult life stages. These age groups and the form in its entirety were devised more

than four years prior to this study. No reason could be found as explanation for those particular age groups. These age group categories have been used by NTRB personnel since the inception of the radio reading service. At the time of each telephone interview, the age of each subject was asked.

There are more than 1,100 separate applications, all listed in numerical order according to the identification number on the radio receiver assigned to each listener. It was necessary to obtain a master list of all sets and listeners before selection of the sample could begin. This was possible; however, the master computer list is ever changing due to new requests for receivers, the death of listeners, since many of them are quite elderly and/or in poor health, and necessary replacement or repair of defective equipment. Furthermore, the list does not indicate the age or the sex of each listener. It was possible to assume gender in some cases, based upon given name, but assumption does not suffice for fact.

Another factor is that the master computer print-out list contains all radio receivers including those that are (1) used for demonstration purposes; (2) used by the NTRB volunteers to monitor their own programs; and (3) assigned to the station manager and board members. There is also one listing for each radio receiver which facilitates an accurate count of sets but not the actual number of listeners.

It was found that many radios were listened to by both husband and wife, or parent and child, and in the cases of nursing homes, there are often more than two print-handicapped adults listening to one receiver. These factors influenced the total number of listeners as well as the percentages within the strata of the population in regard to age and sex.

The process for satisfying all of the aforementioned considerations was to designate age and sex data and verify all other listed information. This process involved matching one by one, each computer listed entry to the application corresponding to that radio receiver number. The bulk as well as the number of individual hand-written applications made this initial step a major task. This process alone took approximately two hundred man hours.

The results of this verification procedure revealed the proportionate strata indicated in Table 1. This information was valid as of April 1980. This information is based only on the two sources explained previously, the individual applications for set receivers and the master computer list of listeners.

#### Development of the Sample

Approximately 300 adults, ranging in age from 18 to 99, were randomly selected from the population previously

described. Using a table of random numbers, participants were selected according to radio receiver number rather than by name. The master computer printout list of persons having been assigned NTRB receivers was used for this process. Selection was controlled as to age and sex, proportionately representing the four age groups: 18-30, 31-45, 46-60, and Over 60.

Table 1

## Total Number of NTRB Listeners

Age Group	Number of Males	Male % of Age Group	Number of Females	Female % of Age Group	Total Number of Listeners in Age Group
18-30	68	17%	49	13%	117
31-45	75	54%	65	46%	140
46-60	100	43%	131	57%	231
Over 60	183	34%	361	66%	544
Total Number of Listeners					1,032*

\*The above total, 1,032, does not include those 52 listeners who are in the Under 18 age group. This study is concerned only with print-handicapped adults.

The initial goal was to survey 260 individuals. The additional 40 subjects were used as replacement subjects in the event of not being able to contact all of the first 260. Replacement was done numerically, according to the initial random sampling process. It was necessary to re-enter the table of random numbers and the master computer print-out

list to select more than the 300 subjects.

The 260 individuals chosen as participants in this study represented 25% of the total adult listening population of NTRB as of April 1980. No individual under 18 years of age was included in this study as this research is specific to print-handicapped adults only.

Table 2 gives the exact number of subjects in each age group. This table represents the initially intended sample. It is not representative of the number of respondents in this study.

Table 2  
Initially Intended Sample

Age Group	Number of Males	Number of Females	Number of Subjects in Age Group
18-30	17	13	30
31-45	19	16	35
46-60	25	33	58
Over 60	46	90	136

The final number of subjects for this study was 133. That number is distributed among the four age groups. The 133 respondents are representative of 12.88% of the total NTRB listening audience.

Collection of Data

Data were gathered via telephone interviews with the subjects. These telephone interviews were conducted by interviewers who were extensively trained specifically for this task. No data were gathered by an interviewer prior to his or her training.

The training of the telephone interviewers facilitated the interviewers' gaining understanding of themselves. "In dealing with people it is essential that workers possess an awareness of themselves and of their own needs" (Brill, 1978, p. xvii). This increased understanding of one's self encompassed an awareness of attitudes, even prejudices, the interviewer might have toward a handicapped person. One's attitudes can be communicated, both consciously and unconsciously, through inflection or tone of voice, breathing, or the pace and flow of conversation. This researcher and the interviewers themselves jointly worked to detect any flaw that would have interfered with or biased an interview. The interviewers were made conscious of their biases and helped to make those personal changes that contributed to a more effective working relationship with those subjects with whom they communicated.

Brill (1978) discusses the importance of social case-workers' understanding the human condition. She explains

life as "a dynamic process characterized by continual growth in which man develops by adaptation to the changing demands of both his own inherent potential and the environment in which he lives" (p. xvii). The interviewers are all intelligent professionals who are actively involved in one or more of the helping professions. Each interviewer possesses a base of knowledge of the human condition.

Each of the interviewers either has a relative with visual problems or has worked with handicapped individuals previously. This point is important for three reasons: (1) empathetic ability and understanding on the part of the interviewer for the listener's circumstances made conversation easier for the subjects and the interviewers; (2) during the training sessions, experiences and knowledge were shared so as to prepare each interviewer to be sensitive to the subjects' responses while not doing or saying anything that would bias an interview or alienate a subject; and, (3) because of personal experience and interest in areas related to this research, there was a shared belief in the importance of this research.

Despite this researcher's work with Dallas Taping for the Blind, the Library of Congress, and North Texas Radio for the Blind (NTRB), this study has been conducted as third party research. No volunteer or staff member of NTRB was involved in the interviewing process. Furthermore, although



this study was done with the permission of the radio station, NTRB had no knowledge of the names of those listeners selected as subjects.

### Development of the Instrument

The instrument used in this research was designed specifically for this study. The actual survey questionnaire can be found in Appendix B of this paper.

Every question on the survey instrument has a purpose specific to the print-handicapped respondents. The order of the questions and the wording of each item were carefully considered, revised, and refined before the final product went to the printers. The development of the instrument involved six investigative processes.

1. A review of typed questionnaires that radio reading services have mailed to their respective print-handicapped listeners. The purpose of these printed questionnaires is to survey audience listening habits, programming preferences and whether or not the listeners were getting good reception.
2. Long distance telephone conversations with representatives of the American Foundation for the Blind (AFB), National Public Radio (NPR), and the Library of Congress. This was done in an effort to (a) gather insight into previous and current research

unavailable or unpublished to date; (b) explore what interest these organizations would have in this research project; (c) include in the survey instrument for this study questions which these organizations indicated as important; and (d) to use terminology and wording in line with that of AFB, NTRB, and Library of Congress research efforts. The latter is of importance in that the data from this study can be used to supplement the research efforts of these organizations.

The results of these lengthy telephone conversations were (a) explanations of studies done by these organizations (These are covered in the Review of Related Literature.); (b) information as to non-professional surveys done by radio reading services, the results and ramifications that might cause the data to be unreliable; (c) an awareness of gaps in previous research and of the need for more research concerning the print-handicapped; and, (d) enthusiastic support and interest in this research endeavor.

On the final point listed above, not only were the representatives helpful in the lengthy long distance telephone conversations but in the follow up forwarding by mail of executive summaries and

statistical briefs of recent research as well as letters. This information could not have otherwise been secured. Their help and suggestions are evidenced in some of the items and the wording used on specific questions. It is hoped that the Library of Congress, National Public Radio, and the American Foundation for the Blind will find this study of value.

3. A study of attitude measurement. The references used for this process were:

Attitude Measurement for Marketing Strategies  
by George David Hughes (1971).

Attitudes and Their Measurement by Nigel Lemon  
(1973).

In the List of References at the end of this paper the above books are listed as well as references on social research, survey research, and interviewing. Discussion of these topics is more appropriate to other portions of this paper.

Lemon (1973) states that attitude measures are validated for a particular purpose and that one essential characteristic of a measuring instrument is that it should fulfill the purposes for which it was designed.

4. Informal telephone survey. As discussed in the rationale portion of this paper, approximately 40 NTRB listeners were contacted in March of 1980. These 40 listeners are on a list used by the station when soliciting listener interest. The initial purpose of the informal survey was to determine if these listeners would be receptive to the airing of educational courses. This process emphasized the need for a systematic and organized study.
5. Consultation. This study required a working knowledge of adult education, social research, statistics, broadcast-film arts, radio reading services, multimedia, attitude measurement, interviewing techniques, medical terminology applicable to the subjects, physical and psychological limitations of print-handicapped adults, just to list a few. This researcher does not profess to be a master of all of those areas and for that reason drew upon the knowledge of those who are.

The professional advice and expertise of 15 individuals were sought in the development of the instrument. In consulting with this many individuals with their respective varied professions, one gets diversified input. It is felt that this was important.

Those consulted included adult educators, medical doctors whose specialties are psychiatry, preventive medicine and family practice, psychologists, statisticians, a systems engineer, the founder of Dallas Taping for the Blind and North Texas Radio Reading Service, the NTRB station manager and broadcast engineers, and the chairwoman of the NTRB Listener Advisory Board. Five of the 15 consulted are print handicapped. Nine of the professionals either work with the print handicapped or are are involved in related research.

6. Layout, printing, collating, labeling as to subject. Convenience and clarity for the interview and reduction of data were two major considerations in layout. The questionnaire could have been laid out to facilitate faster reduction of data but it was feared that by so doing there would be a greater chance of inaccuracy in the interviewers' recording of the responses.

### Structure of the Instrument

The instrument developed for this study involved two major sections. One section deals predominantly with socio-demographic questions. The other portion of the instrument is concerned with attitudes. The latter consists of 27

statements to which the respondents were to respond strongly agree, agree, undecided, disagree, or strongly disagree. Each of the two major sections of the instrument contains subsections. These subsections have specific purposes. Some of the subsections of the socio-demographic portion of the instrument are pertinent to the larger study of which this dissertation is a part. Although this paper does not address all of the data collected in the telephone interviews, the mean responses to all items can be found in Appendix C of this dissertation.

One of the subsections of the socio-demographic portion of the instrument included personal factors such as age, sex, marital status and level of education. It is assumed that these personal factors are instrumental in the formation of attitudes (perceptions, motivations) toward particular phenomena (Eaves, 1976, p. 41). The phenomena in this case were attitudes toward learning.

The other subsections of the socio-demographic segment of the questionnaire were: listening habits and preferences to NTRB programming, the nature and extent of the respondents' handicap (how limiting is that handicap), awareness of services available to the print handicapped, and questions related to learning (i.e. number of books read per month and would the respondent be interested in educational radio courses specific to the needs of the print handicapped).

As stated in the Limitations portion of this paper, the additional items were included for two reasons. One, certain information is necessary for the future development and technical production of multi-sensory, multi-media radio courses. It seemed to be time and cost effective to utilize the opportunity of telephone contact with the listeners to gather the data. So doing was simply in keeping with the phases of the adult education process.

Knowles (1977) translates the principles of adult education into a process for planning and operating educational programs. The phases in the adult education process involve the following phases:

1. Establishment of a climate conducive to adult learning.
2. Creation of an organizational structure for participative planning.
3. Diagnosis of needs for learning.
4. Formulation of directions of learning.
5. Development of a design of activities.
6. Operation of the activities.
7. The rediagnosis of needs for learning. (p. 54)

Although previously quoted in the review of the literature, a point made in the Statistical Brief entitled, "Visual Handicap: Statistical Data on a Social Process,"

Peterson, Lowman, and Kirchner (1978) is re-emphasized,

Planning and evaluation of different types of programs should be based on statistical measures of concepts that are directly related to specific program objectives. (p. 419)

To have omitted questions related to the subjects' physical condition and abilities would have been remiss as

an adult educator. Maslow (1954), Murphy (1958), and Knowles (1977), although different in their categorization, emphasize the meaning of basic or organismic needs. Physical needs of participants in a learning situation must be considered in program development. The instrument used in this study was designed to gather data on each subject's attitudes, interests, and "the character of his personal equipment, including his abilities" (Knowles, 1977, p. 81).

Other questions were asked to increase the data base on print-handicapped Americans. Some of these data will be used for further research.

#### Conceptual Structure of the Attitude Portion of the Instrument

This particular section of the questionnaire was used to measure the respondents' attitudes toward learning. Initially, the conceptual design of the instrument sought to look at three major areas: impact of handicap, attitudes toward learning, and attitudes of print-handicapped adults toward outside support systems. These three major areas included sub-areas. This applied to attitudes toward learning and attitudes toward outside support systems. Adequacy of traditional facilities and materials, desire to learn, and the use of other senses for learning were relevant areas of investigation for this population. Therefore, the



instrument was conceptually designed to examine five major factors: impact of handicap on lifestyle, desire to learn, adequacy of traditional learning facilities and materials, acceptance by others, use of other senses for learning. The 27 statements were intended to examine the respondents' beliefs, perceptions and positive or negative feelings about the particular attitude objects. This portion of the study is concerned with the affective component of attitudes described by Lemon (1973) and Eaves (1976).

Conceptually the items were designed to be grouped as follows:

#### Impact of handicap on lifestyle

- A1 My handicap has been the most influential factor in the life style I now have.
- A2 My handicap does not stop me from doing what I want to do with my life.
- A3 My handicap caused me to learn many new skills.

#### Desire to learn

- A8 Print-handicapped adults should devote more time to learning new skills.
- A9 When I have to try over and over to accomplish a task I find I have less desire to try anything new.
- A10 Handicapped adults need to stay abreast of local, national, and world current events.
- A11 Being print handicapped is no real limitation to learning.
- A13 As a general rule print-handicapped people do not need to learn as much as non-handicapped people.

- A18 Handicapped adults generally lose their desire to learn new things earlier in age than non-handicapped people.
- A20 One of the most significant problems to learning for the print-handicapped person is simply the lack of desire to learn.
- A25 Print handicapped or not, there is simply an age when it makes no sense to go on learning.
- A27 The problems associated with learning new things, even fun things, are greater than the gain from the new ability.

#### Facilities and materials

- A12 Generally, information and knowledge institutions, such as schools and colleges, do not provide facilities to enable handicapped people to learn.
- A21 Conventional facilities and materials are simply not sufficient to enable the print-handicapped person to learn.
- A22 The print-handicapped person needs special programs, materials and facilities in order for them to learn.

#### Acceptance by others

- A4 I feel comfortable in asking for help for favors to accommodate my handicap.
- A5 I generally find people are willing to help me when I ask for help.
- A6 Handicapped adults do not have as many friends as non-handicapped.
- A7 If I wanted to learn something I would feel uncomfortable in going to school.
- A24 Print-handicapped adults are often bored because their entertainment is limited.
- A23 Print-handicapped adults have a difficult time in succeeding in business or profession because there is little opportunity for continuing education.

- A26 Handicapped adults are seldom invited to participate in the mainstream of neighborhood or community activity.

#### Use of other senses for learning

- A14 Print-handicapped adults should work harder to develop their sense of touch and their hearing.
- A15 Print-handicapped adults find that touch is the best sense for learning.
- A16 Print-handicapped adults find that hearing is the best sense for learning.
- A17 All print-handicapped adults should learn to read Braille.
- A19 The radio is generally the best source of information about what is going on in the world.

#### Statistical Procedures

Factor analytic techniques were applied to the attitude portion of the instrument. This was done to determine which of the 27 variables did in fact group themselves together. The single most distinctive characteristic of factor analysis is its data-reduction capability (Nie, et al., 1975). Rummel (1967) explains that factor analysis can be used to group interdependent variables into descriptive categories. It can be used "to discover such concepts reflecting unsuspected influences at work in a domain" (p. 451). Generalizations can thus be made once interrelated phenomena are delineated. Factor analysis affords the researcher the ability to relate data meaningfully. It is hoped, therefore, that the verbal descriptions of what conceptually occurred in

this study will be understandable to the lay reader. The mathematical complexity and terminology of factor analysis is often mind boggling. It is recommended that those readers who are not familiar with factor analysis read Rummel (1967).

Both unrotated and Varimax rotation factor analysis were performed on the 27 attitude variables. Factor-analytic techniques should identify any underlying pattern of relationships so that the data may be "rearranged" or "reduced" to a smaller set of factors or components that may be taken as source variables accounting for the observed interrelations in the data (Nie, et al., 1975). Furthermore, although all factor-analytic applications are ultimately based on the data-summarizing capability of the method, the techniques can be creatively and imaginatively applied to a variety of research problems (Rummel, 1967). Being cognizant of the mass amount of data to be interpreted in this study, the capabilities of factor analysis best accomplished the following:

- (1) confirmed the factors, the different areas, being investigated by the instrument.
- (2) determined significant overlapping of dimensions.
- (3) ascertained which of 27 attitude variables are best at measuring a given attitude.

(4) discovered how those 27 items can be reduced in number while retaining optimum effectiveness of the instrument.

Each sub-section of the attitude portion of the instrument was factored. Factor scores were then generated as a means of standardizing the data. Data must be transformed to meet the assumptions of other techniques such as multiple regression (Ezekial & Fox, 1959, pp. 283-284).

This being a descriptive study, descriptive statistics were used to describe the responses to the instrument. Frequencies, percentages, means and standard deviations are used, where appropriate and applicable, to explain survey results to individual variables. The variables of particular interest are age, sex, level of education, interest in educational radio courses, and number of books and/or magazines read per month.

This study analyzes attitudes of print-handicapped adults as related to personal and socio-demographic characteristics. The attitude variables were considered criteria or dependent variables. The personal and socio-demographic characteristics of the subjects were predictors. On the variables of particular interest analysis was done using analysis of variance. Multiple regression was used to analyze what correlations exist between the factor scores and personal characteristics and socio-demographic variables.

This procedure will indicate to what degree and in which direction these characteristics affect or determine attitude.

## CHAPTER IV

### ANALYSIS OF THE DATA

This chapter includes the presentation and analysis of the specific socio-demographic variables with which this study is concerned. In addition, the results of the factor analysis performed on the attitude portion of the instrument are presented. Using the factor scores generated by the factor analysis, the relevance of the demographic variables to the attitude portion of the instrument is discussed.

#### Inaccessibility of Subjects

Before presenting the general socio-demographic attributes of the subjects, an explanation of the sample is of interest. The initially intended total number of subjects was 260. Table 2 (p. 45) shows the desired number of subjects for each strata.

A total number of 350 listeners were randomly selected from the NTRB listening audience. Out of that 350 listeners, it was possible to contact 133. Therefore, there are 133 subjects in the sample. Table 3 explains the reasons and frequencies for not being able to interview 217 of the 350 listeners selected.

Table 3  
Inaccessibility of Subjects

Reason	Number
Not available by phone (no listing available, uncertain as to why)	36
Wrong number	32
Moved	27
No answer	21
Non-working number	21
Declined to participate	7
Too ill to talk	34
Deceased	9
Received questionnaire in mail	3
Unaware what receiver is for	4
Has returned receiver	15
Incomplete interview	7
Subject too young (under 18, mistakenly selected)	1
Total number not accessible for interview	217

Five separate attempts were made to contact each subject if there was no answer. When a number was found to be incorrect or not working the interviewers verified the number with the master computer list first, and then with directory assistance. Thorough effort was made to locate a listener before replacing him or her with another subject.



Replacement was done according to order of random selection. No subject was included in the study until those previously selected had been determined inaccessible.

Table 4 shows the actual number of male and female respondents in each age group.

Table 4  
Distribution of Respondents by Age Group and Sex

Age Group	Number of Males	Number of Females	Number of Subjects in Age Group
18-30	9	8	17
31-45	11	8	19
46-60	12	24	36
Over 60	23	38	61

#### General Characteristics of the Subjects

##### Age

The subjects ranged in age from 19 to 93 years. The mean age of the respondents was 57.827 years with a standard deviation of 19.048.

##### Sex

The majority of the respondents were female. This is in line with the total NTRB listening audience population. Table 5 indicates the distribution of males and females in the sample.

Table 5  
Distribution of Subjects by Sex

Sex	Number	% of Sample
Male	55	41.35
Female	78	58.65
Total	135	100%

#### Level of education

Number of years of school completed was asked of each subject. Level of education ranged from 0 to 20 years. Years of school were grouped as shown in Table 6. Each group was then assigned a group or category number. Based on the groupings indicated in Table 6, the mean level of education is 3.15. The third grouping represents years 9 through 12. The 3.15 figure can be translated to mean that the average level of education of the subjects is between 9 and 10 years of school.

Table 6  
Distribution of Subjects by Level of Education

Years of School	Grouping	Number of Subjects in group	% of Subjects in group
0-never attended	1	6	4.51%
1-8	2	27	20.30%
9-12	3	50	37.59%
13-16	4	36	27.07%
16+	5	14	10.52%

### Interest in educational radio courses

This variable is Item 16 on the second section of the instrument. The item reads,

If NTRB offered both credit and non-credit courses over the air, designed with the print-handicapped person in mind, would you be interested in that type of programming?         Yes         No

Table 7 gives the responses to that item.

Table 7.

#### Stated Interest in Radio Courses

Response	Male	Female	Frequency	% of Sample
Yes	28	41	69	51.88
No	25	33	58	43.61
No Response	1	5	6	4.51
Totals	54	79	133	100.00

Of the 127 subjects who responded 54% of the respondents stated they would be interested in radio courses. The remaining 45.66% stated they would not be interested.

### Number of books and/or magazines read per month

The mean number of books and/or magazines read per month by the respondents is 6.323. The minimum number read was 0 with a maximum of 35. (It should be noted that one respondent stated he/she reads approximately 50 books or magazines per month. That response was recorded as 35 to not let that one spurious response distort the data and also because 35 was the maximum number allowed for when designing

the data reduction process.) The standard deviation is 7.548.

### Factor Analysis of the Attitude Variables

Both unrotated and Varimax rotation factor analyses were performed on the 27 attitude variables. Factors with eigenvalues of 1 or greater were accepted. The unrotated factor matrix yielded nine factors with eigenvalue of 1 or greater. With the Varimax rotation, four factors met the established criterion. Variables with factor loadings of .4 or greater were accepted. The Varimax rotated factor matrix illustrates this procedure. Table 8 does not include factors 5, 6, 7, 8 and 9.

The program used for the statistical analysis is the Statistical Package for the Social Sciences (SPSS). In going from the unrotated factor matrix (with the nine eligible factors) to the Varimax rotated factor matrix (with the four eligible factors), it was not possible to delete the extraneous five factors. The SPSS program does not allow for this. It is realized, had this been possible, the factor loadings would have differed. In other words, those variables falling in factors 5, 6, 7, 8 and 9 with loadings of .4 or greater would have been distributed among the four factors with eigenvalues of 1 or more.

This point is made for the purist more than to cite a significant flaw in the analysis. Factors 5, 6, 7, 8, and 9 only represent 27.7% of the variance. This percentage is relatively insignificant.

Table 8  
Varimax Rotated Factor Matrix

Item	Factor 1	Factor 2	Factor 3	Factor 4
A1	0.16258	0.02501	0.38726	0.13398
A2	-0.21488	-0.20023	-0.19652	0.27712
A3	-0.11644	-0.05292	-0.02513	0.07321
A4	-0.12937	-0.02628	0.08405	0.06888
A5	-0.15549	-0.27549	0.21821	-0.01467
A6	0.19659	<u>0.48180</u>	-0.08016	-0.26859
A7	<u>0.68375</u>	-0.01483	0.14540	0.06716
A8	-0.15611	-0.10227	0.32664	0.00898
A9	<u>0.72453</u>	0.05590	0.14264	-0.04470
A10	-0.37133	-0.19270	0.36637	0.00316
A11	-0.18285	-0.08754	-0.05050	-0.02462
A12	0.09651	0.30703	-0.38501	0.15971
A13	<u>0.49611</u>	0.27798	-0.15613	0.05560
A14	-0.03482	0.02341	<u>0.49248</u>	0.03981
A15	0.09615	0.05390	<u>0.07133</u>	<u>0.43641</u>
A16	-0.03296	-0.03378	0.06610	<u>0.01077</u>
A17	-0.10693	0.19268	0.05102	0.39448
A18	<u>0.51875</u>	0.32173	0.09548	0.19668
A19	<u>0.08232</u>	0.03873	0.05407	<u>0.57432</u>
A20	0.20430	-0.03875	0.10824	<u>0.22844</u>
A21	0.06937	0.17416	-0.04794	0.01141
A22	-0.01726	-0.05740	0.20827	0.16996
A23	0.25179	<u>0.67651</u>	-0.02899	0.17389
A24	0.17735	<u>0.64837</u>	0.14226	0.06428
A25	<u>0.51206</u>	<u>0.29112</u>	-0.11012	0.10740
A26	<u>0.22420</u>	<u>0.50690</u>	-0.28618	-0.07900
A27	<u>0.62202</u>	<u>0.19352</u>	-0.07343	0.01187

The numbers in this table are the factor loadings for the individual items. Those loadings underlined indicate that the corresponding item is included in the designated

factor. The criterion of acceptance is .4.

The four factors discussed in this study represent 72.3% of the variance. This can be readily seen in Table 9.

Table 9

## Factor Eigenvalues and Percentage of Variance

Factor	Eigenvalue	% of var.	Cum %
1	4.38718	37.1	37.1
2	1.57905	13.4	50.5
3	1.47350	12.5	62.9
4	1.10687	9.4	72.3
5	0.87703	7.4	79.7
6	0.71687	6.1	85.8
7	0.63724	5.4	91.2
8	0.58194	4.9	96.1
9	0.46270	3.9	100.0

The factor analysis delineated the distinct interrelated patterns seen in the rotated factor pattern. Although many of the variables grouped themselves as conceptually intended, the factor pattern differs significantly from the conceptual model. Many of the variables had factor loadings of less than .4, the established cut off point. Table 10 indicates the distinct clusters of interrelated data and the factor loading of each variable.

Inclusion of more variables would have been possible by accepting loadings of .37 or greater. However, to insure

Table 10

## Rotated Factor Pattern for Specific Attitude Variables

Loading	Item	Variable
<u>Factor 1 Attitudes toward learning</u>		
.68375	A7	If I wanted to learn something I would feel uncomfortable in going to school.
.72453	A9	When I have to try over and over to accomplish a task I find I have less desire to try anything new.
.49611	A13	As a general rule print-handicapped people do not need to learn as much as non-handicapped people.
.51875	A18	Handicapped adults generally lose their desire to learn new things earlier in age than non-handicapped people.
.51206	A25	Print handicapped or not, there is simply an age when it makes no sense to go on learning.
.62202	A27	The problems associated with learning new things, even fun things, are greater than the gain from the new ability.
<u>Factor 2 Acceptance by others</u>		
.48180	A6	Handicapped adults do not have as many friends as non-handicapped.
.67651	A23	Print-handicapped adults have a difficult time in succeeding in business or profession because there is little opportunity for continuing education.
.64837	A24	Print-handicapped adults are often bored because their entertainment is limited.
.50690	A26	Handicapped adults are seldom invited to participate in the mainstream of neighborhood or community activity.

Table 10 (continued)

Loading	Item	Variable
<u>Factor 3 Development of other senses</u>		
.49248	A14	Print-handicapped adults should work harder to develop their sense of touch and their hearing.
<u>Factor 4 Use of other senses for learning</u>		
.43641	A15	Print-handicapped adults find that touch is the best sense for learning.
.57432	A19	The radio is generally the best source of information about what is going on in the world.

clarity and avoid criticism, .4 was the lowest factor loading accepted. The result is that each variable is unique without question to the factor to which it is assigned. In Table 11 the factor correlations of the variables are presented. Note that the factor correlations table indicates the independence of each factor.

Table 11

## Factor Correlations

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1.00000	0.06485	0.29983	0.12497
Factor 2	0.06485	1.00000	0.03985	-0.11857
Factor 3	0.29983	0.03985	1.00000	0.06720
Factor 4	0.12497	-0.11857	0.06720	1.00000

One of the questions this study sought to answer was which of the 27 attitude statements could be eliminated in order to refine the instrument. Items 1, 2, 3, 4, 5, 8, 10,



11, 12, 16, 17, 20, 21, and 22 were those variables with factor loadings of less than .4. Had .37 been used as the lowest accepted factor loading, variables A1 and A12 would have been assigned to Factor 3. Variable A10 would have been grouped in Factor 1. Factor 4 would have included item A17.

Responses to the attitude variables were recorded on a Likert type scale (1 - strongly agree, 2 - agree, 3 - undecided, 4 - disagree, and 5 - strongly disagree). The mean responses to the individual variables are based on that scale.

The mean response to item A7 is 3.2171. Approximately half of the respondents agreed and half disagreed with the statement, "If I wanted to learn something, I would feel uncomfortable in going to school." There were only eight "undecided" responses.

The mean response to item A9 (1.1348) shows that the respondents strongly agree that having "to try over and over to accomplish a task" results in less desire to try anything new. Repeated trying to accomplish a task does diminish desire to learn.

The mean response to item A13 is 4.0310. The respondents disagree that "print-handicapped people do not need to learn as much as non-handicapped people." The mean response to item A18 is 3.1008. This item reads "Handicapped adults

generally lose their desire to learn new things earlier in age than non-handicapped people."

The mean response to item A25 is 3.912 indicating that the respondents disagree that there is simply an age when it makes no sense to go on learning. Item A27 reads, "The problems associated with learning new things, even fun things, are greater than the gain for the new ability." The mean response to this variable is 3.2713.

"Undecided" responses were very infrequent. Therefore, in those variables where the mean response is approximately 3, such as for items A7, A18, and A27, there may be areas of particular interest to be found. For instance, the severity of handicap may determine one's feeling comfortable in going back to school or the degree of problems associated with learning new things (A27). Item 18 deals with both age and handicap in regard to desire to learn. The larger study of which this dissertation is a part analyzes severity of handicap. This dissertation has raised questions that warrant further study.

Table 12 shows the mean responses for individual variables and the individual weighted means for each of the four factors. It is interesting to note that all of the items in Factor 1 are negatively stated. Therefore, the mean responses are compatible. Many of the attitude statements were purposely negatively stated. This was done according

to theories of attitude measurement (Lemon, 1973).

Table 12  
Weighted Means of Factors

Item	Variable	Mean Response	Weighted Mean
<u>Factor 1 Attitudes toward learning</u>			
A7	Uncomfortable going to school.	3.2171	
A9	Repeated trying results in less desire to learn.	1.1348	
A13	Handicapped do not need to learn as much.	4.0310	
A18	Handicapped lose desire to learn earlier.	3.1008	
A25	There is an age when it makes no sense to go on learning.	3.9612	
A27	Problems greater than new ability.	3.2713	
		_____	3.119
<u>Factor 2 Acceptance by other</u>			
A6	Fewer friends.	3.0930	
A23	Difficult time succeeding in business/little opportunity for continued education.	2.8527	
A24	Bored because entertainment is limited.	2.8527	
A26	Seldom invited to participate in community activity.	2.9225	
		_____	2.9302

Table 12 (continued)

Item	Variable	Mean Response	Weighted Mean
<u>Factor 3 Development of other senses</u>			
A14	Handicapped should work harder to develop sense of touch and hearing.	2.0310 _____	2.0310
<u>Factor 4 Use of other senses for learning</u>			
A15	Touch is best for learning.	2.3101	
A19	Radio best source of information.	1.9535 _____	2.1318

The results indicate that the respondents' attitudes toward their acceptance by others and social inclusion are negative. The mean responses to items A23, A24, and A26 show that the respondents agree that (1) it is difficult succeeding in business or profession because there is little opportunity of continuing education for the print-handicapped adult; (2) sample print-handicapped adults are bored because their entertainment is limited; and (3) handicapped adults are seldom invited to participate in the mainstream of neighborhood and community activity.

The mean response to item A6, regarding the effect of handicap on having friends, is 3.0930. The interviewers reported that those respondents disagreeing with the statement were often verbally emphatic with their response.

Although no statistical analysis was done on this point, it was the women who responded so strongly to this variable. Although all four variables deal with outside support systems and have social implications, item A6 may elicit a more personal or subjective response than items A23, A24, and A26. Item A6 deals with friends. The other three variables are concerned with business, opportunity for continued education, entertainment, and community activity. The latter are institutions.

Factor 3 is composed of only one variable. The mean response to item A14 is 2.0310 indicating a positive attitude toward the development of other senses. The mean response shows that the respondents agree that "print-handicapped adults should work harder to develop their sense of touch and their hearing."

Factor 4 includes two variables, A15 and A19. Item A15 deals with touch as being the best sense for learning. Item A19 reads, "the radio is generally the best source of information about what is going on in the world." Conceptually, this factor deals with the use of other senses for learning. The mean responses indicate a positive attitude toward the radio and one's sense of touch as sources for acquiring information and learning. It indicates a positive attitude toward compensation for sensory loss.

The Relationship Between Socio-Demographic  
Variables and the Individual Factors

Specific socio-demographic variables were examined for correlations with the four factors. Examination revealed that no significant correlations exist between the specific socio-demographic variables (age, level of education, interest in radio courses, and number of books and/or magazines read per month) and the individual factors at the .05 level of significance. Regression techniques were performed to reach this conclusion. Analysis of variance indicated that there are no significant differences among distinct groups. For the latter procedure, the level of significance was also set at .05.

Analysis of the Relationship Between Age  
and the Four Factors

Age was approached in three distinct ways:

- (1) one-to-one correlation
- (2) grouping according to sample selection groups
- (3) grouping according to adult life stages

Groupings according to sample selection were: 18-30, 31-45, 46-60, and Over 60. Groupings according to adult life stages were: 18-27 - leaving home; 28-32 - Catch 30; 33-43 - mid-life reexamination; 44-54 - mid-life restabilization;

55-65 - mature age; and Over 66 (Sheehy, 1976; Levinson, 1978; Bischof, 1976; Birren, 1964). Table 13 shows the distribution of subjects according to adult life stages. One-way analysis of variance was performed using the second and third methods of grouping. As stated, no significant differences among distinct groups were found. The manner of grouping had no effect on finding significant groupings.

Table 13

## Distribution According to Adult Life-stage Groupings

Age Group	Number of Subjects
18-27	11
28-32	9
33-43	14
44-54	18
55-65	36
Over 66	45
Total	133

Regression analysis was performed on each of the four factors with age. Regression analysis is often referred to as "regression on the mean." The mean for age is 58.0076 years. The mean for the factors are: Factor 1,  $-.1127$ , Factor 2,  $.0337$ , Factor 3,  $-.0206$ , and Factor 4,  $.0053$ . It is these means that are used by the SPS program to generate the statistics in Table 14.

Table 14

Regression Summary Table for Age (independent variable)  
with Factors 1, 2, 3 and 4 (dependent variables)

	R	R <sup>2</sup>	R <sup>2</sup>	F
Factor 4	.04078	.00166	.00166	.215
Factor 2	.04345	.00189	.00189	.244
Factor 1	.05568	.00310	.00310	.401
Factor 3	.09042	.00818	.00818	1.063

	B	Beta	Standard Error B	F
Factor 2	.1228764D-02	.04345	.00249	.224
(constant)	-.3761357D-01			
Factor 4	.1260217D-02	.04078	.00272	.215
(constant)	-.6783505D-01			
Factor 1	.4569571D-02	.05568	.00350	.401
(constant)	-.8463302D-01			
Factor 3	.2765170D-02	.09042	.00268	1.063
(constant)	-.1810117D-00			

### Analysis of the Differential Effect of Sex

The Analysis of Variance technique was applied to each of the four factors by sex. No significant difference among the two groups (males and females) was found. The



results of the analysis of variance can be seen in Tables 15, 16, 17, and 18.

Table 15  
Attitudes toward Learning by Sex  
(N = 131)

Source of variation	Sum of Squares	df	Mean Square	F	Signif. of F
Main effects	0.843	1	0.843	1.467	0.228
SEX	0.843	1	0.843	1.467	0.228
Explained	0.843	1	0.843	1.467	0.228
Residual	74.099	129	0.574		
Total	74.941	130	0.576		

Table 16  
Acceptance by Others by Sex  
(N = 131)

Source of variation	Sum of Squares	df	Mean Square	F	Signif. of F
Main effects	0.230	1	0.230	0.789	0.376
SEX	0.230	1	0.230	0.789	0.376
Explained	0.230	1	0.230	0.789	0.376
Residual	37.615	129	0.292		
Total	37.845	130	0.291		

#### Analysis of the Effect of Level of Education

The distribution of subjects among the established level of education groupings was discussed at the beginning

Table 17

Development of Senses by Sex  
(N = 131)

Source of variation	Sum of Squares	df	Mean Square	F	Signif. of F
Main effects	0.046	1	0.046	0.133	0.716
SEX	0.046	1	0.046	0.133	0.716
Explained	0.046	1	0.046	0.133	0.716
Residual	44.213	129	0.343		
Total	44.258	130	0.340		

Table 18

Use of Other Senses by Sex  
(N = 131)

Source of variation	Sum of Squares	df	Mean Square	F	Signif. of F
Main effects	0.002	1	0.002	0.005	0.941
SEX	0.002	1	0.002	0.005	0.941
Explained	0.002	1	0.002	0.005	0.941
Residual	45.185	129	0.350		
Total	45.187	130	0.348		

of this chapter. Analysis of Variance was performed to determine what significant attitudinal differences exist among the specific educational levels. The group followed traditional educational levels: (1) no schooling, (2) 1-8 years, elementary, (3) 9-12, high school, (4) 13-16 years,

college, (5) 17+, graduate school or continuing education. When no significant differences were found, the respondents were re-grouped into three categories: 1-12 years, 13-16 years, and 17+ years. Again, analysis of variance revealed no significant differences in attitudes among the three groups.

As with the other socio-demographic variables of specific interest, regression analysis was run on level of education. No significant correlations were found to exist.

#### Analysis of Interest in Radio Courses as Related to the Four Factors

As discussed previously, 51.88% of the subjects responded that they would be interested in both credit and non-credit radio courses. With two groups established, those interested and those not interested, analysis of variance was performed. Again, it was found that no significant differences exist among the two distinct groups. Tables 19, 20, 21, and 22 are offered to show the statistical results. The reader may note that the significance of F in Table 21 is closer to significance (at the .05 level) than any other result. It is possible to project that interest in radio courses, an alternative delivery system, may predict a positive attitude toward development

Table 19

Attitudes toward Learning by Interest in Radio Courses  
(N = 119, 13 cases missing)

Source of variation	Sum of Squares	df	Mean Square	F	Signif. of F
Main effects	0.245	1	0.245	0.412	0.522
RADIO COURSES	0.245	1	0.245	0.412	0.522
Explained	0.245	1	0.245	0.412	0.522
Residual	70.275	118	0.596		
Total	70.520	119	0.593		

Table 20

Acceptance by Others by Interest in Radio Courses  
(N = 119, 13 cases missing)

Source of variation	Sum of Squares	df	Mean Square	F	Signif. of F
Main effects	0.182	1	0.182	0.605	0.438
RADIO COURSES	0.182	1	0.182	0.605	0.438
Explained	0.182	1	0.182	0.605	0.438
Residual	35.553	118	0.301		
Total	35.735	119	0.300		

of other senses, hearing, and touch. In the matter of importance, hearing and sense of touch are the alternative senses. Like radio, touch and hearing are existing modalities used automatically, yet not developed or maximized to full potential. With the loss of sight, one draws upon

Table 21

Development of Other Senses by Interest in Radio Courses  
(N = 119, 13 cases missing)

Source of variation	Sum of Squares	df	Mean Square	F	Signif. of F
Main effects	1.039	1	1.039	3.066	0.083
RADIO COURSES	1.039	1	1.039	3.066	0.083
Explained	1.039	1	1.039	3.066	0.083
Residual	39.991	118	0.339		
Total	41.030	119	0.345		

Table 22

Use of Other Senses by Interest in Radio Courses  
(N = 119, 13 cases missing)

Source of variation	Sum of Squares	df	Mean Square	F	Signif. of F
Main effects	0.364	1	0.364	1.241	0.268
RADIO COURSES	0.364	1	0.364	1.241	0.268
Explained	0.364	1	0.364	1.241	0.268
Residual	34.641	118	0.294		
Total	35.005	119	0.294		

what is readily available to compensate for the loss.

Question 16 in the survey portion of the instrument reads,

If NTRB offered both credit and non-credit courses over the air, designed with the print-handicapped person in mind, would you be interested in that type of programming?

It would be of interest to compare responses to that question and a similar question, the only difference being the deletion of the key phrase dealing with accommodation to specific need.

Analysis of the Effect of Number of Books  
or Magazines Read on the Four Factors

Analysis of variance was used to determine the differential effect of amount read on attitudes. For purposes of analysis, distinct groups were formed based upon number of books and/or magazines read per month. The groups were as follows: 0, 1-5, 6-10, 11-15, 16-20, 21-25, 26-30, 31-35.

In regard to attitudes toward learning, there were no significant differences among the distinct groups of number of books and/or magazines read per month. As to the respondents' perceptions about their acceptance by others and social inclusion, again no significant differences were found among groups. Likewise, concerning Factor 3 (development of other senses) and Factor 4 (use of other senses), the number of books and/or magazines read per month had no significant bearing on the respondents' attitudes.

It does seem prudent to include a series of analysis of variance tables considering the findings. However, Table 23 lists each factor and the F-probability specific to amount read.

Table 23

F-probability Generated by ANOVA on Factors by Books

Factor	F-probability
Factor 1 - Attitudes toward learning	.8415
Factor 2 - Acceptance/Inclusion	.4515
Factor 3 - Development of Senses	.1927
Factor 4 - Use of Senses	.0284*

\*This result is spurious. At the .05 level of significance one out of 20 is expected to be significant by chance. Result does not make sense.

Regression techniques were applied to determine what correlations exist between number of books read and the individual factors. At the .05 level of significance no significant relationships were found.

Table 24 gives the means for the specific groups of number of books read. The table explains why the .0284 F-probability is thought to be spurious. It does not reason that there should be significant differences between those who read 16 to 20 books/magazines per month and those who either read from 11-15 or 21-25.

Table 24

Means for Groups of Number of Books Read

Group	4	2	7	1	6	3	5
Number	16-20	6-10	31-35	1-5	26-30	11-15	21-25
Mean	-.3440	-.1316	.0850	.0029	.0000	.1411	.4425

Level of Education as a Predictor of Number  
of Books/Magazines Read

Further analysis was done to determine the effect of level of education on amount read per month. Although no significant differences were found among the groups at the .05 level of significance, analysis of variance revealed number of books/magazines read per month increased as level of education increased. Table 25 shows that finding.

Table 25

Mean Number of Books by Level of Education

Level of Education (in years)	No school	1-8	9-12	13-16	17 or more
Mean Number of Books/Magazines Read per Month	3.8333	4.9063	6.1923	7.7241	8.2143



Some of the data gathered in the larger study of which this dissertation is a part is specifically relevant to this finding. Questions 25 to 35 (supplementary data, pp. 128-130) are of particular interest. It was found that 113 of the respondents were able to read print at some point in their lives. Thirty-seven of the respondents read Braille, 92 respondents have someone living with them who can read to them; 82 stated that someone does read to them. Ninety-four of the respondents reported that they have received reading material from the Library of Congress, 78 of whom were receiving material at the time of the study.

## CHAPTER V

### FINDINGS, SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The sample for this investigation was composed of 133 print-handicapped adults who are listeners of North Texas Radio Reading Service. The findings of the investigation are here reported as answers to the seven major research questions on which this study focussed.

1. What relationship exists between specific socio-demographic characteristics and respondents' attitudes toward learning?

The specific socio-demographic characteristics with which this study was concerned are: age, sex, level of education, interest in radio courses, and number of books/magazines read per month. Factor scores were generated through factor analysis of the attitude portion of the instrument. Regression analysis and analysis of variance revealed that no significant relationships exist between the socio-demographic variables and attitudes toward learning.

2. What relationship exists between specific socio-demographic characteristics and subject responses to factors that may affect attitudes toward learning?

Analysis of variance and regression analysis indicate no significant relationship between the socio-demographic variables and either "acceptance by others" or "development of other senses." Age, sex, level of education, interest in radio courses, and number of books and magazines read are not predictors of factors that may affect attitudes toward learning.

3. Does the attitude portion of the instrument measure those factors as conceptually designed?

Although thirteen of the attitude variables factored into groups as conceptually designed, fourteen of the items did not. Furthermore, factor analysis revealed four factors rather than the five initially conceptualized. The items concerning facilities and materials did not factor into a distinct group nor meet the .4 or greater factor loading criterion for acceptance.

The items conceptually designated as "attitudes toward learning" could be more clearly defined as "indications of a desire to learn." Items A9, A18, and A27 deal with "desire to learn." Originally, it was thought that Item A7, which deals with comfort in going to school, would have factored with the "facilities and materials" conceptual grouping.

Items A8 (devote more time to learning new skills), A10 (staying abreast of current wants), A11 (handicap no limitation to learning), and A20 (lack of desire to learn) did not factor into the factor "attitudes toward learning."

Those items designed to be grouped under "Impact of being print handicapped" did not factor accordingly.

Factor analysis revealed that Items A4 (comfort in asking for help), and A5 (people are willing to help) did not factor into "Acceptance by others." It was also found that two of the items grouped under "Use of other senses for learning" were superfluous. It was interesting to find that factor analysis revealed that Item A14 factors by itself. This factor is defined as "Development of other senses."

4. How might the 27 items be reduced in numbers while retaining optimum effectiveness of the instrument?

From the discussion in response to the third major research question, it was stated that fourteen of the 27 attitude items did not factor into distinct groups. These items should thus be eliminated from the instrument. Those items could be examined for possible reasons for the findings.

Complex wording, length of statement, or ordering of items could be sources of irrelevance.

5. What specific factors, including interest in educational radio courses and number of books and/or magazines read per month significantly predict respondents' attitudes toward learning?

Neither interest in radio courses nor number of books/magazines read per month was found to predict attitudes toward learning.

6. Does level of education influence respondent attitudes toward learning?

Level of education was not found to influence significantly the attitudes toward learning.

Although not statistically significant at the .05 level, level of education and number of books/magazines read per month graduate respectively to each other. The higher the level of education the greater the number of books read per month (Table 25). It is of interest that the average number of books/magazines read per month by those with no schooling is 3.83. The mean amount read is equally worthy of attention for each level of education.

It should be noted that "read" to a print-handicapped person means "listens to" on record or cassette tape or to read in Braille. The point

here is the value of knowledge or pleasure received from the "reading," not the modality or sense used to accomplish the task.

7. What are respondent attitudes toward outside support systems?

The weighted mean for Factor 7: Acceptance by others is 2.93. That figure falls within the middle of the Likert scale. The mean responses do not indicate either a positive or a negative attitude toward acceptance by others. Since only six of the respondents answered "undecided" it can be assumed that the attitudes are somewhat evenly divided, positively and negatively. Further examination is warranted, using other socio-demographic characteristics as independent variables.

### Summary

This study revealed that the specific socio-demographic characteristics are not predictors of attitude. This was determined by applying analysis of variance and regression analysis to the independent variables and the factor scores for individual factors.

Factor analysis revealed that there are in fact four factors in the attitude component of the instrument. Initially, the conceptual design of the instrument sought to

look at three major areas: impact of handicap, attitudes toward learning, and attitudes of print-handicapped adults toward outside support systems. These three areas were general in concept. Attitudes of the print handicapped toward learning involved questions of facilities and use and development of other senses for learning. Factor analysis grouped specific variables into four factors: attitudes toward learning, acceptance by others/social inclusion, development of other senses, and use of other senses/modalities for learning. Age, sex, level of education, interest in radio courses, and number of books/magazines read per month were the socio-demographic variables of specific interest as predictors of attitude. With the exception of one spurious result (Chapter IV, p. 86), analysis of variance revealed no significant differences in attitudes among the distinct groups. Grouping and regrouping of each set of data were done to detect any significant relationships. Still no significant differences were found. Regression analysis determined no significant correlation at the .05 level.

One of the major research questions dealt with the analysis of the instrument. Factor analysis determined which of the 27 attitude statements factored into conceptual groups. These factors have been discussed at length in Analysis of the Data. Only thirteen of the 27 variables factored into the four conceptual groupings. Therefore, analysis indicates

that the deletion of 14 items would refine the instrument.

### Conclusions

One of the major conclusions drawn from this study is that age, sex, level of education, interest in radio courses and amount read are not predictors of the attitudes of the sample print-handicapped adults. The larger study of which this study is a part deals with other socio-demographic characteristics. As suggested, other variables, such as severity or duration of handicap, may affect attitudes toward learning, but those variables dealt with here did not. This is significant unto itself in that by logic one would assume differently. One of the major points made in the rationale for this study is the error of assumption and its repercussions.

It was found that the respondents have positive attitudes toward development and use of other modalities. These findings cast light on the print-handicapped adults' flexibility. Although sensory loss forces one to compensate for the handicap it is still the print-handicapped individual who must engage in self learning projects. Development of one's sense of touch and hearing to accommodate visual impairment requires learning and re-learning. The process of using alternative modalities is forced by the need to continue to function in a visually oriented world. The



print-handicapped adult may not acknowledge his adaptation as learning. However, it seems that the adult educator could use the positive attitudes toward developing and learning to use other senses and modalities as a point at which to begin, highlighting the print-handicapped adult's ability to learn. One's compensation for sensory loss is proof that one can learn. From the adult educator's standpoint, it is an approach that says, "Sure, you were forced to learn; but you did it."

This study shows that the respondents feel positively about the radio being their best source of information. Touch was indicated as the sense for learning. How then, in a visually oriented educational system, can the print-handicapped adult realize his full potential for learning? Almost 52% (51.88%) of the subjects indicated they would be interested in both credit and non-credit educational radio courses, specific to the needs of the print-handicapped adult. The sample for this study was randomly selected and is representative of the total listening audience of a radio reading service. These findings are specifically generalizable to the North Texas Radio Reading Service listening population. It would seem that this expressed interest in educational radio courses would justify the allotment of air time.

Some conclusions were drawn concerning the inaccessibility of subjects. Many of the subjects "not available by phone" could fall into other categories. They may be deceased, may have moved, or even have unlisted telephone numbers. It was found that those "too ill to talk" had in some cases been admitted to hospitals or nursing homes. This information was secured by the family of the subject in most instances. It could be assumed that those not accessible by phone may be living in medical facilities.

The 217 inaccessible listeners represent 62% of those randomly selected. The total number of those "not accessible by phone" is 137. This is approximately 39.1% of the 350 total. These figures raise questions pertinent to the location of 137 radio receivers. At \$60.00 cost per receiver, that means that approximately \$8,220.00 worth of equipment is assigned to persons not reachable by telephone. Had the receivers been returned to NTRB, the applications and computer listing of those "listeners" would have been pulled.

The inability to reach so many of the randomly selected subjects causes one to wonder about the accuracy of records and statistics on print-handicapped persons in general. The NTRB master list is periodically cross-checked with other agencies for the print handicapped.

### Recommendations

It was necessary to design an instrument specific to the needs of this study. The systematic and organized investigation of the attitudes and interests of print-handicapped adults has little history. It is apparent that there exists a need for continued research and unique and reliable instrumentation.

In regard to radio reading services, it is recommended that similar studies be done in order to better understand those to be served. Organized, statistically sound, third-party research is necessary. Mailed, printed questionnaires to those who cannot read them and informal telephone surveys done by volunteers, rather than trained interviewers, do not provide reliable data.

It is suggested that further investigation examine other personal characteristics as predictors of attitude. This study is just a beginning in the science of investigating this population. The results of this study are not earth shattering. However, as should be the process of all research, this study was a learning experience.

Based upon the findings of this study, it would seem that the allotment of air time for educational radio courses, specific to the needs of the print handicapped, is justifiable. It is suggested that radio reading services look at

their potential as alternative educational delivery systems for those whom they already serve. It is recommended that the concept of multi-sensory, multi-media radio courses be implemented and that they be done well.

## APPENDICES

APPENDIX A  
APPLICATION FOR NTRB RADIO RECEIVER

NTRB

## NORTH TEXAS RADIO READING SERVICE, INC.

3001 BOOKHOUT - DALLAS, TEXAS 75201 - 742-9705

LISTENER APPLICATION FORM

MISS

MR.

MRS.

MS.

LAST NAME (PLEASE PRINT) FIRST MIDDLE

STREET OR RURAL ROUTE CITY ZIP

COUNTY

AREA CODE/TELEPHONE NO.

AGE GROUP:

OCCUPATION:

MY INTERESTS ARE:

UNDER 18

18-30

31-45

46-60

OVER 60

EMPLOYERS NAME:

WHILE THERE IS NO REQUIRED FEE FOR THE USE  
OF A RADIO RECEIVER, OUR COST OF BRINGING  
THIS SERVICE TO YOU AVERAGES ABOUT \$26  
PER SET, PER YEAR

1. I WILL CONTRIBUTE TO THE BEST OF  
MY ABILITY.

2. I WISH A RADIO, BUT I CANNOT  
CONTRIBUTE AT THIS TIME.

SIGNATURE OF APPLICANT

PERSON SIGNING FOR APPLICANT

DATE:

NTRB  
3001 BOOKHOUT ST.  
DALLAS TX. 75201

FREE MATTER FOR THE  
BLIND OR OTHER  
PRINT HANDICAPPED

NTRB

3001 Bookhout Street

Dallas, Texas 75201

APPENDIX B  
THE SURVEY INSTRUMENT



I.D. #S/A Code

Telephone \_\_\_\_\_

Address Correction: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Age \_\_\_\_\_

Marital status: 1 married 2 single 3 divorced 4 widowed

What is your racial origin?

1 Caucasian 2 Black 3 Mexican Amer. 4 Oriental 5 Other (Specify)

How many years of school did you complete?

Elementary 1 2 3 4 5 6 7 8 grade/yearsHigh school 9 10 11 12 College 13 14 15 16 17 18 19 20  
F S J S -(graduate)-

(If 4 or more years of college:)

Did you receive a degree? 1 Yes 2 NoDegree earned: 1 BA 2 BS 3 Masters 4 Ed.D. 5 Ph.D. 6 Other

Field of study: \_\_\_\_\_

Date of call Time Result Comments\_\_\_\_\_  
\_\_\_\_\_

This is to certify that I have fully informed and explained to the above named person a description of the listed elements of informed consent.

Interviewer's Signature

- |                                                                                                                                                       |                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 1. My handicap has been the most influential factor in the life style I now have.                                                                     | SA    A    U    D    SD |
| 2. My handicap does not stop me from doing what I want to do with my life.                                                                            | SA    A    U    D    SD |
| 3. My handicap caused me to learn many new skills.                                                                                                    | SA    A    U    D    SD |
| 4. I feel comfortable in asking for help for favors to accommodate my handicap.                                                                       | SA    A    U    D    SD |
| 5. I generally find people are willing to help me when I ask for help.                                                                                | SA    A    U    D    SD |
| 6. Handicapped adults do not have as many friends as non-handicapped.                                                                                 | SA    A    U    D    SD |
| 7. If I wanted to learn something I would feel uncomfortable in going to school.                                                                      | SA    A    U    D    SD |
| 8. Print-handicapped adults should devote more time to learning new skills.                                                                           | SA    A    U    D    SD |
| 9. When I have to try over and over to accomplish a task I find I have less desire to try anything new.                                               | SA    A    U    D    SD |
| 10. Handicapped adults need to stay abreast of local, national, and world current events.                                                             | SA    A    U    D    SD |
| 11. Being print handicapped is no real limitation to learning.                                                                                        | SA    A    U    D    SD |
| 12. Generally, information and knowledge institutions, such as schools and colleges, do not provide facilities to enable handicapped people to learn. | SA    A    U    D    SD |
| 13. As a general rule print handicapped people do not need to learn as much as non-handicapped people.                                                | SA    A    U    D    SD |

- |     |                                                                                                                                                      |    |   |   |   |    |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------|----|---|---|---|----|
| 14. | Print-handicapped adults should work harder to develop their sense of touch and their hearing.                                                       | SA | A | U | D | SD |
| 15. | Print-handicapped adults find that touch is the best sense for learning.                                                                             | SA | A | U | D | SD |
| 16. | Print-handicapped adults find that hearing is the best sense for learning.                                                                           | SA | A | U | D | SD |
| 17. | All print-handicapped adults should learn to read Braille.                                                                                           | SA | A | U | D | SD |
| 18. | Handicapped adults generally lose their desire to learn new things earlier in age than non-handicapped people.                                       | SA | A | U | D | SD |
| 19. | The radio is generally the best source of information about what is going on in the world.                                                           | SA | A | U | D | SD |
| 20. | One of the most significant problems to learning for the print-handicapped person is simply the lack of desire to learn.                             | SA | A | U | D | SD |
| 21. | Conventional facilities and materials are simply not sufficient to enable the print-handicapped person to learn.                                     | SA | A | U | D | SD |
| 22. | The print-handicapped person needs special programs, materials and facilities in order for them to learn.                                            | SA | A | U | D | SD |
| 23. | Print-handicapped adults have a difficult time in succeeding in business or profession because there is little opportunity for continuing education. | SA | A | U | D | SD |
| 24. | Print-handicapped adults are often bored because their entertainment is limited.                                                                     | SA | A | U | D | SD |

25. Print handicapped or not, there is simply an age when it makes no sense to go on learning. SA    A    U    D    SD
26. Handicapped adults are seldom invited to participate in the mainstream of neighborhood or community activity. SA    A    U    D    SD
27. The problems associated with learning new things, even fun things, are greater than the gain from the new ability. SA    A    U    D    SD

Survey Instrument

1. How long have you been a listener of a radio reading service?  $\frac{\quad}{1}$   $\frac{\quad}{2}$  months
2. How long have you had your NTRB receiver?  $\frac{\quad}{1}$   $\frac{\quad}{2}$  months
3. Is your set working well?  $\frac{\quad}{1}$  Yes  $\frac{\quad}{2}$  No
4. Do you get good reception?  $\frac{\quad}{1}$  Yes  $\frac{\quad}{2}$  No
5. Do you use an outside antenna?  $\frac{\quad}{1}$  Yes  $\frac{\quad}{2}$  No
6. How many hours a day do you listen?  $\frac{\quad}{1}$   $\frac{\quad}{2}$  hours
7. What are your five favorite programs on NTRB?  
(Refer to and record answers on attached List of Shows)
8. Would you tell me why these shows appeal to you?  
 $\frac{\quad}{1}$ entertaining     $\frac{\quad}{2}$ educational     $\frac{\quad}{3}$ informative     $\frac{\quad}{4}$ personal  
 $\frac{\quad}{5}$ sense of involvement     $\frac{\quad}{6}$ keeps me in touch with outside world     $\frac{\quad}{7}$ other  
 $\frac{\quad}{7}$ interest
9. Which shows do you not care for?  
(Refer to and record answers on attached List of Shows)
10. What hours of the day do you listen to NTRB?  
 $\frac{\quad}{1}$ afternoon (3:45-6:00)     $\frac{\quad}{2}$ early evening (6:00-8:00)     $\frac{\quad}{3}$ late evening (8:00-11:00)  
 $\frac{\quad}{4}$ irregular listening

11. What days of the week do you listen?

1 Monday    2 Tuesday    3 Wednesday    4 Thursday

5 Friday    6 Saturday    7 Sunday

12. Why do you listen more on these days?

1 alone at home    4 no work commitment

2 less busy    5 preferred programming

3 boredom    6 other \_\_\_\_\_  
specify

13. Are you satisfied with the present programming?

   Yes       No

If "No" to question #13 ask #14

If "Yes" to question #13 skip #14 and go to #15

14. If you were in charge of programming for NTRB, what changes would you make?

15. Do you have any suggestions as to how the station could better meet your needs.

16. If NTRB offered both credit and non-credit courses over the air, designed with the print-handicapped person in mind, would you be interested in that type of programming?    1 Yes    2 No

- 8 Fatigue                      12 Partially Sighted

24. What is the underlying reason for your print handicap?

     Diabetes  
1

     Glaucoma  
6

     Retinitis pigmentosa  
2

     Trauma  
7

     Muscular degeneration  
3

     Cancer  
8

     Multiple Sclerosis  
4

     Stroke  
9

     Retinal detachment  
5

     Other \_\_\_\_\_  
10

25. Were you ever able to read print?      Yes      No  
1 2

26. At what age did you become print handicapped?

          yrs of age.  
1 2

27. Do you read Braille?      Yes      No  
1 2

28. When someone is corresponding with you, which of the following forms do you prefer?      Regular type  
1

     Large of Primary type      Braille      Cassette  
2 3 4

29. Is there someone living with you who can read to you?

     Yes      No  
1 2

30. Does he (or she) read to you?      Yes      No  
1 2

31. Have you ever received reading material from the Library of Congress?      Yes      No  
1 2

32. Are you receiving any now?      Yes      No  
1 2



33. How many books and/or magazines do you read a month? 1 2
34. Are you aware that Dallas Taping for the Blind will record textbooks and work related material for you free of charge? 1 Yes 2 No
35. Have you ever received this service? 1 Yes 2 No
36. When you need to go somewhere, is there someone on whom you can depend for transportation? 1 Yes 2 No
37. Have you had mobility training? 1 Yes 2 No
38. What type of training? \_\_\_\_\_
39. Have you had training in the basic techniques of using your other senses? 1 Yes 2 No
40. Do you have visual imagery? 1 Yes 2 No
41. Are you currently working? 1 Yes 2 No  
(if no to #42)
42. Would you prefer to be working: 1 Yes 2 No
43. Do you know anyone who would like an NTRB radio receiver?

Name \_\_\_\_\_

Address \_\_\_\_\_ Telephone \_\_\_\_\_

APPENDIX D  
SUPPLEMENTARY DATA

Table 26

## Factor score coefficients

Item	Factor 1	Factor 2	Factor 3	Factor 4
A1	0.04024	0.09375	-0.04136	-0.11365
A2	-0.14978	0.16596	-0.04417	0.15366
A3	-0.08996	0.10126	0.01892	-0.02712
A4	-0.06447	0.05720	-0.00958	-0.03813
A5	-0.01595	0.04498	-0.08735	-0.09280
A6	-0.00690	-0.08733	0.25780	-0.13739
A7	0.17770	0.00898	0.00169	-0.14419
A8	-0.03851	0.03360	0.01064	-0.17047
A9	0.32375	-0.04708	-0.01834	-0.04875
A10	-0.00941	0.01099	-0.07439	-0.15151
A11	-0.00845	0.04670	-0.03934	0.01235
A12	-0.06085	-0.01713	0.19625	0.06701
A13	0.08455	0.02343	0.05282	0.12950
A14	0.00315	0.06145	-0.03173	-0.17599
A15	-0.02616	0.26539	-0.01964	-0.01156
A16	0.01037	-0.00002	0.00229	-0.06088
A17	-0.10272	0.21501	0.04820	-0.11733
A18	0.23813	0.20362	0.02179	0.03081
A19	-0.00633	0.18371	0.02530	-0.06284
A20	0.03540	0.16770	-0.05720	-0.00298
A21	-0.01126	0.02344	0.12001	-0.12881
A22	-0.02685	0.04303	0.08757	-0.22382
A23	0.01140	0.07831	0.19929	0.02959
A24	0.03022	0.06798	0.09348	-0.02243
A25	0.08413	0.13330	0.03097	0.17400
A26	-0.00695	-0.04659	0.21436	0.09702
A27	0.10740	0.07827	0.02000	0.07301

Table 27

Mean Responses to the Attitude Variables

Item		Mean Response	Standard Deviation
A1	Handicap most influential factor in life	2.3256	1.1670
A2	Handicap does not stop me	2.5504	1.3048
A3	Handicap caused me to learn new skills	2.7597	1.1165
A4	Comfortable in asking for help	2.6589	1.0861
A5	People are willing to help me	1.9922	0.7552
A6	Handicapped have fewer friends	3.0930	1.2528
A7	Uncomfortable going to school	3.2171	1.0894
A8	Handicapped should devote more time to learning	2.0853	0.6254
A9	Repeated trying diminishes desire to learn	3.3953	1.1348
A10	Handicapped need to stay abreast of events	1.5349	0.6130
A11	Handicap no limitation to learning	2.4961	1.1668
A12	Facilities for print handicapped to learn <u>not</u> provided	2.9147	0.9604
A13	Handicapped do not need to learn as much as non-handicapped	4.0310	0.8921
A14	Work to develop touch and hearing	2.0310	0.6242
A15	Touch is best sense for learning	2.3101	0.9747
A16	Hearing is best sense for learning	2.1938	0.9769
A17	Print-handicapped should learn Braille	2.9070	1.1071

Table 27 (continued).

Item		Mean Response	Standard Deviation
A18	Handicapped lose desire to learn earlier	3.1008	1.0742
A19	Radio is best source of information	1.9535	0.7892
A20	Most significant problem is lack of desire to learn	2.7209	1.1038
A21	Conventional materials and facilities not sufficient	2.4264	0.9419
A22	Print-handicapped need special programs	2.000	0.6495
A23	Have difficulty in succeeding in business/little opportunity for continuing education	2.8527	1.1047
A24	Bored because of lack of entertainment	2.8527	1.1931
A25	An age when it makes no sense to go on learning	3.9612	1.0031
A26	Handicapped seldom invited to participate	2.9225	1.1566
A27	Problems with learning greater than new ability	3.2713	1.1575

Table 28

## Communalities for the Attitude Variables

Variable	Communality
A1	0.27427
A2	0.38710
A3	0.47484
A4	0.32945
A5	0.33937
*A6	0.61211
*A7	0.67663
A8	0.43878
*A9	0.64552
A10	0.35415
A11	0.22391
A12	0.47900
*A13	0.39038
*A14	0.29775
*A15	0.29947
A16	0.20341
A17	0.50396
*A18	0.59752
*A19	0.38900
A20	0.54984
A21	0.35280
A22	0.49467
*A23	0.62186
*A24	0.52258
*A25	0.43888
*A26	0.46512
*A27	0.46001

\*These variables had factor loadings of .4 or greater and were grouped in one of the four factors.

Table 29

## Results of the Programming/Socio-Demographic

## Component of the Instrument

(Mean responses and/or frequencies given  
where applicable; N = 133)

Item	Question	Mean Resp.	Abso. Freq.	Rel. Freq. %
Q1	How long have you been a listener of a radio reading service?	30.721 mo.		
Q2	How long have you had your NTRB receiver?	29.859 mo.		
Q3	Is your set working well?			
	Yes		117	88.0
	No		10	7.5
	No response		6	4.5
Q4	Do you get good reception?			
	Yes		119	89.5
	No		8	6.0
	No response		6	4.5
Q5	Do you use an outside antenna?			
	Yes		5	3.8
	No		122	91.7
	No response		6	4.5
Q6	How many hours a day do you listen?	2.47 hr		
Q7	What are your five favorite programs?			
	Ten favorite programs:			
	Newspaper of the Air		91	
	Cover to Cover		30	
	Julie Bennell's Kitchen Magic		24	
	Be Our Guest		19	
	Shoppers Showcase		18	

Item	Question	Mean Resp.	Abso. Freq.	Rel. Freq. %
	Sports Time		18	
	Sounds and Visions		15	
	Listening Post		14	
	Arm chair Traveler		14	
	Ask the Doctor		14	
Q8	Why do these shows appeal to you? (Respondents could respond to all or none)			
	Entertaining		61	45.9
	Educational		30	22.6
	Informative		85	63.9
	Personal Interest		26	19.5
	Sense of involvement		16	12.0
	Keeps me in touch with outside world		52	39.1
	Other		3	2.3
Q9	Which shows do you not care for??			
	Kitchen Magic		6	
	Sports Time		5	
	Cover to Cover		4	
	Obituary notices		4	
	That's Entertainment		4	
	(Note how low these frequencies are. The five responses to "Sports Time" were all female responses. The six responses to "Kitchen Magic" were all male responses. <u>53</u> of the subjects stated that there were <u>no shows</u> that <u>they did not care for.</u> Some shows re- ceived 1 or 2 negative responses. Those figures are not sufficiently significant to warrant reporting.)			
Q10	What hours of the day do you listen?			
	Afternoon (3:45-6:00)		30	22.6
	Early evening (6:00-8:00)		15	11.3
	Late evening (8:00-11:00)		15	11.3
	Irregular listening		44	33.1



Item	Question	Mean Resp.	Abso. Freq.	Rel. Freq. %
	Afternoon and late evening		4	3.0
	Afternoon, early and late eve		25	18.8
Q11	What days of the week do you listen?			
	Monday		103	77.4
	Tuesday		102	76.7
	Wednesday		100	75.2
	Thursday		101	75.9
	Friday		101	75.9
	Saturday		96	72.2
	Sunday		87	65.4
Q12	Why do you listen more on these days? (Subjects could respond to more than one)			
	Alone at home		17	12.8
	Less busy		40	30.1
	Boredom		12	9.0
	No work commitment/free time		15	11.3
	Preferred programming		31	23.3
	Other activities on weekends		2	1.5
	Daily newspaper		3	2.3
	Depends on how he/she feels		2	1.5
	When it doesn't bother anyone		2	1.5
	Hunting information		1	.8
	Enjoy listening		2	1.5
	Tired, stop and rest		1	.8
	Unaware of programs other than news		2	1.5
	If nothing on T.V. of interest		1	.8
	Church on Sundays		1	.8
	Doesn't listen		1	.8
	Access to station		1	.8
Q13	Are you satisfied with the present programming?			
	Yes		103	77.4
	No		18	13.5
	No response		12	9.0

Item	Question	Mean Resp.	Abso. Freq.	Rel. Freq. %
Q14	If you were in charge of NTRB programming what changes would you make?			
	Not satisfied with programming, but no suggestion.		4	3.0
	Portions not long enough		1	.8
	Rerun "Opportunity" 76-77		2	1.5
	Delete Christian Science Monitor		1	.8
	Call in shows regarding direct service to the handicapped		1	.8
	Increase communication among immediate blind community/network of communication		1	.8
	Question newsmakers on air		1	.8
	Programming earlier in the day		10	7.6
	Read newspaper headlines		3	2.3
	Less music		3	2.3
	Rerun shows in the morning		3	2.3
	More entertainment/movie reviews		6	4.5
	Music interspersed with programs		3	2.3
	No dirty books		1	.8
	Business resume of Stock Exchange and financial page		3	2.3
	Less sports		1	.8
	More hard news		2	1.5
	Air news from 3:00-5:00 and 7:00-9:00		2	1.5
	Programs other than news from 3:00-5:00		1	.8
	Program to younger, more educated audience		4	3.0
	Braille schedule of shows		2	1.5
Q15	Do you have any suggestions as to how the station could better meet your needs?			
	No suggestions		7	5.3
	Broadcast later hours on weekends		2	1.5
	Read T.V. schedule daily		1	.8
	Early afternoon programming		1	.8

Item	Question	Mean Resp.	Abso. Freq.	Rel. Freq. %
	Read <u>The Big Bands</u> by George Sims		1	.8
	Information about direct services to the handicapped		3	2.3
	Prefer to have "Kerry's Corner" on Thursday so I can arrange trip to the store		2	1.5
	Leave out politics		1	.8
	Fewer editorials		3	2.3
	Information about people who read (the volunteers)		2	.8
	*More helpful household hints and home maintenance for handicapped		2	1.5
	*Courses in child care		2	1.5
	*Courses in elementary school education		2	1.5
	Preferred old time slots for shows		1	.8
	*History, philosophy, politics		5	3.8
	Anything that informs		2	1.5
	More news, fewer columns like Ann Landers		7	5.3
	More sports		2	1.5
	English accents difficult to understand		2	1.5
	*Educational courses - vocabulary, literature, reative writing		6	4.5
	Increase signal range		1	.8
	*Book reviews/literature, courses		1	.8
	*Bible study/religion		6	4.5
	*Arts, crafts; how to do		2	1.5
	*More gardening		1	.8
	Updated schedule/program guide		1	.8
	Consumer information		2	1.5
	Underground shopper		2	1.5
	*These listener suggestions as to how NTRB might better serve their needs all relate to learning. These suggestions could be the basis for both credit and non-credit adult education courses. The absolute frequency for these items equals 27. The relative frequency equals <u>20.3%</u>			

Item	Question	Mean Resp.	Abso. Freq.	Rel. Freq. %
Q16	If NTRB offered both credit and non credit courses over the air, designed with the print handicapped person in mind, would you be interested in that type of programming? (See pp. 66, 82-84)			
	Yes		69	51.88
	No		58	43.6
	No response		6	4.52
Q17	Would you listen to NTRB from 11:00 to 12:00 at night if the station expanded its programming?			
	Yes		51	38.3
	No		74	55.6
	No response		8	6.0
Q18	Do you find the NTRB Program guide helpful?			
	Yes		55	41.4
	No		28	21.1
	Unfamiliar		39	29.3
	No response		11	8.3
Q19	Are you totally blind?			
	Yes		51	38.3
	No		76	57.1
	No response		6	4.5
Q20	Do you have any light perception?			
	Yes		28	21.1
	No		23	17.4
	No response		82	61.7
Q21	In what way are you print handicapped?			
	Paralysis		1	.8
	Amputation		2	1.5
	Cardio-vascular disease		3	2.3
	Petrochemical allergy		1	.8
	Never learned to read		3	2.3

Item	Question	Mean Resp.	Abso. Freq.	Rel. Freq. %
	Partially sighted		52	39.1
	Congenital (present at birth)		2	1.5
	Premature birth		1	.8
	Bedridden		1	.8
	Kidney failure		1	.8
	Polio		1	.8
	Multiple handicaps		1	.8
	Muscular dystrophy		1	.8
	Quadruplegic		1	.8
Q22	Can you see anything? (Asked only if person replied yes (totally blind) to Q.19)			
	Yes		66	49.6
	No		27	20.3
	No response		40	30.1
Q23	Please describe what you cansee			
	Light only		26	19.5
	Color		1	.8
	Shadows		3	2.3
	Shapes		3	2.3
	Color, shadows, shapes		29	21.8
	Shadows, shapes only		7	5.3
	Shapes or shadows and peripheral vision		2	1.5
	Peripheral vision		2	1.5
	Can read large print for short periods of time		1	.8
	Color and shapes		2	1.5
	Not blind at all		1	.8
	Color and shadows		2	1.5
Q24	What is the underlying reason for your print handicap? (All combinations listed separately. The purpose was for clarity. Many reasons could possibly be grouped at a later date.)			
	Diabetes		10	7.5
	Retinitis pigmentosa		8	6.0

Item	Question	Mean Resp.	Abso. Freq.	Rel. Freq. %
	Macular degeneration		5	3.8
	Multiple Sclerosis		1	.8
	Retinal detachment		1	.8
	Glaucoma		17	12.9
	Trauma		11	8.3
	Cancer		0	.0
	Stroke		3	2.3
	Cataracts		9	6.8
	Congenital cataracts		1	.8
	RLS (Retino-Lenticular Separation)		1	.8
	Gonorrhea ophthalmia neonatorum		1	.8
	Myopia		0	.0
	Optic nerve atrophy/deterioration		2	1.5
	Cataracts and glaucoma		7	5.2
	Amputation/broken nerve		1	.8
	Tuberculosis of the eye		1	.8
	Glaucoma and retinal deteriora- tion/massive hemorrhaging		3	2.3
	Lazy eye		1	.8
	Intra-ocular lens implant		1	.8
	Corneal dystrophy/corneal transplant		3	2.3
	Doctor uncertain, doesn't know		4	3.0
	Cardio-vascular disease		2	1.5
	Measles		1	.8
	Defective retina		7	5.2
	Doctor caused it/wrong operation performed		4	3.0
	Blood clot in brain		1	.8
	Diabetes and retinal degenration		2	1.5
	Diabetes and cataracts		2	1.5
	Diabetes/Retinitis pigmentosa/ Glaucoma/Thphoid fever		3	2.3
	Retinitis pigmentosa/Glaucoma		1	.8
	Polio/Muscular dystrophy		3	2.3
	Brain or optic nerve tumor		2	1.5
	Premature birth/birth defect		12	9.0
Q25	Were you ever able to read print?			
	Yes		113	85.0
	No		15	11.3
	No response		5	3.8

Item	Question	Mean Resp.	Abso. Freq.	Rel. Freq. %
Q26	At what age did you become print handicapped ?	40.21 years of age		
Q27	Do you read Braille?			
	Yes		37	27.8
	No		89	66.9
	No response		7	5.3
Q28	When someone is corresponding with you, which of the following forms do you prefer?			
	Regular type		27	20.3
	Large or primary type		18	13.5
	Braille		4	3.0
	Tape		69	51.9
	None		3	2.3
	No response		12	9.0
Q29	Is there someone living with you who can read to you?			
	Yes		92	69.2
	No		36	27.1
	No response		5	3.8
Q30	Does he/she read to you?			
	Yes		82	61.7
	No		37	27.8
	No response		14	10.5
Q31	Have you ever received reading material from the Library of Congress?			
	Yes		94	70.7
	No		28	21.1
	No response		11	8.3
Q32	Are you receiving any now?			
	Yes		78	58.6
	No		47	35.3
	No response		8	6.0

Item	Question	Mean Resp.	Abso. Freq.	Rel. Freq. %
Q33	How many books and/or magazines do you read a month? (See pp66, 85-87)	6.323 books and/or magazines		
Q34	Are you aware that Dallas Taping for the Blind will record textbooks and work related material for you free of charge?			
	Yes		59	44.4
	No		69	51.9
	No response		5	3.8
Q35	Have you ever received this service?			
	Yes		18	13.5
	No		111	83.5
	No response		4	3.0
Q36	When you need to go somewhere, is there someone on whom you can depend for transportation?			
	Yes		106	79.7
	No		25	18.8
	No response		2	1.5
Q37	Have you had mobility training?			
	Yes		49	36.8
	No		78	58.6
	No response		6	4.5
Q38	What type of training?			
	Cane		36	27.1
	School for the Blind		1	.8
	Seeing eye dog		1	.8
	Cane and seeing eye dog		1	.8
	State Commission for the Blind (cane, Braille, bus riding, wheel chair) or taught self		11	8.3
	No response		83	62.4



Item	Question	Mean Resp.	Abso. Freq.	Rel. Freq. %
Q39	Have you had training in the basic techniques of using your other senses?			
	Yes		35	26.3
	No		90	67.7
	No response		8	6.0
Q40	Do you have visual imagery?			
	Yes		107	80.5
	No		18	13.5
	No response		8	6.0
Q41	Are you currently working?			
	Yes		30	22.6
	No		96	72.2
	No response		7	5.3
Q42	Would you prefer to be working?			
	Yes		48	36.1
	No		50	37.6
	No response		35	26.3
Q43	Do you know of anyone who would like an NTRB radio receiver?			
	Yes		10	7.5
	No		114	85.7
	No response		9	6.8

APPENDIX D  
APPLICATION TO THE HUMAN SUBJECTS  
REVIEW COMMITTEE

TEXAS WOMAN'S UNIVERSITY  
Box 23717 TWU Station  
Denton, Texas 76204

## HUMAN SUBJECTS REVIEW COMMITTEE

Name of Investigator: Linda Louise Stiff Atwill Center: DentonAddress: 2525 Turtle Creek Blvd. #523 Date: 7-25-80  
Dallas, TX 75219Dear Ms AtwillYour study entitled Attitudes and Needs of Print-Handicapped Adults

has been reviewed by a committee of the Human Subjects Review Committee and it appears to meet our requirements in regard to protection of the individual's rights.

Please be reminded that both the University and the Department of Health, Education, and Welfare regulations typically require that signatures indicating informed consent be obtained from all human subjects in your studies. These are to be filed with the Human Subjects Review Committee. Any exception to this requirement is noted below. Furthermore, according to DHEW regulations, another review by the Committee is required if your project changes.

Any special provisions pertaining to your study are noted below:

       Add to informed consent form: No medical service or compensation is provided to subjects by the University as a result of injury from participation in research.

       Add to informed consent form: I UNDERSTAND THAT THE RETURN OF MY QUESTIONNAIRE CONSTITUTES MY INFORMED CONSENT TO ACT AS A SUBJECT IN THIS RESEARCH.

☒ The filing of signatures of subjects with the Human Subjects Review Committee is not required.

☒ Other: Send a copy of statement that will be read to subjects. before send before research begins.

       No special provisions apply.

cc: Graduate School  
Project Director  
Director of School or  
Chairman of Department

Sincerely,

*Marilyn Benson*  
Chairman, Human Subjects  
Review Committee

at \_\_\_\_\_

## APPLICATION TO HUMAN SUBJECTS REVIEW COMMITTEE

Subject: Research and Investigation Involving Humans

**RUSH**Statement by Program Director and Approved by Department Chairman

This abbreviated form is designed for describing proposed programs in which the investigators consider there will be justifiable minimal risk to human participants. If any member of the Human Subjects Review Committee should require additional information, the investigator will be so notified.

Five copies of this Statement and a specimen Statement of Informed Consent should be submitted at least two weeks before the planned starting date to the chairman or vice chairman on the appropriate campus.

Title of Study: Attitudes and Needs of Print-Handicapped AdultsProgram Director (s): Dr. John W. McFarland (Chairman), Dr. Ethlyn Davis,  
Dr. Margaret J. Ferrel, Dr. Tom Eaves, Dr. Howard StonGraduate Student: Linda Louise Stiff AtwillEstimated beginning date of study: July 15, 1980Estimated duration: until December, 1980Address where approval letter is to be sent: Linda Stiff Atwill2525 Turtle Creek Blvd. #523Dallas, Texas 75219

Is this research being conducted for the thesis or professional paper?  
Y    N X; for the dissertation? Y X N   .

1. Brief description of the study (use additional pages or attachments, if desired, and include the approximate number and ages of participants, and where they will be obtained).

Answer attached.

2. What are the potential risks to the human subjects involved in this research or investigation? "Risk" includes the possibility of public embarrassment and improper release of data. Even seemingly nonsignificant risks should be stated and the protective procedures described in #3 below.

Answer attached.

3. Outline the steps to be taken to protect the rights and welfare of the individuals involved.

Answer attached.

4. Outline the method for obtaining informed consent from the subjects or from the person legally responsible for the subjects. Attach documents, i.e., a specimen informed consent form. These may be properly executed through completion of either (a) the written description form, or (b) the oral description form. Specimen copies are available from departmental chairmen. Other forms which provide the same information may be acceptable. A written description of what is orally told to the subject must accompany the oral form in the application.

A sample of the actual consent form to be used is attached. It is self-explanatory in format and procedure.

Subjects will be told that they have been selected at random from the total NTRB listening audience. Prior to being contacted by telephone, special announcements have been made over the air telling the listeners that questionnaires have been mailed to 75% of the listeners and that the other 25% have been selected to be contacted by telephone by an independent researcher. It is, and will be at the beginning of the telephone interview, explained that the reason for this study is to explore and discover the needs and attitudes of those adults who are print-handicapped.

5. If the proposed study includes the administration of personality tests, inventories, or questionnaires, indicate how the subjects are given the opportunity to express their willingness to participate. If the subjects are less than the age of legal consent, or mentally incapacitated, indicate how consent of parents, guardians, other qualified representatives will be obtained.

Interviewers will read the consent statement as written. As is clear in the final question, which requires a yes or no answer, continuation of the telephone conversation is understood as the subject's consent and willingness to participate in the study.

All of the individuals in this study are print-handicapped. Some individuals are totally blind, others cannot sign their names due to such physical handicaps as strokes, amputation, neurological disorders, and debilitating disease. Furthermore, the subjects live within an 85 mile radius of Dallas. Getting individual signatures from each subject in neither financially feasible or possible.

Signature of  
Approval

John W. McFarland  
Program Director

Date 7-13-80

Signature of  
Approval

Amelia Still Howell  
Graduate Student

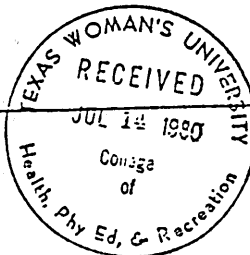
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Approval

[Signature]  
Dean, Department Head or Director

Date 7/14/80

Date received by Committee Chairman: \_\_\_\_\_



1. Brief description of study, including approximate number and ages of participants and where they will be obtained.

The purpose of this study is to investigate the attitudes and needs of print-handicapped adults as relates to both present programming and possible future programming of North Texas Radio Reading Service (NTRB - station call letters). For information and explanation of NTRB and Dallas Taping for the Blind (DTFB), see attached fact sheets.

This study will also look at listener attitudes toward non-traditional learning. An instrument has been designed to incorporate and meet the informational needs of NTRB, National Public Radio (NPR), and this research project.

Data will be gathered via telephone interviews with approximately 260 adults, ranging in age from 18 to 95. These individuals were randomly selected, with selection being controlled as to age and sex, proportionately representing four age groups, 18-30, 31-45, 46-60, and Over 60, from the 1,100 NTRB listeners. Using a table of random numbers, participants were selected according to radio receiver number. Each listener has completed an application certifying that he or she is print-handicapped and the radio station has issued a set, a radio receiver, to each applicant. Sets are loaned indefinitely to the listener with the request that the receiver be returned when a person no longer needs the radio reading service or when the listener dies, so that the receiver can be checked and repaired, if necessary, and reissued to someone else.

Since NTRB broadcasts on a side band or sub-carrier frequency, of KERA-FM, 90.1, in order to pick up the NTRB signal, listeners must have a receiver. Listeners have supplied their names, address, and telephone numbers on applications. It is customary that NTRB, its staff and volunteers, contact the listeners periodically.

The list from which the participants for this study were chosen lists all of the radio receivers by set number in numerical order. Corresponding to each set number is the name, address, and telephone number of the individual to whom that set has been issued. All of the approximately 1,100 entries on that list were checked and cross-checked with the individual application for each listener. At that time, set numbers were color coded to indicate the sex and the appropriate age group of the print-handicapped listener. Excluded from the list were sets issued for demonstration purposes or to volunteers and board members of NTRB and set numbers that correspond to missing or defected sets.

The 260 individuals chosen as participants in this study represent 25% of the total adult listening population of NTRB. No individual under 18 years of age will be contacted or included in this study as this research is specific to print-handicapped adults only.

## 2. Potential risks to human subjects

The only potential risk to any listener/subject is disclosure of personal information, for example, that he or she is print-handicapped and lives alone, thus revealing a vulnerability.

Another consideration is the privacy of those individuals who are both listeners and either staff employees, such as the broadcast engineers, or Advisory Board members. Their opinions and the findings from telephone interviews with them, if they are by chance among those individuals randomly selected for the sample, will not be released bearing any name or means of connecting responses to specific listeners but rather anonymously included in the results revealed in the formal study.

After much thought and dialogue with listeners about what, if any, risks could be involved in this study, with the exception of those mentioned above, there is no risk to any human subject in this research project.

## 3. Steps to be taken to protect the rights and welfare of the individuals involved.

The color-coded master list will be seen and used only by this researcher. This list, as previously described, includes set receiver number, name, address, telephone number, and color-coded sex and age data on each listener. Also through color-coding, those individuals who were randomly selected are indicated.

Upon reaching a listener/subject by phone, the interviewer will inquire as to the convenience of the call, request permission to talk with the subject, and explain the purpose of the call and the study. The interviewer will identify her/himself to the listener and answer any questions the listener/subject might have regarding participation.

All of the interviewers will have received training with emphasis on the ethics of social casework interviewing.

Response sheets supplied to interviewers will each have the name and above mentioned information data of one of the listener/subjects. This is necessary for two reasons. One, this research is humanistic in nature and the conversations with each subject will serve more than the purpose of extracting surface responses from the print-handicapped adult. It is important that the subject feel that his or her answers are respected and valued and that he or she is regarded as a person of worth and individual identity. The interviewers will be helping the listeners with usage and operation of their radio receivers, answering questions, establishing a rapport with the listener and an environment conducive to understanding and openly responding to the questions asked. The interviewers will be blending the arts and techniques of adult education, social casework interviewing, and research.

Two, the name, address, telephone number, age and sex of each subject is important to the ongoing process and effort of updating data on both radio receivers and the listening audience. The station contacts listeners periodically for a variety of reasons.

To assure anonymity of the listeners in regard to their responses,



the verified personal data will be detached from the research instrument. Responses to the actual questionnaire will be entered into the computer for analysis. Copies of the anonymous responses to the first portion of the survey have been requested by the station manager. Part I of the survey pertains to present programming only and is in essence the same information solicited in a written questionnaire mailed to the other 75% of the NTRB listening audience not included in this study.

The detached personal data portion of the questionnaires will then be destroyed.

APPENDIX E  
INTERVIEWERS' STATEMENT TO SUBJECTS

## Interviewer's Introductory Statement to Subjects

Mr./Mrs./Ms./Miss \_\_\_\_\_, my name is \_\_\_\_\_ . I am a graduate student at Texas Woman's University and I am involved in a doctoral dissertation research project on the needs and attitudes of print-handicapped adults.

I am to conduct interviews, over the telephone, with listeners of North Texas Radio for the Blind (NTRB), the radio reading service. However, this is an independent study and is not connected with NTRB or any other agency. The study is being conducted with the station's permission and knowledge, but this interview is strictly confidential.

As you may have heard over the air, 75% of the listening audience received written questionnaires from the station. The other 25% are to be part of this independent study.

The purpose of the study is to find out what your needs and attitudes are toward radio programming and learning so that the station and agencies could better meet your needs. So, you see, your answers are important and each answer will be carefully considered. What I'm asking is to visit with you over the telephone. (Pause)

Is this a convenient time for us to visit? I will be glad to call you back if there would be a better time for us to talk. (Pause)

I will be happy to answer any questions that you may have about the study. Do you have any?

Before we begin the questions, it is university policy for me to read you a statement regarding your consent to participate in this study. Again, your answers are confidential.

Questions that might be asked by the Subject  
and Answers to those Questions

Question: Why are you calling me? or How did you get my name?

Answer: You were randomly selected based on the identification number on your radio receiver rather than by name. The people to be called are those whose names correspond to the radio receiver numbers.

For further explanation:

The number I'm talking about is on the back of your radio. It is a number that is put on by the manufacturer and is used by the station as a way to identify each radio.

Question: How can I verify who you are?

Answer: You may call (1) the researcher, the doctoral student who is conducting the research project, (2) T.W.U. or (3) NTRB.

The telephone numbers are:

Linda Atwill	214-521-5425
TWU - Dr. Tom Eaves	Metro 434-2815 or
Dr. John McFarland	817-387-4502
NTRB	742-9701
	742-9705

APPENDIX F  
WHAT ARE NTRB AND DALLAS TAPING  
FOR THE BLIND?

### What Are NTRB and Dallas Taping for the Blind?

There are over two million people in the United States who are classified as blind or print handicapped. An additional five million have physical defects such as paralysis, muscular dystrophy, multiple sclerosis, cerebral palsy, amputation of fingers and other physical handicaps, making extensive reading impossible. Based upon the formulas used by the United States Bureau of the Census for projecting the number of visually impaired persons per 1,000 (Kirchner & Peterson, 1979), there are approximately 100,000 blind and otherwise print-handicapped individuals who reside in the Dallas-Fort Worth metroplex. The services produced by Dallas Taping for the Blind not only serve the print handicapped in the North Texas Metroplex, but American citizens all over the world.

### NTRB

NTRB are the radio call letters for a radio reading service in the North Texas area. The original name for this radio station was North Texas Radio for the Blind, thus the call letters NTRB. After the station went on the air, it was realized that not all of the NTRB listeners were blind but were for other reasons print handicapped. To be inclusive of all its listeners, the agency that is NTRB changed

its name to North Texas Radio Reading Services. The station's call letters remain the same.

NTRB uses the sub-carrier frequency of KERA-FM, the Public Radio Station for North Texas. NTRB broadcasts to a special audience of blind and print-handicapped persons in Dallas, Tarrant, and parts of other counties within a seventy mile listening radius of Dallas. There are nearly 100,000 print-handicapped people within the broadcasting range of the NTRB radio signal who are potential listeners for NTRB programming.

As was stated previously, because NTRB broadcasts as a sub-carrier, on a side band of a main FM channel, listeners must have a special radio receiver to hear NTRB programming. These sets, which cost approximately \$60.00 per unit, are loaned to eligible persons free of charge for as long as the print-handicapped individual wants to keep and use the set. A person borrowing a receiver must complete an application form, signed by a physician or agency, certifying that the person is legally blind or is physically handicapped to the degree that extensive reading is not possible. Eligible persons are referred to as being "print handicapped."

NTRB broadcasts from 3:45 p.m. until 11:00 p.m., seven days a week. Its main purpose is to provide the reading of the daily newspaper to its listening audience. NTRB programming consists of:

1. Newspapers - NTRB reads articles, in their entirety, from the Dallas and Fort Worth papers, the Wall Street Journal, the Christian Science Monitor, and suburban weeklies. Covered are editorials, feature writers (both local and syndicated columnists), and any article that would be of particular interest to listeners. An effort is made to not repeat information available via regular television and radio broadcasts.
2. Books and Magazine Articles - Both fictional and non-fictional publications that are not available in an auditory medium (on tape) through any other source.
3. Talk Shows - Listeners may call in facilitating listener participation in programming.
4. Regular Features - Shopping news, programs on cooking, gardening, current health news, walking tours of places and events, and special interviews.
5. Special Features - A seven night per week program of education, entertainment, and information.
6. Service Announcements - Announcements of special interest to NTRB listeners concerning activities for them.

See Appendix G for the NTRB Weekly Program Guide.

NTRB is operated by volunteers, with the exception of the station manager and two engineers who are salaried. A total of 190 volunteers work at NTRB, including the regular



weekly volunteers and substitutes. Regular volunteers work two to three hours per week, usually on a specific day. Readers must pass a tape audition before they can read over the air. Individuals with an excellent vocabulary and a pleasant speaking voice would qualify to read. All volunteers are offered a short training course for their specific job before beginning work. The volunteers are men and women of all ages, from all walks of life and from all areas of the Dallas-Fort Worth Metroplex.

APPENDIX G  
NTRB WEEKLY PROGRAM GUIDE

TYPICAL  
NIRB WEEKLY PROGRAM GUIDE

3001 Bookhout St.  
 Dallas, Tx. 75201

Phone: 742-9705

MONDAY

- 3:45 - THIS WEEK AT NTRB-Nancy Sodeman
- 4:00 - NEWSPAPER OF THE AIR
- 5:00 - NEWSPAPER OF THE AIR
- 6:00 - COOK'S TOUR WITH TIM LATTA/CONSERVING  
WITH CLAIRE
- 6:30 - ARMCHAIR TRAVELER-JEFF HALBERSTADT
- 7:00 - COVER TO COVER (books)-I/ BOOK REVIEWS
- 8:00 - NEWSPAPER (repeat)
- 9:00 - NEWSPAPER (repeat)
- 10:00 - COVER TO COVER II

TUESDAY

- 3:45 - OBITUARY NOTICES
- 4:00 - NEWSPAPER
- 5:00 - NEWSPAPER
- 6:00 - LISTENING POST/LET'S HEAR IT
- 6:30 - PAYETTE PONDER/EXPLORING ESP WITH  
JUDY HIPSKIND
- 7:00 - INDEPENDENT LIVING - HOST-ALICE CRUMB
- 7:30 - SOUNDS AND VISIONS-LINDA ATWILL  
WARD'S AWARDS
- 8:00 - NEWSPAPER (repeat)
- 9:00 - NEWSPAPER (repeat)
- 10:00 - COVER TO COVER II

WEDNESDAY

- 3:45 - REFLECTIONS OF LIFE - MARJORIE ARNOLD
- 4:00 - NEWSPAPER OF THE AIR
- 5:00 - NEWSPAPER OF THE AIR
- 6:00 - GARDENING-JOANNE BRANDT/Naturally  
SPEAKING-KEITH ACKLEY
- 6:30 - CHRISTIAN SCIENCE MONITOR-DIXIE PACINI
- 7:00 - COVER TO COVER (books) I/BOOK REVIEWS
- 8:00 - NEWSPAPER (repeat)
- 9:00 - NEWSPAPER (repeat)
- 10:00 - COVER TO COVER II

THURSDAY

- 3:45 - OBITUARY NOTICES
  - 4:00 - NEWSPAPER OF THE AIR
- (continued)

- 5:00 - NEWSPAPER OF THE AIR
- 6:00 - WALL STREET JOURNAL - LINDA WHITSON
- 7:00 - A VOTRE SANTE (Health News)-STEVIE OSTERLITZ
- 7:30 - THAT'S ENTERTAINMENT-CELE BERKMAN
- 8:00 - NEWSPAPER (repeat)
- 9:00 - NEWSPAPER (repeat)
- 10:00 - COVER TO COVER II

FRIDAY

- 3:45 - SPECIAL ANNOUNCEMENTS-GARY KETLER
- 4:00 - NEWSPAPER OF THE AIR
- 5:00 - NEWSPAPER OF THE AIR
- 6:00 - KERRY'S KORNER (groceries)-KERRY BLOUNT
- 6:30 - SHOPPERS SHOWCASE-PAM MILER
- 7:00 - COVER TO COVER (books) I/BOOK REVIEWS
- 8:00 - NEWSPAPER (repeat)
- 9:00 - NEWSPAPER (repeat)
- 10:00 - PEOPLE MAGAZINE
- 10:30 - FOCUS (Magazine Articles)

SAIURDAY

- 3:45 - OBITUARY NOTICES-ANN RIDDLE
- 4:00 - NEWSPAPER OF THE AIR
- 5:00 - NEWSPAPER OF THE AIR
- 6:00 - SPORTS TIME WITH TOM MOODY
- 6:30 - MOREANS: MINSTRELS, PLAYMAKERS & STORYTELLERS
- 7:00 - CHRISTIAN SCIENCE MONITOR WITH GEORGE MCCracken AND BARBARA PARK
- 8:00 - NEWSPAPER (repeat)
- 9:00 - NEWSPAPER (repeat)
- 10:00 - SCIENCE FICTION - EDITH PFAUTCH

SUNDAY

- 3:45 - THIS WEEK AT NTRB - NANCY SODEMAN
- 4:00 - NEWSPAPER OF THE AIR
- 5:00 - NEWSPAPER OF THE AIR
- 6:00 - PSYCHOLOGY TODAY-BARBARA PARKER
- 6:30 - TEXAS MONTHLY-ANNE MULLEN
- 7:00 - PERSON TO PERSON/SMITHSONIAN TOURS
- 7:30 - WALL STREET JOURNAL WITH LINDA WHEELLOCK
- 8:00 - NEWSPAPER OF THE AIR (repeat)
- 9:00 - NEWSPAPER OF THE AIR (repeat)
- 10:00 - SUNDAY SUPPLEMENT

IF YOU ARE HAVING RECEPTION PROBLEMS WITH  
YOUR RADIO, CALL NANCY SODEMAN, STA.MGR.742-9705  
SEND YOUR CHANGE OF ADDRESS OR TELEPHONE TO  
NTRB, 3001 BOOKHOUT, DALLAS, TX. 75201

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