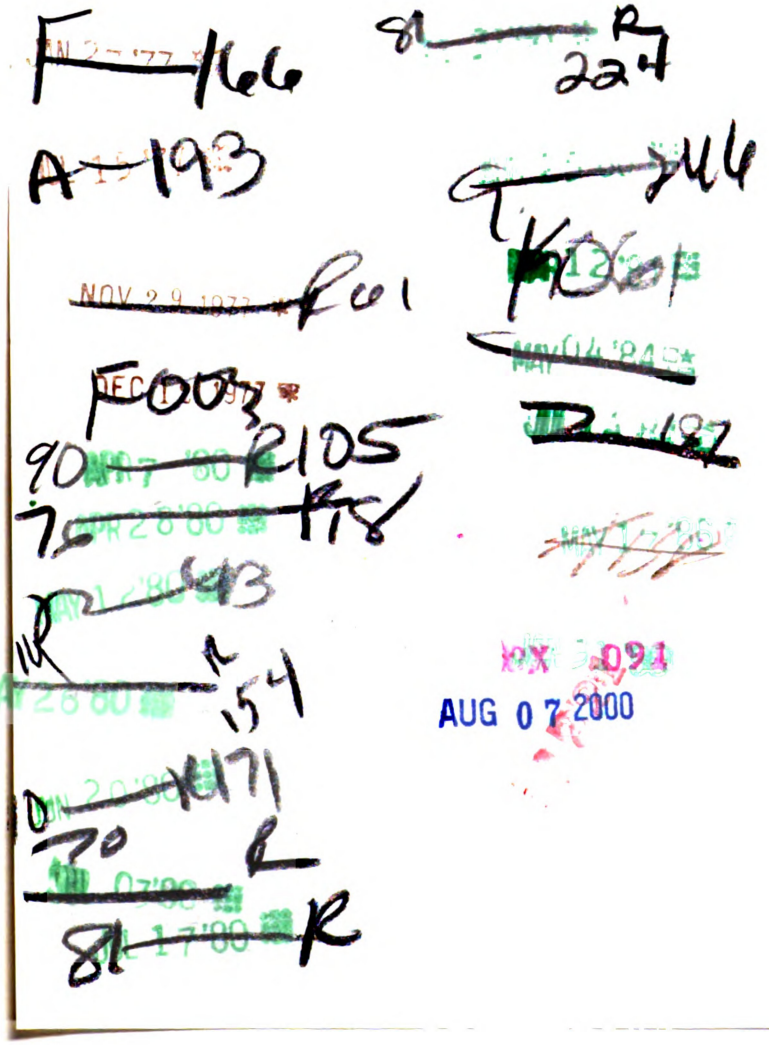
THE RELATIONSHIP BETWEEN CERTAIN READING AND TELEVISION VIEWING VARIABLES

Thesis for the Degree of M. A.
MICHIGAN STATE UNIVERSITY
CHARLES GLEN DOE
1976


F 166
A 193
NOV 29 1977 R01
DEC 12 1977
F003
90 R105
7 R18
R
154
D 171
70 R
81 R
81 R
224
G 146
R 197
AUG 07 2000

ABSTRACT

THE RELATIONSHIP BETWEEN CERTAIN READING AND TELEVISION VIEWING VARIABLES

By

Charles Glen Doe

In the last thirty years, television has grown to occupy a large part of our environment. McLuhan[1] theorizes that, as television changes the environment, it will change the perceptions, and therefore, the thought process of the inhabitants of our culture in a way which may make reading a secondary, less important activity. Learning to read could be more difficult, perhaps not as necessary, and people may be less interested in reading. The process has already begun. Some aspects of McLuhan's theory are observable in the environment. However, most aspects have not been studied in a systematic fashion and remain theory. Due to the implications of the theory for reading, several hypotheses were created and tested to derive some limited implications concerning the theory's validity. If the situation exists as McLuhan theorizes, for the reasons he theorizes, a better understanding of it may provide some methods to cope with the problems implied for reading.

The writer hypothesized that the more children watch television and expresses a favorable attitude, the less they will read, the poorer their attitude towards reading will be, and the lower their reading

skill level will be. To obtain the date necessary for testing the hypotheses, the Gates-MacGinitie Reading Test and a combined survey and attitude inventory were administered to a group of tenth grade students. A variety of question styles and types were used to obtain data concerning six television viewing and reading variables. Stratified random sampling was used to select a sample of a hundred students who were divided into five groups of twenty, by reading level. The sample was drawn from a primarily white, blue collar, upper-lower socio-economic class population. Correlational and variance analysis were conducted with all data except the survey information which was compiled and presented in percent and means. All statistical decisions were made at the .05 level of significance.

The conclusions were as follows:

1. The more time most high school students spend watching television, the less time they are likely to spend reading, the poorer their attitude towards reading is likely to be, and the poorer their reading level is likely to be.

2. The more a high school student likes television viewing, the less likely he is to spend time reading, to have a good attitude towards reading, and to have a higher reading level.

3. The amount of time a student chooses to read as opposed to assigned reading time does not appear to be connected to television viewing time and television viewing attitude.

Negative correlation coefficients for six of the eight hypotheses, which are included in statements one and two above, were significient at the .05 level. Analysis of mean variance of each variable by reading level reinforced the conclusions as did some of the demographic data compiled from the survey section of the inventory. However, the coefficients were generally not strong enough to establish a strong relationship. Coefficients of alienation and others indicated that

the degree of relationship was relatively weak in some cases. Therefore, the results of this study indicate that the relationships appear to exist but provide no implications for causative factors. Furthermore, the results do imply that McLuhan's theory has some basis and that television may be a factor in reading problems. However, further research is needed to fully test the theory.

---

[1]Marshal McLuhan, Understanding Media (New York: New American Library, 1964).

THE RELATIONSHIP BETWEEN CERTAIN READING AND TELEVISION VIEWING VARIABLES

By

Charles Glen Doe

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of Elementary and Special Education

1976

ACKNOWLEDGMENTS

I would like to thank Dr. Lois Bader for her advice and patience. I also thank Mrs. Barbara Horning and Mrs. Gladys Youngs for their help in administering the instruments used in this study. I would also like to express my special thanks to my wife, Mrs. Carol Doe, for her help in conducting the study and preparing the manuscript.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ment

curr

betw

have

the

and

on

res

fur

edu

par

ind

and

bec

met

cep

rad

dir

CHAPTER I

INTRODUCTION

In various writings, Marshall McLuhan discusses two environments, the Gutenberg or print and the electronic, which he believes are currently in conflict in our culture. The theorized conflict is between the forms of the two environments and the affect these forms have on our culture, not between their contents. He further discusses the implications of this conflict considering our perceptions, thoughts and worldview. While much of McLuhan's work is theoretical and based on his and others' observations of our culture rather than concrete research, his theory seems reasonable and logical, thereby meriting further attention. If the implications of McLuhan's theory for education in general and reading instruction in particular are even partly correct, a need for further study exists because his theory indicates the possibility of a decline in the importance of reading and the print media in our culture. This decline may come about because educators are products of print culture and are using the methods of the print culture to teach reading to children whose perceptions, thought processes, and attitudes may have changed too radically for the old methods to be effective any longer. Research in directions indicated by McLuhan's theory may provide understandings and

methods for effectively teaching reading in a greatly changed environment.

McLuhan's theory becomes more believable and the need to research it becomes more apparent because of the large place television now occupies in our environment. Ninety-five percent of the over sixty million homes in the United States have televisions in them and 25 percent have two or more sets. The television is on for five hours and forty-five minutes per day in the average home. From the age of two to sixty-five, the average male viewer watches almost nine full years of television, some three thousand days. When the average child enters kindergarten, he or she has spent more time watching and learning about the world from television than the time he or she will spend getting a Bachelor of Arts Degree.[1] These statistics indicate that television is so omnipresent that it very probably does affect us in some fashion.

Personal experience lends more credence to McLuhan's theory. Many high school students seem to resent a half hour reading assignment, even if they like the material. However, most students will joyfully watch a two hour television movie, apparently unconcerned about the time lost. Excited, animated classroom discussions seem easier to start if the discussion is based on a television program rather than a book, even if the book is one most participating students enjoy. Most parents with whom I am acquainted bless television, even if with reservations, as an effective way to keep children, from age one up, quiet and busy.

On the basis of his theory, McLuhan predicted in the early sixties two events which, apparently, have since occurred.[2] The first

is that the number of high school drop-outs has continued to grow. The second event has become apparent over a several year period. Verbal scores on the SAT tests have been steadily declining, dropping ten points between 1974 and 1975 and thirty-two points since 1966. Many colleges are complaining that students are no longer learning to write as well as they once were.[3] However, the section of the verbal tests shows that the largest drop is in reading comprehension.[4] McLuhan would view the drop in SAT scores and the increasing number of drop-outs as an expected consequence of the coming of age of the electronic environment.

As will be discussed in chapter three, McLuhan's theory becomes somewhat more believable in an indirect fashion, as a result of the enormous amount of research which has been conducted to determine the effects of television on children. The effects of television violence on childrens' actions and emotions have been studied the most. Studies of television as a general opinion, attitude, and values shapes are a close second. Various researchers have also studied television as a socialization mechanism and have studied television's educational potential. The body of research concerning television's educational potential also supports McLuhan's theory in that some research has indicated that it may be a more effective medium of instruction than many of the older print culture methods such as lecture and reading textbooks. However, McLuhan believes that it is the form of the medium rather than its contents, i.e., television itself rather than programs and advertising, which has the greatest affect. Very little research has been conducted from this point of view. Furthermore, very few studies which attempt to correlate television with reading in any

fashion or which attempt to determine the affects of television on reading have been conducted. Therefore, chapter three will be a general review of some of the studies which have been conducted and a discussion of them in relation to McLuhan's theory and the hypotheses of this study.

Purpose

On one level, the purpose of this study is to derive some implications concerning the validity of McLuhan's theory by developing appropriate hypotheses from theory and testing them. As was stated earlier, the need for doing this exists because, if McLuhan's theory is completely or partially correct, determining its validity may explain and lead to alternative methods of instruction which could slow down or halt an already demonstrated decline in the cultural value and function of reading. A small beginning in determining whether McLuhan's theory and its implications for reading are factural or not will be made by attempting to establish that a relationship does exist between television and reading and that, to some degree, they are mutually exclusive activities. In broad terms, the hypotheses of this study are that the more a student watches television, enjoys it, and is interested in it, the less entertaining and enjoyable he will find reading, the less he will read, and the poorer his reading skills will be. In other words, an inverse relationship exists between television viewing, reading level, and attitude.

As will be discussed in greater detail in chapter four, the hypotheses will be tested through the administration of a combined survey and attitude inventory and a reading test to a representative

sample. The survey and attitude inventory will be constructed relative to McLuhan's theory of the importance of form as opposed to content, including questions which inventory the place of reading and television in student's lives. The inventory will also include some questions concerning viewing and reading preferences in view of Hayakawa's discussion of the semantic environment and the supportive information this could provide. As this is basically a predictive study, these instruments will provide data for a limited correlational and statistical analysis. The term predictive can be misleading as television use and attitudes could only be a clumsy predictor of reading levels. However, if television can be a predictor in this fashion, it may have implications for the theory. The results will be discussed and analyzed in chapter five in terms of McLuhan's theoretical framework.

Limitations of the Study

At this point, it is necessary to state that the results will be far from conclusive in any sense. As the interaction between child and television is not thoroughly understood or even clearly defined, and as the reading process itself is not clearly understood, factors not yet defined will not be included in the inventory and will undoubtedly affect the results, making them uneven or somewhat inaccurate. Second, the theory is far too broad in its discussion of and implications for human interaction with the environment to be covered in one research project. Furthermore, the implications for reading and education in general are too broad to be explored in one project. Therefore, this project is intended as a fairly detailed,

accurate as possible, preliminary to further and more detailed research which will probably have to be done over the space of many years by many people. The purpose of this study is, then, to derive data which may have implications for the theory and future research, not prove the theory.

As can be seen in the earlier discussion, McLuhan's broad, far-reaching theory occupies a central position in this project. Therefore, a separate chapter is devoted to its discussion. In order to more clearly relate his theory to the reading process, it will be discussed in terms of Fabun's simple communications model of human interaction with the environment. Because of the simplicity, yet accuracy, of this particular model, it was chosen over more complicated models of communication or interaction with the environment. The model's simplicity will make it a more accurate tool for the purposes of this project. Some of the more obvious problems or apparent inaccuracies of McLuhan's theory will also be discussed in chapter two.

CHAPTER II

THEORY

As Marshal McLuhan's theory of the Gutenberg and electronic environments plays a major role in this project, it will be discussed in some depth in this chapter. Don Fabun's model of communication and human interaction with the environment will be discussed to clarify the implications of McLuhan's theory for reading. After the theory is discussed in terms of the model, the hypotheses will be derived and several problems of the theory will be discussed, one of which is indicated by Hayakawa's theory of the semantic environment.

Fabun's Model

Febun's model[5] indicates that a person perceives his environment, internalizes it, and then reacts to it. By perceives, Fabun means that the sensory receptors receive various light waves, sound waves, oders, and other sensory stimuli. Using the eye as an example, light waves are received by the eye and a chain of chemical-neuro impulses begin which lead to the brain. The brain receives the impulses, recognizes them and names them according to past experience. The impulses are then stored or, they may trigger another series of impulses which will travel to the appropriate place and instruct the muscles to act in some way. This constitutes a reaction

to the stimuli. This very brief description is represented by the simplified model in Figure. Figure 1 contains the basic "steps" of Fabun's version of the process of human interaction with the environment.

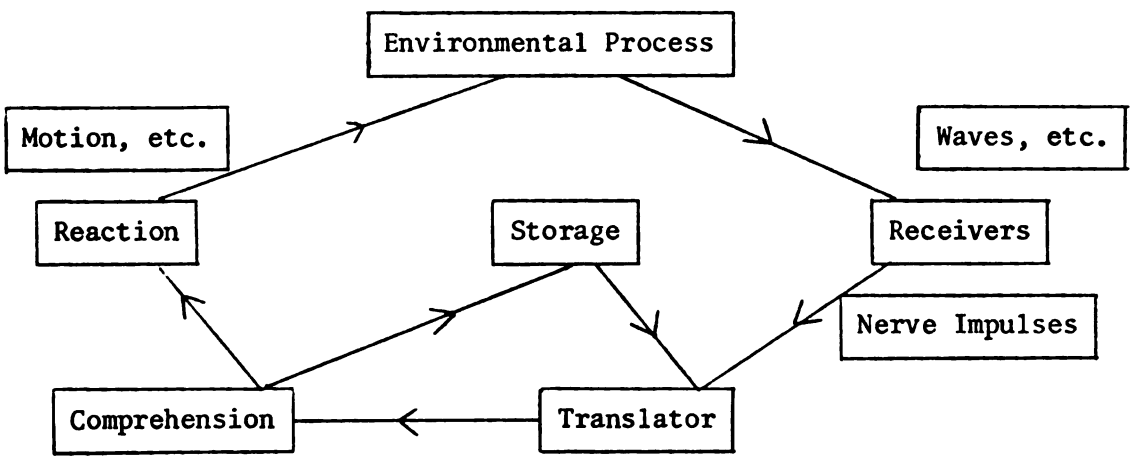


Figure 1. Fabun's Interaction Model.

Fabun defines the environment as a process, constantly in flux in one way or another, even though we often think we have perceived a single "thing." A part of the environmental process becomes an "event" which implies a single, separate happening, only after we internalize it. The events we perceive are never actually static, single things. Therefore, the use of words like "event" are misleading. Even the word "environment" is misleading as it implies a static thing. The phrase "environmental process" is better, although cumbersome, because it implies motion. The environment box actually represents what we are immersed in, something which always totally surrounds us and never stops, though we may be aware of greater or smaller portions of it with varying degrees of awareness. Second,

when we react to something, we are not necessarily reacting to it as it exists in the environment; we are reacting to what is assembled in what is represented by the comprehension box in Figure 1. In other words, we react to the internal experience which results from receiving the impulses and classifying them. We always react to what is inside us, not what is outside. We react to an internalized experience of the environment.

The nature of the internalized experience is affected or changed by three factors which are either totally independent of the external experience or a result of past experience. The first general category of conditions which affect our perceptions of external experiences is represented by the receptors box in Figure 1 and consists of our time, location, and direction of observation when the experience occurs. For example, a person inside an office building looking through a window at the street below will experience a car accident in a different fashion than a person on the street, somebody involved in the accident, or somebody looking through the same window at a later time.

The second category is also largely represented by the receptors box in Figure 1 and consists of the physical condition of the receptors, the nerves and the brain. In the first place, our receptors have a limited capacity in that we cannot possibly perceive all of the activity around us. We cannot perceive events on a microscopic level and many forms or colors of light waves. A blind person for example, will experience events in an entirely different fashion than will a deaf person or a person with normal receptors. Even a partial hearing or eye impairment will change the nature of experiencing.

Furthermore, the uses to which we put our receptors, or our upbringing, or the nature of our environment, train our receptors to perceive certain things in certain ways. A person from the Amazon jungle can probably smell far better than a person from the United States. Finally, as the nerves carry the impulses and the brain receives them, their physical state would effect the impulses. Age deteriorates the brain and nerves physically which changes the nature of experience. Also, researchers have discovered that the chemical balance of the body can affect perception in that the messages are carried by electro-chemical impulses. The experiments with LDS are an excellent example of that.

The third set of conditions is represented by the translator box in Figure 1. These conditions can be called our world view or mental set and are a framework of learning through which we view the environment. The learning consists of information we regard as fact (presuppositions), attitudes developed through past experience, and emotional outlook. If we have been trained to believe that certain events cannot occur, we very well might not see the event if it occurred in front of us. Prejudice is a series of attitudes about how certain types of people act. Prejudiced people have difficulty perceiving these types of people acting any differently. If we have never experienced events and therefore have never learned about them, initial perceptions are often puzzling and inaccurate. Witness the many examples in literature of primitive people experiencing a modern mechanism of some sort. An example in our own culture is walking into a car factory with little or no previous experience with factories. The maze of machinery, pipes, beams, belts and so on, are extremely

difficult to perceive, to separate out of what initially appears to be an almost solid mass of light and shadow, of corners and lines of metal. A person who has never learned to make the distinctions cannot do so the first time confronted with the factory. Finally, included in the category of the mental framework which affects perception, is the purpose with which events are viewed and the emotional state at the time of viewing. Through these and other mechanisms, what is represented by the translator box codefies in terms of recognizable past experience and filters neural impulses.

When the three sets of conditions are combined, the infinite number of degrees, types, and combinations of conditions which makes every person's experience of the environment different is stunning. In view of this, it is not surprising that different people's accounts of complicated events always differ somewhat. This is especially true since the human being's first abstraction from the environment occurs when his eyes or ears perceive an event. Every step along the way to full comprehension can change whatever actually occurs in the environment. Realizing this complexity makes the development of language and the phonetic alphabet an even more incredible occurrence. Fabun says that we agree on the meanings of these and other symbols through repeated, similar experiences of similar processes. Yet, any symbol is a generalization of many events and is, to that extent, inaccurate.[6]

Technologies and Environmental Change

McLuhan defines the phonetic alphabet as the beginning of the older environment which is now in conflict with the newer, electronic environment. With the word environment, McLuhan also refers to active processes rather than a static or passive wrapping for our existence,

and we are a part of that process since we interact with the environment constantly. Each new technology, whether the phonetic alphabet or television, adds itself to the old and, in that sense, creates a new environment. As Fabun theorized, the environment shapes the perceptions, therefore the thought processes, therefore the mental outlook of the people who live in it. McLuhan adds that the creation of a new environment interacts with the old to reshape perceptions.

An example of this is that if a person moves from an equitorial country to Alaska, the new parts of his environment, snow and cold, will reshape his perceptions, thoughts and outlook of himself in relation to the environment to insure his survival. In the same way that the introduction of snow and cold into that man's environment changed him and his life, the creation of a new environment by introducing a new technology will change the lives of those who live in the environment.

McLuhan defines technology as an extension of the senses and anything that extends the senses in any way, from clothes to money to telescopes, is a new technology. Furthermore, the form of the technology ". . . shapes and controls the scale and form of human association and action,"[7] not the content. In other words, print itself, not what print says, or television itself, not what television broadcasts, changes perception. The content is usually already present in one way or another in the environment; therefore, McLuhan dismisses the content. As will be discussed later, the content may give a new emphasis or bring events to people's attention in new ways. At any rate, since the forms of technologies are extensions of the senses, one technology will emphasize one sense over another. For example, the microscope extends the eye and, if a person became dependent on it in his interaction with

the environment, the microscope would change him in a different fashion than would a technology which extended the ear only. McLuhan refers to this as altering "sense ratios" or "patterns of perception." Carpenter refers to it as changing the "synchronization of the senses." These terms refer to the degree to which people relie on any one sense more than the others in experiencing their environment, the degree to which one sense dominantes. As Fabun pointed out in the example of a blind man experiencing his environment differently than a sighted person, altering sense ratios changes the way in which man interacts with his environment. Altering sense ratios changes the way he perceives, therefore how he thinks and reacts. As this change occurs at the perceptual level first rather than the level of opinions and concepts, the change occurs without people being aware of it or being able to do anything about it. In another sense, McLuhan is theorizing that the environment does to our perceptions and our thinking what many semanticists say language does to our thinking . . . shapes. In relation to Fabun's model, the introduction of a major new technology into the environment creates new impulses which eventually create new experiences, emotions, and thereby shapes mental sets, so that a new configuration of chemical-neuro impulses are translatable or recognizable. New and different internal experiences are developed with new ways of experiencing.

The Gutenberg Galaxy

McLuhan theorizes that one of the major environmental changes in history was brought about by the invention of the Gutenberg printing press. This "Gutenberg Galaxy" or print environment actually began

with the invention of the phonetic alphabet which consists of semantically meaningless letters corresponding with semantically meaningless sounds. The invention of the Gutenberg printing press made its effects faster and more powerful. As the eyes are used to perceive print, the print environment extends sight and deemphasizes hearing and the other senses. In other words, print has theoretically changed our environment so that we are even more dependent upon our eyes. As has been stated, a change in the sense ratio will probably produce changes in perceptions. Carpenter describes the physical affect of an eye emphasis in this fashion: "When used in isolation, it [the eye] perceives a flat continuous world without intervals. Yet, it also favors only one thing at a time: it focuses on a particular and abstracts it from a total situation."[8] Furthermore, the natural tendency of the eye is reinforced in that it is trained in a special way to perceive the unusual experience of print; the eyes are trained to perceive something which they would be unable to perceive without the training. The words would be almost invisible as the individual machines in the factory were in the earlier discussion. The eyes are trained to receive reflected light rays from print symbols to cause chemical-neuro impules which the brain learns to recognize. The eyes learn to focus on the individual symbols which are disassociated with the rest of the environment even more than the eye would usually disassociate an event in the process of perceiving the event.

The changes in perception of the environment as described above have a parallel and natural effect on man's thinking. These changes in perception brought about by the then new print environment trained people to think in a manner which seems to be ". . . one word after the

other, one sentence after another, one paragraph after another, one page after another; one thing at a time in a logical, connected line."[9] Therefore, sight emphasis gives rise to fragmented, logical, sequential thinking. Further, perception and reaction are separated more by a greater detachment of thought and emotion. Sight has a "natural bias" towards detachment or, perhaps, assumes detachment, and creates the detached observer. Not only is this a natural tendency of sight, but silent reading is described as ". . . thinking deserted by emotion. It leads to a high degree of separation of mental concepts from the plurality of the concrete."[10] McLuhan adds that as the phonetic alphabet fragments experience, divides sight and sound, separates visual code and semantic meaning, and abstracts meaning from sound, it lends itself to the separation of emotion from thought and action. Indeed, the phonetic culture in general gives man the means of repressing emotions while in action. Print is static and words are isolated and impersonal, having less emotional connotation than heard words.

In another sense, the phonetic alphabet affects man, in that it separates him from environmental processes a second time after he has been separated from it the first time by the act of perceiving the processes. To produce print, a man must perceive a process, that is recognize an internal experience, already different from the way the experience as it occurred in the environment. He must reduce it further so that a language symbol or symbols may be chosen, select a print symbol for the experience and writ the symbol. This entire process of separation and fragmentation leads to McLuhan's statement that schizophrenia may be a result of literacy.

far

"det

conc

whol

spec

phon

whic

sens

prin

tim

be

ref

as

bec

ext

inv

goo

hig

log

app

civ

way

"Wh

on

bo

Cultural effects of the print environment are as pervasive and far reaching as effects on individuals. The phonetic alphabet "detribalized" those who used it. The phonetic alphabet made them more concerned with themselves, the fragment, rather than the tribe or the whole. As a result, our culture is pointed towards social fragmentation, specialism, and emphasis on individualism. In another sense, the phonetic alphabet gives our culture a social conformity or cohesion which is insured because a print culture gives its members more of a sense of inner direction then does a tribal culture. In general, the print environment has extended patterns of visual uniformity and continuity by fragmenting experience, meaning, and perceptions so they can be expressed via the phonetic alphabet. The print environment then reforms fragmented experience into linear, sequential, patterns, such as the story line. "[Western] civilization is built on literacy because literacy is a uniform processing of a culture by a visual sense extended in space and time by the alphabet."[11] The American culture's investment in literacy is expressed in the linear method in which our goods are massed produced, the linear structure of our government, the high or low, up or down, structure of social mobility, and fragmented, logical, piece by piece, linear progression with which education is approached, and so on. Many of the accomplishments of the Western civilization in general are a result of the print environment and the way it shapes our thinking. Carpenter sums this all up by saying that "Western culture was organized around one sense: the eye; expressed in one medium: language; and structured according to one model: the book."[12]

The Electronic Environment

According to McLuhan, the print environment is changing as a result of a newer, major technology, the electronic; its newest major representative is television. The electronic environment is a new technological extension of man's senses, extending them with more power and speed then ever before. The electronic environment alters sense ratios, deemphasizing sight, emphasizing hearing and the tactile which allows for a more total use of all the senses. In the same sense that different conditions of the senses alter perceptions from one person to the next, this new environment alters the old manners of perception and thinking. Hearing cannot be focused on a single event to the degree that sight can and therefore does not fragment and separate as a means of controlling the environment. As separation and fragmentation do not occur to the same degree in hearing cultures, linear thinking does not occur. As hearing does not fragment experience, hearing does not separate emotion from experience and this lends itself to more involvement with experience. Hearing does not separate experience from context of experience in the same sense that print does. When hearing, one can also sense intonation, facial expression, body language, or the sight of the sky when it thunders and so on.

Edmund Carpenter states that "sound surrounds, involves--one steps into it. . . . Non-literates merge with music. Far from being detached [as are literate people] they become involved participants, merging themselves totally in it."[13] McLuhan states that television is more tactile than print. Both state that tactility changes the flat, linear world of sight into a three dimensional world. Hearing and tactility combine to provide a more complete, in depth experience, a

mosaic experience in which more events are perceived at greater depth, with little or no separation. Referring to Fabun's model, the hearing emphasis sense ratio is not as limiting, since this ratio admits more of the environmental process or stimuli and necessarily trains the mind to recognize and think about them in a different fashion. The hearing sense ratio admits more of the world and different portions of the world. The world of hearing cultures, whether pre- or post-literate, are kaleidoscopic in the depth of perceived experience and involvement with experience. Since there is more involvement with experience, thought, action, and emotion are not separated. People from hearing cultures act and react quicker and with more emotion than do people from print cultures.

Furthermore, people from hearing cultures depend more on the heard word for information. This has two implications; hearing words is more emotional than reading words because the experience is more complete and voices carry more emotion. The heard word is therefore more personal. The second implication is that, since the heard word is more emotional and personal, and since people must depend on other people for the heard word, hearing cultures are more tribal. The emphasis on the individual is replaced with an emphasis on the group and the closer, deeper ties which go with that.

Effects of the Electronic Environment

As a result of the advent of the electronic media, especially television, this appears to be what is happening in the United States. Our culture is becoming tribal again. This is especially true of people who have been exposed to television all their lives. Their thoughts

and perceptions were shaped by television first and reading second. The hearing sense appears to be growing dominant again in that people are getting their information from the telephone, the radio, television and so on. For that matter, today's young people seem to merge with the music sold to that group, as would tribal people. Be that as it may, radio and the telephone are obviously hearing media, but the television is less so, as it seems to emphasize the visual.

However, according to McLuhan, the television has a very low visual definition, in the sense that less visual information is provided. Television is fuzzy around the edges, a two-dimensional picture like a cartoon instead of a three dimensional movie. In other words, the mosaic form of the television image demands participation and involvement by the whole being, thereby involving all the senses. Using all his senses, the viewer fills in the spaces to complete the mosaic image, providing what is missing as he would with a cartoon. Studies have shown that children do not look at the whole picture as a literate adult would, but scan the picture constantly, apparently looking for details. The viewer is more involved with television. This is actually a form of participation, an in depth involvement so great that it is almost touching. This quality of television promotes the hearing culture, the tribal. Indeed, television is far closer to the non-television part of the environment than reading is, therefore far more involving.

According to McLuhan, the introduction of the electronic media, especially television, into our print environment has produced far reaching changes at every level of our culture. "The American stake in literacy as a technology or uniformity applied to every level of

education, government, industry and social life is totally threatened by the electronic technology."[14] Children of the electronic culture no longer perceive things in a fragmented, linear, one thing at a time fashion, nor are they detached or impersonal as most members of our culture once were. Rather, they perceive more than one thing at a time, living in a mosaic, kaleidoscopic world. They experience things more completely, are highly emotional and become deeply involved in experience. They are more personal, less individual and, as McLuhan might say, less schizophrenic in many senses. They are hearing people in the world of the deaf. They are impatient with many aspects of our print culture.

Education and the Electronic Environment

The implications of this assessment may be important for education in general and reading in particular. The public education systems are a product of the print environment. Learning has been fragmented, broken into sections called math, history, and so on. Each section has been broken into levels through which children must progress in a linear, step-by-step fashion. If they successfully complete one step or collection of steps, they may progress to the next. Each individual, year long fragment is further broken into linear fragments. Even some of our over-all goals are either products of the print culture such as critical thinking which is linear and sequential, or vehicles of the print culture. Generally, teachers and administrators are products of the print culture. This approach no longer makes sense to children according to McLuhan.

Furthermore, when the television child begins public education, he is asked to do something so different from his television trained

perception and thought processes that he or she may be basically an underprivileged cripple, no matter what social level he may be from. Hearing, tactile children, who are used to learning by pattern recognition and hearing, are asked to learn by methods foreign to them. Schools are too impersonal for them and emphasize individual achievement too much. They are natives in a way, walking into a factory for the first time. The entire school environment seems so foreign to them that McLuhan predicts an ever increasing dropout problem until schools recognize the changes and adapt. He describes the problem this way:

> The students today like mythically and in depth. At school, however, he encounters a situation organized by means of classified information. The subjects are unrelated. They are visually conceived in terms of a blueprint. The student can find no possible means of involvement for himself, nor can he discover how the education scene relates to the "mythic" world of electronically processed data and experience that he takes for granted.[15]

In other words, today's children have "other conditioned" perceptions or are "extra environmental" in our Guttenberg society and schools. In every sense of the word, a child suffers culture shock upon entering school and has great difficulty adapting even partially. Carpenter says that children once came to school to be filled with information and now come filled to overflowing. In a world of "media crop-dusting" the classroom is a fallout shelter. Indeed through this conflict, school is no longer relevant to the lives of children and this may account, in part, for the rash of educators, children, and people from other professions, who are critical of schools.

Reading and Television

The implications for the teaching of reading may be very important. Children apparently approach learning to read and reading

with skills and attitudes they learned watching television. They are no longer the same as children were thirty years ago. Indeed, they seem so much more like the members of pre-literate cultures that perhaps much could be learned about teaching reading to them through study of Carpenter's accounts of the introduction of print into primitive cultures. In terms of Fabun's model, they have apparently been trained to use all of their receptors in interacting with the environment. To read, they are asked to use only one. Their brains have learned to recognize inner experiences composed of a greater, more varied, number of impulses. To read, they must reduce those impulses, filtering many out. McLuhan states that television children get extremely close to the printed page to read it in an effort to involve all their senses; they apparently try to involve themselves in depth by reading slowly, by probing. Print is not conducive to this manner as print requires an "isolated and stripped down visual faculty."[16] This may slow many children in learning to read and may prevent them from enjoying it. The print emphasis on vision as opposed to the television emphasis on hearing and touch could be extremely important in ways that are not yet understood.

Strang repeatedly refers to children's preschool development of visual perception, discrimination and memory, in learning to read. Yet, according to McLuhan, children are not developing visual skills in the same way pre-television children did. Many educators believe that television may be a positive aid in helping children develop these skills, yet little or no research supports this position. However, even if this were so, television could very well develop visual skills in a different direction then the specific type of focusing and

follo

indir

"a co

the l

[reac

defi

the

emph

tele

may

lear

Acco

chil

thir

to g

ther

towa

lea

to

they

tim

Fur

dev

con

dif

following sequentially necessary for reading. In a sense, Strang indirectly reinforces this idea with her definition of perception as "a cognitive process by which visual impressions become meaningful in the light of the individual's past experience and present needs. It [reading] involves understanding, comprehending and organizing."[17] The definition appears limited in that it defines perception in terms of the visual, yet this may be significant because it indicates the eye emphasis sense ratio necessary to reading. If the perceptions of television children are different, the thought processes based on them may be different also.

Another step in reading development as discussed by Strang is learning to focus on individualized sounds, print letters, and words. According to McLuhan this will be quite difficult for a television child as he is used to perceiving things as a while and more than one thing at a time. Strang does say that one perceptual style necessary to good reading is to see words as wholes; yet, in many senses words themselves are fragments.

Strang refers to the importance of developing a good attitude towards reading in both pre-reading children and children who are learning to read. Before attending school, it is necessary for children to at least partially develop a desire to read and one of the ways they do this is by watching parents read. Yet, what if they spend more time watching their parents view television and viewing it themselves? Furthermore, it could be very difficult for television children to develop favorable attitudes towards reading if they experience the conflicts with the print environment discussed earlier. A further difficulty in developing a favorable attitude may be presented by the

po
di
ea
en
re
wa
Fu
it
th
he
Th
di
th
to
Di
in
me
di
re
en
me
ci
ev
by

possibility that television children are used to learning from the direct experience of the eyes, ears and other senses as discussed earlier. Television children may find reading a less complete experience, which may contribute to a distinctly unfavorable attitude towards reading. McLuhan believes that television is a quicker, more satisfying way of obtaining information then reading to the television child. Furthermore, through watching television, children grow dependent on its two-dimensional picture to supply part of the meaning of the words they hear. Not only do print words not provide the voice intonations he depends on for meaning, print obviously supplies none of the images. This may create further barriers to a good reading attitude and the difficulty in surmounting them may make reading even more unpleasant to the television child.

Reading and the Semantic Environment

Television may contribute to the development of a poor attitude towards reading in ways totally ignored by McLuhan, the content. Disregarding the content seems to be the only major flaw in the theory in that anything repeated as often as television programs and advertisements seemingly must convey the attitudes implicit in them. In discussing some of the possible effects of television, S. I. Hayakawa[18] refers to the semantic environment which is defined as that part of the environment which cannot be shared with animals. The semantic environment is a product of the interacting forms of communication called civilization. The semantic environment is slightly different for everyone and has been created for children during most of human history by parents and close relatives or friends. During his first few years,

the

star

read

the

tele

envi

hour

to a

port

tele

wond

thir

year

cons

of t

sign

stud

the

read

as I

tele

inst

inst

port

Tele

obta

the child has learned the parents' world view, value systems, and standards of behavior. This includes the parent's attitude towards reading. Thus, there is a continuity of sorts from one generation to the next. The continuity has apparently been broken by the content of television which now comprises a major portion of the child's semantic environment. Not only do children spend up to half of their waking hours watching television, or over fifty-four hours a week according to another source, television is by far the most interesting, exciting portion of the semantic environment. In an analogy, Hayakawa calls television a powerful sorcer, who plays enchanting music, tells wonderful stories, teaches songs, makes laughter, suggests wonderful things to eat and new toys and so on. This continues day after day, year after year.

The important thing is what the children might learn from this constant interaction with television. Advertising appears to be one of the most important teachers on television in this sense. The most significant learnings may be attitudes and the one that concerns this study is that there are easier ways to do things than read books. In the first place, many activities are portrayed on television, but reading is rarely one of them. Furthermore, reading is rarely portrayed as part of the active youth and sports oriented life style portrayed on television. Secondly, television teaches that there is probably an instant and simple solution to all problems and books do not provide instant or simple solutions to problems. Third, television usually portrays a life style that is at least middle class, if not higher. Television does not show the hard work and study often necessary to obtain this life style. Television apparently does not teach that

reading is a valuable and necessary activity and could indirectly teach that it is a boring and unnecessary activity. All of television is educational in this sense and reinforces the message with pictures and music which are repeated over and over.

Hypotheses

To prove that television has changed children's perceptions, thinking, and attitude towards reading, from what they were before television to what they are now is beyond the scope of this study. Indeed, proving this change may be impossible as there is no obvious way of establishing the nature of children's perceptions and thinking in the American culture before television was introduced. At this stage in the understanding of human behavior, it may even be impossible to separat all the variables of interacting with the environment and thinking. However, if McLuhan's theory is correct, a relationship could exist between the amount of time spent reading and the amount of time spent watching television. Furthermore, the theory does not state that the obstacles imposed by the electronic environment are impossible to overcome; they may make learning to read more difficult. Among the many factors which determine that some children learn to read better than others is the amount of time spent watching television. These two factors would at least be connected although it could be a question of which came first. A further possible conclusion is that students with a lower reading level may find television more entertaining and more interesting than reading and may spend more time watching it than reading. This could be a function of poor reading level forcing children to choose other activities. However, if McLuhan's theory is

correct, a significant number of student's from all reading levels will have the above attitudes and preferences, which would imply that preferring television is not entirely a function of being forced to choose other activities than reading.

The earlier discussion of the possible effects of television on reading can be expressed as six variables. The effects could, and probably should, be expressed as more variables. However, due to the limitations of this study, the variables will be limited to six; television viewing time, television attitude, total reading time, reading attitude, reading level, and personal choice reading time. Personal choice reading time is the amount of time, a student spends reading because he enjoys reading and wants to read as opposed to the amount of time he may spend reading to do his school work. The null hypotheses of this study concern the relationship of the television variables to the reading variables and are broadly formulated as follows:

1. Time spent viewing television is not inversely related to time spent reading.

2. Student attitude towards television viewing is not inversely related to student time spent reading.

3. Student time spent viewing television is not inversely related to student attitude towards reading.

4. Student attitude towards television viewing is not inversely related to reading attitude.

5. Student time spent viewing television is not inversely related to student reading level.

6. Student attitude towards television viewing is not inversely related to reading level.

7. Student television viewing time is not inversely related to student personal choice reading time.

8. Student attitude towards television is not inversely related to student personal choice reading time.

Summary

A communications model of human interaction with the environment, as developed by Fabin, was discussed with an emphasis on Fabin's belief that the environmental process shapes the manner of perceptions and perceptions shapes thinking to some extent. Marshal McLuhan's theory of the existence of an environment shaped by print which is being changed by the creationof the electronic environment, especially television, was then presented and discussed in relation to Fabin's model. The changed environment appears to have affected the sense ratios which have in turn changed the nature of our thinking and may be having a significant cultural impact. Another aspect of this change is the affect the content of television has on viewers. The cumulative implications for reading are that, as a result of our changed environment, changed perceptions, thinking and attitudes, reading may no longer be as important as it used to be and may not have the same affect on our culture as it once did. From these theories, the hypothesis of an inverse relationship between television and reading was derived which stated basically that children who watched more television preferred it to reading and did not read as well as those who watched less.

CHAPTER III

REVIEW OF LITERATURE

Research concerning the effects of television varies greatly in quality and nature. Very little has been done which directly supports the hypothesis of this project. However, a great deal which indirectly supports the thesis of this paper has been conducted. Therefore, this chapter will be a survey of indirectly related research, rather than an in depth analysis of particular studies. Research, usually surveys, concerning patterns of use of television and reflecting the pervasive nature of television in our society will be presented first. A large amount of research concerning the effects of television violence has been conducted. Some of these studies will be discussed as an indicator of the effects of content along with studies of television as it affects other attitudes. Television may very well be a more effective means of teaching than print media; some studies concerning this aspect of television will be discussed. The chapter will end with a general discussion section and summary.

Patterns of Use

Most recent surveys are in near agreement concerning the statistics describing the place of television in the daily life of people in the United States. Ninety-six percent of the homes in the

United States have television and 40 to 50 percent have color sets, all of which are on for an average of six hours and eighteen minutes a day. The average individual watches approximately thirty-three hours a week, although this varies greatly. Generally, girls watch more hours than boys, elementary school children watch more than high school children, blue collar workers watch more than white collar workers, and blacks view more than whites. Education and intelligence do not affect viewing habits as much as might be expected. They do, however, exert some influence in the variety of programs watched. Teenagers usually view most of prime time television and, if the parents are heavy viewers, the children are likely to be also.[19] Before they are old enough to go to school, 80 percent of all children are viewing television.[20]

Lyle and Hoffman[21] assert that heavy or light viewing of television is not an effective predictor of mental ability, social class, parental conflict, or social isolation. Differences in attitude towards television and manner of use seem to be the more important factors predicting the time spent viewing. There is some disagreement among researchers concerning the role of intelligence in television viewing. At the elementary level, according to some researchers, intelligent children are watching more television than less intelligent children, just as they do more of everything. By high school age, more intelligent children are devoting more time to other activities and less to television.[22]

What these statistics do demonstrate is that television may occupy a major place in our environment. In reporting the results of a survey of children's viewing habits in Australia, the researchers speculated that television is such a major part of children's lives

now, that it has taken the place of parents, church, and school as a values shaper.[23] A study recently conducted in Europe concluded that television was addictive. One hundred eighty-four constant viewers were paid to stop viewing television for one year. None of the people gave it up for more than five months.[24] Klapper[25] cites evidence that television may be addictive to those who use it as a means of escape. While the conclusions of both studies may be based on inadequate evidence, they do indicate how important television has become.

Television and Aggression

A factor which occupies such a large part of the environment probably affects those who live in the environment. Researchers are finding relationships between television and a number of factors. In general, however, research does not agree on the strength of these relationships or whether or not television is a causative factor of any of the behaviors studied. Research concerning the relationship between television and aggression will be discussed in detail as reasonably representative of the research of many of the relationships between television and other factors. Research is finding increasing evidence that television violence and viewer behavior are related.

Various studies have thoroughly documented that a large amount of violence is broadcast on television. An 83.5 percent of all television programs contain violence as do 83.2 percent of all television broadcast hours. In 1969, television networks broadcast 5.2 violent acts per program and 8.8 violent acts per hour. These statistics may have changed somewhat in the past six years as considerably more family situation comedies, relatively low in the type of violence surveyed,

are now being broadcast. A 66.3 percent of the programs show major characters involved in violence while 48.5 percent show the major characters committing violence. Interestingly enough, cartoons are cited as the most violent with 98.1 percent containing violent acts at an average rate of 30.4 per hour.[26] The comparison of cartoons with detective and other more realistic violent shows seems to be a major fault of many of the surveys available. Cartoons are less visually defined than most television in McLuhan's terms, less associable with reality and, therefore, would have less of an effect. A further problem with the above statistics is that they lump all violent actions together. Different acts do have different degrees of violence which could have different cummulative effects. An oversimplification exists in the definition of violence used as the concept of violence includes acts or use of power which do not include overt physical acts, such as strength of feeling, language, anger, and so on. While this oversimplification was probably necessary for the study, it excludes a type of violence which could be more prevalent and subtle in effect. These statistics do, however, establish the existence of violence in television broadcasting.

Most studies are fairly consistent in that a positive correlation does exist between television violence and aggressiveness in youth. The five volumes of Television and Social Behavior, published by HEW,[27] contain many studies of the effect of television violence on children. In general, most studies contained in the five volumes consistantly found a positive correlation between viewing television violence and subsequent aggressive behavior and approval of aggression in one fashion or another. Some evidence exists which implies that a

directional, causal link may exist between viewing television violence and the observer's subsequent behavior. However, the connection is a moderate one and is one of many factors in the environment of children which produces violent behavior. Television violence is estimated to cause approximately 10 percent of the total variance in measures of adolescent aggressiveness.[28]

Klapper[29] reviewed studies of the effects of television violence published as of 1960 and drew the similar conclusion that viewing televised violence is not a "prime mover" of aggressive behavior. Rather, he concluded that such viewing probably reinforced the already existing tendencies of individual viewers. One aspect of the problem suggested by this statement but not answered is whether or not television could draw out violent tendencies which would have remained latent. Klapper further assumes that the tendencies were in existence before viewing began which might not be the case. Therefore, how might television interact with the environment in the creation of personality traits, if it does at all?

In 1961, Wilbur Schramm[30] drew similar conclusions in his review of the literature for all effects of television. He believes that children use television in search of fulfillment of certain needs and that it is what the children bring to the use of television which make certain effects possible and accounts for differences of effect.

Three specific studies, which generally support the beliefs and findings reported by Schramm, Klapper and others, were conducted by Dominick and Greenberg,[31] Baran,[32] and Greenberg and Gordon.[33] All three studies found significant correlations between television violence and one measure of aggression or another; however, all three studies

also found or used other variables which had significant implications for the degree of affect television violence had.

Dominick and Greenberg hypothesized that exposure to television violence socializes children into norms, attitudes and values for violence as shown on television. Furthermore, the degree of socialization increased with the degree of exposure to television violence, the degree of stereotyping of violence on television, and the degree to which other socializing influences such as parents, lost influence to television. They noted that violence is presented on television as a highly successful means of goal achievement and that violence is the predominent means of conflict resolution in television drama. Findings were that a significant positive correlation existed between the use of violence in a conflict situation and perceived success of violent solution in conflict situation. They further noted that the correlation existed for all groups but it increased when the family had ambiguous or non-existent attitudes towards violence and with lower socio-economic status.

Baran isolated the factor of self-esteem and studied its relationship to the effects of television viewing as manifested in modeling behavior. He gave a twenty item self-esteem inventory to 120 second and third grade children. He then selected sixty students and divided them into low and high self-esteem groups and male and female groups. Some viewed ten minute video-taped television segments and some did not. After viewing, all children played with toys. Among other results, he found the high self-esteem boys were more likely to exhibit anti-social behavior and low self-esteem boys and girls were more likely to exhibit low self-esteem behavior after viewing the

television segment which contained both types of behavior. Inspite of an exceptionally small sample in each group, results are fairly significant.

In a relatively recent study, Greenberg and Gordon cited results which support earlier conclusions. They showed specific violent scenes of varying types to different groups of children and compared the children's self-expressed measures of how violent the programs were, how acceptable they were, and how well they enjoyed watching them. They found that older children liked watching violence more than younger children and black children enjoyed viewing violence more than whites, presumably because more violence exists in the every day lives of the black children in the groups. There was little or no difference by class or income group except that high income group children perceived the scenes as less violent and low income children perceived them as more humorous. In one sense, these findings support Klapper and Schram's statements because of the findings that the children who could be experiencing the most violence in their personal lives were the most insensitive to television violence.

In another sense however, this study has the same fault that most studies of the effects of television do and which Klapper, Schram and the others seem to ignore in their conclusions. These studies measure short term response to an immediate event in the child's environment, but in no way measure the cumulative effect of an integral part of the child's environment since early childhood. As was stated in the Dominick and Greenberg hypothesis, television seems to have a socializing affect of some sort concerning all values and attitudes. The socialization would not produce the same effects or degree of

effect over a long period of time as are measured in the short term experiments. A second problem with these studies is that they are conducted in institutional settings, generally schools, which could modify the results somewhat.

While poor studies which show results on both sides of this issue have been conducted, two of the most poorly conducted studies reviewed negate the findings stated earlier. These two studies seem fairly typical of studies which find that television either does not affect or quell aggressive impulses. One example is the Feshback and Singer[34] study published in 1971 which reports results indicating that viewing aggressive television programs "reduces rather than stimulates" aggressive tendencies in some boys. They do say that this effect is more pronounced in children with certain personality and social characteristics. They found the reduction of physical aggression after television viewing in only one part of their sample. They found that viewing television violence reduced the amount of violence present in boys' fantasies in all samples. The basic design of the experiment was to limit the viewing of two groups, an experimental and a control, to either a list of specified violent programs or a list of specified non-aggressive programs. The groups had to watch a certain amount of television per week for six weeks. During that time aggressive behavior was scored by observers and fantasy was measured for violent content. The sample was taken from seven different schools, five in California and two in the New York City area.

The initial reason for questioning the validity of this study is that some of the schools were private boys' academies, some were army or navy schools and one was a juvenile home where boys were placed

because of inadequate home care or because of their social malajustment. Furthermore, while girls were present at some of the schools, no girls were included in the study. No public schools were included. While the authors are quite clear about their reasons for limiting their sample in this fashion, by so doing, they seriously limited the generalizability of their conclusions due to the unique conditions which prevail at private schools, especially those in which the children live in dormitories. Furthermore, only 63 percent of the boys who took the initial measures also completed the post measures. Some boys participated on a voluntary basis and others did so on a compulsory basis. While various inventories were administered before the study, no effort was made to assess violent behavior previous to the study. The violent behavior of each child or lack of it during the study period could have been normal and could have had nothing to do with the television viewed.

Furthermore, the control and experimental groups were contaminated because some violent television shows were on the non-aggressive list such as a large number of cartoons, a western, and several adventure shows in which violence towards animals is frequent. Comedy shows which include aggressive behavior such as Batman were included on the non-violent list. No study has proven that comic violence has no effects. In general, the results of this study are extremely inconclusive since the sampling techniques were poor, the sample was not representative of the population, the control and experimental groups were contaminated and so on.

Milgram and Shotland[35] published an elaborate field experiment in which they found no significant connection between television viewing

and subsequent anti-social behavior. These results are not particularily significant due to invalid assumptions and poor research techniques. Basically, people were shown an hour television program which contains a single act of violent destructiveness and then given an opportunity to commit an anti-social act, generally theft, in what they thought was privacy. The assumption of this design is that people will view one example of a specific type of antisocial behavior which will generalize to any type of antisocial behavior. This does not seem to be a valid assumption. Sampling techniques did not guarantee a random sample and could have insured a biased sample. A newspaper advertisement promised a free radio to men who watched a new television program and gave their opinion of it. In the following replication of the initial experiment, a letter with the same proposition was sent to people selected from a credit card company's list of customers. Finally, the initial experiment was "replicated" several times, but each time the design of the experiment was changed in one way or another.

Television and Opinion

In general then, studies considered valid for the purposes of this investigation reported significant results which show a relationship between television violence and viewer aggression and aggressive feelings. However, the degree of effect varies according to such factors as socio-economic status, sex, and age. Television cannot be considered a strong causative factor of violence. Rather, it apparently can emphasize behavior already present in or possible in the viewer. Research concerning the effects of television and other factors tend

to confirm this. For example, television is an effective direct persuader. Klapper[36] notes that television is an excellent reinforcer of already existing opinions and can bring about "minor change" quite readily. Television is very successful in creating opinions about a subject when a pre-existing opinion is unlikely to exist. Television can convert people from one opinion to another, but this is considerably more difficult.

The fact that television is an effective persuader is not questioned by the television advertisers who pay for an average of sixteen minutes of advertisements, as many as ninety commercials, per hour of broadcast time. In 1972, more than four billion was spent on television advertising, 189 million by one company alone.[37] One hundred thousand commercials are aired a day by over 770 stations.[38] Bogart refers to television as a powerful medium for advertising with a "unique capacity to capture and hold the viewer's attention and interest."[39] Research he cites indicates that other mediums can be nearly as effective depending on the individual advertisement and whether or not the unique characteristics of each medium are considered in making the advertisement.

Television and Education

McLuhan[40] cited a study conducted in Toronto which compared the teaching effectiveness of four mediums. Four randomized groups of students were given the same information, one by radio, one by television one by lecture and one by reading. The unique characteristics of each medium were ignored in one section of the experiment and utilized in another. Both times, the group which had watched

television scored significantly higher on a content quiz administered immediately afterwards. This study and television's success as an advertising medium indicate that television can be a very effective means of education. This may be true inspite of Educational Television's inability to attract a large audience. As of 1966, only 10 percent of the people in areas covered by ETV watched it at all during the average week. Individual program audiences are even smaller. These small audiences may be a result of people preferring to be entertained rather than educated when they have a choice.[41]

At this point, it may be helpful to use Corder's[42] distinction between what he calls television as an "educational medium" and television as a "vehicle of instruction." As an educational medium, television is a persuader and carrier of general information. This is the way in which advertising teaches and in which violence and other types of behavior may be taught. Other than acting as a persuader, many researchers feel that television as an educational medium may broaden children intellectually. It may provide a broader background of experience which will help them in school. Schram[43] cites evidence which indicates that television is neither a particular help or hinderance in this respect. However, some of his assumptions may be unfounded. Children who watch a great deal of television are usually about a year ahead of children who do not in speaking vocabulary development. If children select "reality" programs, television may provide a broader background of information, but this evidence is inconclusive. Television may stimulate intellectual and creative activity in areas in which a child is already interested. In general, Schram concludes that television neither helps nor hinders a child's

school performance. However, he did not investigate or cite research which had studied television along the lines indicated by McLuhan's theory. Furthermore, even if Schramm's conclusion is correct, children may be learning a great deal which is not specifically connected with school subject matter.

As a vehicle of instruction, television teaches specific skills and knowledge. This is the aspect of television's educational potential which ETV utilizes and which was studied in the Toronto experiment. Corder cites the following advantages of television instruction: accessibility, immediacy (also cited by Bogart as one of its advantages for advertising), contact with the best teachers, visual aids, low cost of audience coverage, and economy of the use of film material. However, the research he cites is in no way conclusive.[4]

Many studies have, however, been published which show that people of all ages can learn specific knowledge and skills from television. Freidrich and Stein[45] published the significant results of a relatively small scale study which indicated that children do learn the prosocial content of television programs and do generalize the learning to real-life behavior. They showed second grade children programs with prosocial or neutral material. They followed the viewing with a test of the child's knowledge of the program content and lessons were taught using varying techniques. Some of the lessons were relevant to the program and some were totally irrelevant. The group which had viewed the prosocial television material showed significantly higher learning and generalization of the learning than those who had not.

In a study conducted in 1961, Head and Phillips[46] cited evidence which indicates that television classes can attract pre-college

students to take classes to achieve a head start on college classes. Results indicated that enough students wanted to take the courses to make them financially feasible. Furthermore, students who took the television classes did significantly better in the classes than students with comparable skills who took the courses on campus in the normal fashion. Students who took the televised courses also developed a more favorable attitude towards the course content than those who did not.

Hunt[47] studied the effects of viewing a television program which demonstrated classroom reading instruction methods on teachers' classroom performance, attitudes towards the methods broadcast, teachers use of the methods, and parents' attitudes towards reading instruction methods. His results were significant and indicate that the television programs were very effective in changing methods and attitudes of teachers and attitudes of parents.

Television and Reading

In general, research indicates that television can be an extremely effective medium of instruction. Further, students apparently have a more favorable attitude toward it than towards print methods. However, while the research discussed indicated that television might be a more effective means of instruction than reading, results were not conclusive. A few studies which directly discuss the effects of television on reading have been published, but are also inconclusive. Bailyn[48] reports that the amount of children's reading may be associated with time spent watching television. Schramm[49] reports that television helps develop and stimulate reading vocabulary, but that

differences in vocabulary development disappear by the sixth grade. Parker[50] reported that as an area becomes saturated with television, library cirulcation decreases. However, over a subsequent ten year period, circulation became considerably greater among juveniles than adults. Some authors have pointed out that use of all print material has increased in the United States since the advent of television. However there is no research proof of a connection. In general, very little research has been conducted which studies the effects of television on reading. The little that has been conducted is inconclusive.

Discussion

No research was found or reviewed which directly supports the theory discussed in chapter two. The closest direct support was Bailyn's study which indicated that children's reading time may be associated with television viewing time. The television-reading time question is included in this study. Parker's report of decline in library use as television increases also would provide some fairly direct support of the theory of indications could be found that television use was a factor. The final study which seemingly has some fairly direct implications for the theory is Schram's report that children who view large amounts of television have higher vocabularies upon beginning school than those who do not.

The greatest support for the theory came indirectly from the reviews of the studies of the effects of television violence, of television as a persuader, and of television's potential as an educational medium. Various statistics discussed did seem to varify that television is as large a part of the environment as McLuhan theorized.

The aggression and education discussions did indicate that television is apparently having an effect on us. The effect is, however, one predicted by Hayakawa's "semantic environment" and discarded as unimportant compared to the form of television itself by McLuhan. Nevertheless, if the content has effects on those in the environment, the implications are that the form does as well. The closest to direct evidence that the form is having an effect is provided by the television-education studies which indicate that television may be a more effective instructional medium than print or print environment techniques such as the lecture.

This investigation moves one step further than many of the studies discussed in that a direct comparison of television-reading time and attitudes as a function of the other and student reading level is undertaken. Furthermore, in this investigation the content of the two mediums is not the major consideration. As this is a correlational study rather than an experiment, results may have implications for the long term effects of television. However, several techniques and directions were indicated by the studies reviewed. The techniques of stating and emphasizing the null hypotheses rather than the alternate as was done by Hunt and recommended by Guilford[51] and others was adopted as it emphasizes that the object of this study is to derive implications for the existence of theorized relationships while recognizing that the results of this study will not provide final proof of the relationships. If the study of the theorized relationships result in statistics which enable a reasonably accurate rejection of the null hypotheses, stronger implications will be provided for the alternate than if the alternate hypotheses were rejected due to impure

variables or attitude measures and demographic surveys of low reliability.

The research reviewed also indicates that the results of this study are not generalizable to the entire population as race, socio-economic status and age are significant variables in the effects of television viewing. The instruments used in some of the studies and the factors isolated as variables provided needed directions concerning items to include in the attitude inventories used in this study.

Summary

Available statistics indicate that television occupies a large place in the American environment. Studies concerning the relationship between television and violence discussed indicated that such a relationship does exist although other variables have a strong influence on the effects. Television is also an excellent persuader and has a great deal of potential as an educational medium. The few studies available which studied the relationships between television and reading were discussed, but the results were inconclusive. The implications of all studies tended to indirectly support McLuhan's theory discussed in chapter two. Various techniques and directions used in various studies were discussed in terms of this study.

CHAPTER IV

DESIGN OF THE STUDY

The mechanisms and design of the study will be discussed in detail in this chapter. While the population consists of all children in one sense, generalizations will have to be made to high school children due to the difference age makes in patterns of viewing. A further limitation may be that only tenth graders were samples. Furthermore, specific factors concerning the local population may further limit generalizability of the conclusions, therefore the local population from which the sample was drawn will be discussed in detail along with sampling techniques. Two instruments were used in conducting this study. These and their reliability will be discussed. The basic design is predictive in a limited sense. Operational procedures will be discussed, the hypotheses will be stated in testable form, and the model used to test the hypotheses will be presented.

Population

This study was conducted at Hastings High School in Hastings, Michigan. Hastings is a rural community with a population of approximately 6,000 people. It is the county seat of Barry County and the public school system serves a rural and town community estimated to number 14,000. Hastings is approximately 160 years old and is not

characterized by the transience which can be found in many small communities around large factory cities such as Flint on the eastern side of the state. Therefore, factors such as population growth, economic growth and social structure are relatively stable. One of the major factors in social stratification of the community, besides wealth, is the length of time a particular family has been in Hastings. This may be indicative of a factor which may very indirectly effect the generizability of the study's conclusions in that many of the school teachers and administrators have been born and raised in the community and are keenly aware of the social hierarchy. This does seem to effect treatment and expectations of students at times.

Besides the usual retail businesses, Hastings has eleven small factories which employ from 25 to 850 workers apiece. Hastings is centrally located between Grand Rapids, Kalamazoo, Battle Creek, and Lansing; many members of the community work in one or another of these cities. Approximately 51 percent of the rural community served by the public schools are farmers. Approximately 65 percent of the community labor force consists of blue collar workers. The 1970 census indicated that 17.3 percent of the families living in Hastings live below the poverty level. This percent is higher for Barry County and considerably higher than the state average. The number of people living in Hastings and the surrounding area who are at the upper end of the salary range is considerably lower than the state average. Therefore, the general economic status of the community served by the public schools is lower middle class or upper lower class.

The racial composition of the community is approximately 99 percent white and American born. In the last five years, a very,

very few black and oriental families have moved into the school district but not into the town. Until approximately five years ago, Hastings had city ordinances which prevented orientals or blacks from sleeping overnight in town.

Generally, Hastings is a politically conservative community which is consistent with the large rural population. Another factor which contributes to the conservative nature of the community is the existence of twenty-nine churches, twenty-two of which can be classified as being among the more conservative denominations. The churches exercise considerable influence in the school and community. A final contributing factor is that the number of people over age seventy living in Barry County is twice the state average.[52]

The community attitude towards education is extremely good. A spacious, new high school was constructed five years ago. The public schools have all the money needed, as a millage issue has never been defeated. This fact combined with an unusually good relationship between the board of education and the local education association has combined to produce teacher salaries which compare favorably to the larger city pay scales in the state, the first five year teacher contract in the state, and a teacher pupil ratio of one to twenty-five in the high school. These and other factors have combined to produce a very small rate of personnel turnover which indicates that the teachers are fairly contented.

The high school itself was built to hold 1,600 students, but has had a stable student body of approximately 1,250 for the last ten years. As of 1973, the student population was approximately 53 percent male, and was slightly lower than the national average in I.Q. test scores.

Approximately 7.4 percent of the students dropped out of school. This figure has been rising for the past six years. Some doubt exists as to its accuracy. Approximately 41 percent of the students who graduate attempt further education and approximately 24 percent obtain bachelor's degrees. Approximately 13.8 percent of the students' parents are college graduates and another 17 percent have attended one year of college or some other type of post high school training. Approximately 25 percent of the parents have not completed high school.[53]

Students at Hastings High School are divided into from two to five tracks depending on the department. The English department is divided into two major tracks with a third track at the ninth and tenth grade levels which deals with approximately 50 percent of the poorest readers. Students are tracked by teachers based on classroom performance at the eighth grade level. "A" track is for students who are going to college and "B" track is for those who are not. Students may change tracks at any time if they wish. At the tenth grade level, from one-third to one half of the A track students drop into B track. Many of them seem to do so at their own volition as a result of the reputation for harshness and extreme amounts of work of the single A track teacher who has been teaching for approximately twenty-five years. Even if this reputation is untrue, many students have this teacher also removes ten to twenty students from her classes a week after the beginning of the year. Approximately half of all students who dropped from A track return to it in their junior year.

Because of the various factors discussed in the preceeding paragraphs, generalizations drawn from this study may not be accurate

if applied to communities of a more typical racial composition or with a higher socio-economic status. The study is further limited by a relatively low level of parent's education, the lower then average college attendance figures of the graduating classes, and perhaps by the slightly lower mean I.Q. scores for the student body. Various studies have indicated that all of these factors have some relationship to both the effects of television viewing and the reading skills attained by the students. Finally, the tracking system and teacher described could have unknown affects on the results especially in influencing attitudes towards reading to the degree that they are affected by the student's views toward education.

Sampling Techniques

All students in the tenth grade were given the inventory and test to prevent giving the idea, as much as possible, that this study was anything out of the ordinary as would have happened if they were administered to a few of the students. The test and inventory were given in September. The attitude survey was refined and given two weeks later. The students were given the impression, as much as possible, that the two instruments were always given at the first of the tenth grade year. The reading tests were then scored, students were divided into two groups according to sex and then five groups according to reading level. Ten members of each sex were selected at random from each reading and sex group to insure an even representation of both sexes and all reading levels. This helped insure the validity of the correlational study and statistical analysis for both sexes at all reading levels. Randomization within each sex and reading group

was insured by numbering the survey of each student in the group and choosing every second or third survey, depending on the number of surveys in the group. Thus a form of stratified-random sampling was used to select a sample totaling one hundred.

Instrumentation

Two instruments were used in this study. The first, the Gates-McGinitie Reading Test, Survey E, Form 1, was used both to determine reading levels for use in the correlations and to insure all reading levels were represented in an even fashion. Survey E is for seventh through ninth graders but was used to provide a more accurate picture of reading ability as, in diagnosis, a test equivalent to the student's reading level should be used for a more sensitive measure. A second reason for using this is that tenth graders in September would be reading at approximately the same level they were in the previous May, which is one of the norm levels used in scoring the test. Third, what was most important was a fairly accurate picture of the students' reading level in comparison to each other. A national level comparison was not important. Form two of the Gates-MacGinitie Reading Test was administered one week later to approximately half of the tenth grade class in an effort to determine the test's reliability in that group. Alternate form reliability was determined to be .80 for the comprehension section. For the sample tested, the test has an alternate form reliability of .76.

The second instrument used was developed to compile certain demographic data, to measure amounts of time spent viewing television and reading books, and to measure attitudes and preferences in reading

and television viewing. A combination of styles, types and wordings were used in the questions. Questions were asked which had little direct relevance to the survey to obscure its point. Questions concerning demographic data were either multiple choice or very short answer. As two of the variables under study were time spent watching television and time spent reading, both multiple choice questions and short answer questions were asked concerning time use. Two questions were asked for television viewing and three were asked concerning book reading as it seemed necessary to separate assigned reading from pleasure reading. Research has indicated that questions of this type concerning television viewing time are very inaccurate as people tend to overstate their actual viewing time.[54]

The two remaining variables are a combination of attitude, preference (choice), value, and use variables. Students were asked twenty-two agree-disagree, multiple choice, and very short answer questions for each of the two variables. Some questions asked preferences of television or reading in specific subject areas. Some questions asked which a student preferred to "forget his or her problems," or to learn from or to be entertained. Some questions directly asked preferences and some asked indirectly. Nearly all questions had possible responses other than those indicating a television or reading preference. The questions concerning reading were derived from Strang's[55] explanation of why children read and the questions about television were derived from Schramm's[56] discussion of the role television plays in childrens' lives. An item, total score correlation was then conducted on the data from the second and fourth groups. The six items for each attitude variable with the lowest

intercorrelation were not used on the second survey. The average correlation for the sixteen items used to determine reading attitude was .61. The average correlation for the sixteen items used to determine television attitude was .53. The second survey was then administered and the split-half reliability coefficient was determined being sure that the two halves were as alike as possible. The split half coeffient was .52 and .68 when adjusted with the Spearman-Brown correction for length. Television preference scores were derived by scoring 0 for a non-television preference and 1 for a television perference or favorable attitude. The reading preference score was scaled in the same fashion.

Design

Six variables were derived from the theory discussed in chapter two. One instrument was chosen to measure reading level and one was designed to measure selected demographic data and attitude variables. Stratified random sampling was used to choose five groups of twenty students on varying reading levels and with equal numbers of each sex. Three reading level groups were determined in relationship to range of scores. The scores of the final sample would, if graphed, be an approximately bell shaped curve with a slight positive skew. The reason for adopting this procedure was to facilitate the variance analysis in relation to reading at all levels. This would not have been possible in a totally random sample as the reading scores for the entire grade have a pronounced negative skew. The result would have been too few students at the upper reading level to make accurate statements about the variables.

This study is predictive in that the hypothesis concerns certain reading variables which can be predicted from certain television variables. However, the relationships themselves are important to this study, not the predictability of one variable from the other. The existence of the relationship will have some implications for the theory discussed in chapter two. A correlational analysis and a limited variance analysis were conducted to arrive at these statements. As part of the function of this study is to determine some patterns of television and print use, it is therefore partly descriptive.

This design is based on several assumptions. The first is that the various relationhips for which correlations are determined are linear and not curvilinear. This may not be the case. The second is that although the attitude variables are contaminated because not enough is known to pinpoint them, the relationships will still be strong enough to show a significant correlation, if they exist. The third assumption is that through stratified random sampling, a sample with a fairly normal distribution was achieved. The overall reading test did indicate that the entire tenth grade at Hastings has a strong negative skew in terms of reading levels. However, by controlling the reading level of the sample, a normal distribution was achieved. This validates the formulas used in some of the statistical analysis.

Hypotheses

The hypotheses stated in testable form are combinations of the six variables under study. These are time spent viewing television (x), attitude towards viewing television (x_1), total time spent reading (y), attitude towards reading (y_1), reading level (y_2), and personal choice

reading time (y_3). Personal choice reading time is defined as the amount of time a student spends reading because he enjoys reading and wants to read as opposed to the amount of time he may spend reading to do his school work. The hypotheses concerning the possible relationships of these variables are:

1. Time spent viewing television does not have a negative correlation to all time spent reading.

2. Student attitude towards viewing television as measured by the attitude inventory has no negative correlation with total student time spent reading.

3. Student time spent viewing television does not have a negative correlation to a positive attitude towards reading as measured by the reading inventory.

4. Student attitude towards television viewing as measured by the television attitude inventory does not have a negative correlation with student attitude towards reading as measured by the reading attitude inventory.

5. Student time spent viewing television does not have a negative correlation to student reading level as determined by the Gates-MacGinitie Reading Test.

6. Student attitude towards television viewing as measured by the attitude inventory does not have a negative correlation to student reading level as measured by the Gates-MacGinitie Reading Test.

7. Student time spent viewing television does not have a negative correlation to student personal choice reading time.

8. Student attitude towards television viewing as measured by the attitude inventory does not have a negative correlation to student personal choice reading time.

Analysis

The level of significance for all statistical decisions regarding these hypotheses will be .05. Student's t will be used to determine whether or not correlations meet the .05 level of significance. As a further aid in decision making, confidence intervals will be

determined for each correlation through the standard error of Fisher's Z coefficient. The strength of the relationships will be determined through coefficients of alienation (K), determination, ($100r^2$), and non-determination (K^2).

Group means will be determined for each variable and standard deviations will be determined for each grand mean. F ratios will be computed to determine if variation significant at the .05 level exists between each group mean for each variable. Percentages will be computed for the demographic information; however, as the survey or descriptive information is not the primary focus of this study, it will not be statistically analyzed further.

Summary

The sample is drawn from a primarily white, blue collar, upper-low socio-economic class population and consists of 100 small town, rural students. The 50 percent male sample consists of tenth graders with a mean age of fifteen. Stratified random sampling was used to select the sample group. The basic research design was predictive and descriptive. The Gates-MacGinitie Reading Test, Survey E, Form 1 was administered to determine approximate relative reading levels. A combination reading and television attitude inventory and survey was administered. A variety of question styles and types were used to obtain data concerning the six television and reading use and attitude variables. Correlational and variance analysis will be conducted with all data except the survey information. All statistical decisions will be made at the .05 level of significance.

CHAPTER V

ANALYSIS OF RESULTS

The basic analysis of the results were Pearson correlations of the six variables under consideration in eight combinations or relationships. The .05 level of significance was used and determined for the coefficients through t ratios. Confidence intervals were computed using the standard error of Fisher's Z coefficient. Coefficients of alienation, determination and non-determination were then computed to indicate the degree of relationship. The six variables were time spent watching television (x), attitude towards watching television (x_1), total time spent reading (y), attitude towards reading (y_1), reading level (y_2), and personal choice reading time (y_3). The eight pertinent relationships are (xy), (xy_1), (xy_2), (xy_3), (x_1y), (x_1y_1), (x_1y_2), and (x_1y_3). Seven more relationships between the six variables were possible, but were excluded as they are not specifically relevant to the hypotheses.

The results were further analyzed by determining the mean for each variable for each of the sample groups by reading level. Variances were analyzed at the .05 level using F ratios. No further variance analysis was conducted as it was not necessary to specify which group means varied the most, simply that they did to a significant level.

Demographic information was presented in percentages by group and total or means by group and total where applicable.

Analysis of Results

1. Time spent viewing television does not have a negative correlation to all time spent reading. ($r_{xy} \leq -.20$)
2. Student attitude towards viewing television as measured by the television attitude inventory has no negative correlation to student time spent reading. ($r_{x_1y} \leq -.20$)

As computed by t ratios, correlations above plus or minus .20 are significant at the .05 level. The r of relationship (xy) and (x_1y), -.56 and -.31 respectively, are significantly higher than -.20. Both null hypotheses are therefore rejected. The alternate hypotheses that a negative correlation does exist between reading time and viewing time are accepted. As can be seen in Table 1, the lower confidence limit of r_{x_1y} extends below the level of significance and so hypothesis two is accepted with considerably more caution.

Table 1.--Correlations Between Variables.

Relationships	r	Confidence Intervals	
1. xy	-.56	-.41; -.68	$p<.05$
2. x_1y	-.31	-.11; -.48	$p<.05$
3. xy_1	-.44	-.26; -.58	$p<.05$
4. x_1y_1	-.84	-.77; -.89	$p<.05$
5. xy_2	-.49	-.33; -.63	$p<.05$
6. x_1y_2	-.42	-.25; -.57	$p<.05$
7. xy_3	-.21	-.01; -.39	$p<.05$
8. x_1y_3	-.26	-.06; -.43	$p<.05$

3. Student time spent viewing television does not have a negative correlation to a positive attitude towards reading as measured by the reading attitude inventory. ($r_{xy_1} \leq -.20$)

4. Student attitude towards television viewing as measured by the television attitude inventory does not have a negative correlation with attitude towards reading as measured by the reading attitude inventory. ($r_{x_1x_1} \leq -.20$)

The r for hypotheses three is -.44 and is above the .05 level of significance. Therefore, the null hypothesis is rejected and its alternate, that a negative correlation does exist, is accepted. The relationship hypothesized in four has the most significantly negative r of all of the hypotheses, -.84, and is therefore rejected. The alternate hypothesis is accepted.

5. Student time spent viewing television does not have a negative correlation to student reading level as determined by the Gates-MacGinitie Reading Test. ($r_{xy_2} \leq -.20$)

6. Student attitude towards television viewing as measured by the attitude inventory does not have a negative correlation with student reading level as measured by the Gates-MacGinitie Reading Test. ($r_{x_1y_2} \leq -.20$)

As can be seen on Table 1, the two hypothesized relationships have significant negative correlations of -.49 and -.42 respectively. Therefore, both hypotheses are rejected and their alternates are accepted. The alternate hypothesis of number five is that a negative correlation does exist to reflect an inverse relationship between television viewing time and reading level. The alternate of hypothesis six is that an inverse relationship does exist between television viewing attitude and reading level.

7. Student time spent viewing television does not have a negative correlation to student personal choice reading time. ($r_{xy_3} \leq -.20$)

8. Student attitude towards television viewing as measured by the attitude inventory does not have a negative correlation to student personal choice reading time. ($r_{x_1y_3} \leq -.20$)

These two hypothesized relationships have the lowest correlations, r = -.21 and r = -.26 respectively, of all hypothesized relationships. They are just significant at the .05 level. However, when the confidence intervals are considered, the lower confidence level of both is well below significance. Therefore, when all possible error is considered, neither correlation is high enough to justify rejection of these two null hypotheses. Therefore, they are accepted.

Table 2.--Score Means by Variable and Group.

Group	Variables				
	x	x_1	y	y_1	y_3
(low) 1	4.9	18.8	1.15	6.05	.325
2	4.0	16.25	1.43	8.15	.50
3	3.97	16.0	1.68	9.8	.55
4	2.93	14.45	2.20	12.85	.875
(high)5	2.22	12.8	2.80	15.85	1.25
Grand mean	3.62	15.88	1.85	10.56	.70
SD	1.74	4.38	1.01	5.8	.61
SE of SD	.12	.31	.07	.41	.04
SE of Mean	.17	.44	.10	.58	.06
F ratios (p<.05=F>2.46)	8.93	2.73	3.57	3.11	2.61

Analysis of Mean Variance

The data presented in Table 2 consists of the mean of each variable by group and the grand mean for each variable. The mean reading scores are not included as these are represented by the groups. Group one consists of the students with the lowest reading scores and group five consists of the students with the highest. While there are no hypotheses concerning variance or means as such, this table does

present data in a fashion which shows the other five variables as a function of reading level. Table 2 indicates that as reading level increases, amount of time spent watching television decreases. The F (4.95) = 8.93, $p<.05$ indicates that the mean variance is highly significant. The F (4.95) = 2.73, $p<.05$ of the television attitude variable is not as strong but does include a significant amount of mean variance by reading group. This lends considerable strength to all hypotheses involving relationships of television variables and reading level.

Table 3.--Parents' Education and Job Status.

Group	Blue Collar	White Collar	College Education
1	86%	14%	4%
2	75	25	13
3	64	36	19
4	66	34	13
5	62	38	35
Total	72%	28%	15%

Table 4.--Mean Home Reading Materials and Television.

Group	T.V.s	Books	Magazines	Newspapers
1	2.04	77	2.18	1.27
2	2.19	59	2.85	1.49
3	2.34	96	2.90	1.39
4	2.56	84	2.66	1.32
5	2.06	102	3.27	1.58
Total	2.15	87	2.72	1.36

Demographic Data

Tables 3 and 4 contain data which was obtained from the combination survey and attitude inventory for the purpose of learning more about the sample. This information is not in direct support of any of the hypotheses. Table 3 contains a gross measure of parents' education and job status. The college education column indicates the percentage of parents by group who have some education beyond high school. Table 4 contains the mean number of television, books, newspapers, and magazines by group. The number of white collar working parents, parents with some college education, and the number of books, magazines and newspapers in the home increase with reading level. The number of televisions in the home also increases by reading level except in group five. All of these statistics do vary by group, but not as consistently as do some of the variables under direct study.

Table 5.--Specific Media Attitudes and Habits.

	Attitudes and Habits					
Group	1	2	3	4	5	6
1	75%	75%	85%	75%	4.07	80%
2	65	85	75	65	4.97	60
3	55	55	95	55	5.86	70
4	50	50	60	50	6.12	55
5	20	30	35	20	8.45	35
Total	53%	59%	70%	53%	5.85	60%

Table 5 contains the number or responses by group in percents on questions which asked specific television versus books preferences except columns five and six. Column five contains the mean number of

complete books read by group in the past year. Column six contains the number in percents of students who preferred listening to the radio to reading. Column one shows the number of students who felt television viewing was more important to them than reading. Column two shows the number of students who preferred to learn from television rather than books. Column three indicates the number of students who preferred television to reading for entertainment. Column four indicates the number of students who never read for entertainment. Generally, the number of students who preferred television to reading, radio to reading, and never read for pleasure decreases by reading level. The average number of complete books read during the past year increased by reading level.

Interpretation of Results

The results strongly imply that a relationship does exist between five of the six variables under study and that, to some degree, television viewing and reading tend to be mutually exclusive activities. The attitude correlation (x_1, y_1') of $r = 0.84$, $p<.05$ is the strongest indication of this relationship. However, the other relationships had a strong enough correlation to have implications for the hypothesized general reading-television inverse relationship. The more a student reads, the less time he spends watching television. The more television a student watches, the less he likes to read and the lower his reading level is likely to be. The more positive a student's attitude towards television viewing, the less time he is likely to spend reading, the less likely he is to have a favorable attitude towards reading, and the lower his reading level is likely to be.

The implications of the correlations are reinforced by the data presented in Table 2. This table indicates that as reading level and other reading variables decrease, television viewing time and attitude increase. The mean of the television viewing variable varies significantly by reading group as does the attitude variable. The inclusion of the y variables and their F ratios is not directly relevant to the hypotheses. However, they do indicate, in a side by side comparison, that television attitude and viewing time varies in much the same fashion as do other reading variables by reading level. Note, however, that the mean television viewing time and the mean television attitude do remain relatively high even in the high reading level groups. These students do apparently, to some degree, prefer television to reading.

Tables 3, 4, and 5 give demographic data and some specific attitude and habit data in percents and means by group. No further statistical analysis was performed with them. Therefore, they are weak measures. They do however, provide further implications for the hypothesized relationships. As shown in Table 5, more than 50 percent of all groups except five preferred television to reading in every sense questioned and seldom read for pleasure. In spite of the weakness of these figures, they do indicate that television may be a very strong competitor of reading for the attentions of all but very high reading level students. A further indication of student media preferences is derived from the sixth column which indicates the number of students who preferred listening to the radio to reading. In all but group five, more than 50 percent preferred the radio.

All of this information, especially the correlations, have very strong implications for the alternate hypotheses and therefore, the

theory. However, the correlations were not perfect and the F ratios were not as high as was desirable, some being barely above significance. Therefore, while the implications are strong, and the hypothesized relationships are probable, all that can be stated is that to some extent, the relationships do exist. How strong they are is another matter. The weakness of the correlations is best demonstrated in Table 6 which contains the coefficients of alienation (K), the coefficients of determination ($100r^2$), and the coefficients of non-determination (K^2) for each of the correlated relationships.

Table 6.--Degree of Relationship.

Relationship	r	$100r^2$	K	K^2
xy	-.56	31	.835	.69
xy_1	-.44	19	.898	.81
xy_2	-.49	24	.872	.76
x_1y	-.31	10	.951	.90
x_1y_1	-.84	73	.524	.27
x_1y_2	-.42	18	.907	.82
xy_3	-.21	4	.978	.96
x_1y_3	-.26	7	.965	.93

The $100r^2$ column gives the percent of variance in y that is associated with, determined by, or accounted for by variance in x and so on. As can be seen, the only r which can be associated with a large part of the variance is again the x_1y_1 relationship. The rest account for 31 percent or less of the variance. The K^2 column gives the corresponding amount of variance that is unaccounted for in the relationships. The K coefficients indicate that all hypothesized

relationships are more unrelated than related. The only relationship which approaches .50 is the x_1y_1. The r of the two accepted null hypotheses have the highest Ks of all relationships, .91 and .98 respectively.

The reasons for these relatively weak correlations were expected. To begin, the attitude inventories did not have particularly high reliabilities and were, admittedly, trying to encompass several things which could be considered a "positive attitude" towards television or reading. The attitude variables then were not pure. Second, the attitude inventories were blunt and perhaps did not sensitively measure or define differences in attitude. In view of both of these factors, the high r of the x_1y_1 variables is somewhat surprising.

The third probable cause of the low correlations is that the existence of a single reason why a student may not spend much time reading, such as preferring television, is highly unlikely. A student may, for example, thoroughly enjoy reading but likes outdoor sports so well that he does not have much time for reading. This study and these statistics measure only a small part of why a student may or may not read or watch television. This may account for the acceptance of null hypotheses seven and eight. The y variables could also be correlated more with attitude towards school work than with x or x_1.

Summary

As can be seen in Table 7, null hypotheses seven and eight were accepted. Hypotheses one through six were rejected and their alternates accepted. Therefore an inverse relationship probably does exist between television viewing and reading. These results were reinforced by an

Table 7.--Summary of Null Hypotheses Tested.

H_o	r	Significance	
1. $r_{xy} \leq -.20$	-.56	$p < .05$	rejected
2. $r_{x_1y} \leq -.20$	-.31	$p < .05$	rejected
3. $r_{xy_1} \leq .20$	-.44	$p < .05$	rejected
4. $r_{x_1y_1} \leq -.20$	-.84	$p < .05$	rejected
5. $r_{xy_2} \leq -.20$	-.49	$p < .05$	rejected
6. $r_{x_1y_2} \leq -.20$	-.42	$p < .05$	rejected
7. $r_{xy_3} \leq -.20$	-.21	$p < .05$	accepted
8. $r_{x_1y_3} \leq -.20$	-.26	$p < .05$	accepted

analysis of variance of the group means of variables x and x_1 which had $F(4.95) = 8.93$, $p < .05$ and $F(4.95) = 2.73$, $P < .05$. The hypotheses was further reinforced, although weakly, by certain demographic data. However, relatively low correlations and analysis of the correlations coefficients of determination, non-determination, and alienation indicated that the relationships were fairly weak and that all that could be said of the relationships is that they did exist. No causative statements could be made from this data.

CHAPTER VI

SUMMARY AND CONCLUSIONS

McLuhan's theory as expressed in various writings was introduced and briefly discussed in relation to Fabun's model of human interaction with the environment and Hayakawa's theory of the semantic environment. Combined, these state that human's are shaped by the contents of the environment and their interaction with it. McLuhan believes that major technologies can shape environments and in turn shape people. The technologies are forms, not the contents. The Gutenberg environment was shaped by the phonetic alphabet and the printing press. Because of this, people in it act and think in certain fashion's predictable from knowledge of the environment. The Gutenberg environment is currently in conflict with a new environment created by television and other electronic media. The environment is changing and, as a result, people are changing in thoughts and actions. This change has major implications for education and reading as both are products of the print environment. They may be in conflict with perceptual style and thought processes currently in development in the electronic environment which could create difficulties in the learning and teaching of reading. McLuhan discards Hayakawa's semantic environment entirely as it is the content of the media, not the

media's form. As television content probably has an effect some discussion of the semantic environment was included.

A general hypothesis was derived which would have implications for McLuhan's theory if proven or disproved. In null form, it was that an inverse relationship does not exist between various television variables and reading variables. Very little research has investigated this relationship in relation to McLuhan's theory, that is, investigated the affects of media forms. The reserach which has been conducted is inconclusive. Most support of the theory in previous research was indirect and in the form of investigations of the relationship between television and aggression and other affects of television viewing. The results of much current research seem to agree that television does have an effect on behavior, but to what degree is unknown. The effects varied with such variables as socio-economic status. Some research was presented which indicated that television may be as good a vehicle for learning as print, if not better. Research indicated several variables which were considered in the research design.

The research design consisted of administering the Gates-MacGinitie Reading Test to the tenth grade at Hastings High School. Stratified random sampling was used to select 100 students in five-groups by reading level. A reading and teleivision attitude inventory and demographic survey were administered. Correlational and limited variance analysis were performed on the resulting data.

Conclusions

1. The more time most high school students spend watching television, the less time they are likely to spend reading, the poorer their attitude towards reading is likely to be, and the poorer their reading level is likely to be.

2. The more a high school student likes television viewing, the less likely he is to spend time reading, to have a good attitude towards reading, and to have a higher reading level.

3. Time spent reading because the student likes to read (Personal choice reading) time does not appear to be connected to television viewing time and television viewing attitude.

While correlation coefficients for six of the eight hypotheses (included in statements one and two above), were significant at the .05 level resulting in rejections of the null hypotheses and acceptance of the alternates, the coefficients were generally not strong enough to establish a strong relationship. Therefore, the results of this study do provide fairly strong implications that these relationships exist, but they do not indicate a strong relationship or a causative relationship. Other variables not considered in this study enter the relationships.

Discussion

The six television-reading variables were selected as a beginning point in assessing McLuhan's theory in order to arrive at a usuable understanding of the conflict of the two technologies. Through such understanding, practices and methods in the teaching of reading could conceivably be modified to take advantage of the advent of the television age or to take steps against the problems in teaching and learning to read which may result if the advent of television is indeed effecting reading in an adverse fashion. The object of this study was to ascertain if there was a relationship at all as this seems to be the initial step in determining the effect of television viewing on reading. A secondary objective was to gather indications of student attitudes, preferences and use of television as opposed to print. McLuhan's

theory indicates that television would be preferred and used more as we live in the electronic environment.

Since six of the eight hypothesized relationships had significant negative correlations, the implications are that there is some truth to McLuhan's theory. These positive indications are however far from sufficient proof. The implications are strengthened somewhat by the negative direction indicating that as television use and attitude increase, reading use and attitude decrease. This is supported by some of the survey data and a comparison of the group means of the television variables. These indicate that the majority of students represented by the sample prefer television viewing in almost every way to reading and do more of it. That television use increases with poorer reading indicates that reading difficulties are a factor, but it is a question of which came first. McLuhan would say television use, yet this study provides no indication of this. In other words, this study does establish the relationships with all that implies for McLuhan's theory, but it does not establish the causative relationship necessary for support of the theory.

Implications for Further Research

A better understanding of the relationships could be derived if this study is replicated using more reliable attitude inventories which are more sensitive and can focus on more specific attitudes and degrees of attitudes. Such a study could add several variables such as reading speed, attitudes towards high achievement in school work, vocabulary, and specific types of comprehension. These variables would appear undoubtedly to play a role. A future study could also use a more

sophisticated, detailed statistical analysis. Another approach might us experimental studies in which some specific manner could be devised to observe the affects of television on reading. The perceptual differences between television viewing and reading need to be studied further. Finally, the most conclusive results may come from a long range study of various trends such as scores on various college entrance exams, use of television, and use of various print media.

FOOTNOTES

FOOTNOTES

[1]Nicholas Johnson, How to Talk Back to Your Television Set (New York: Bantam Books, 1967), p. 12.

[2]Marshall McLuhan, Understanding Media (New York: The New American Library, Inc., 1964), p. X.

[3]Robert Schenet, "Today's Grads Find They Can't Write," Detroit Free Press, November 12, 1975, p. 6.

[4]"SAT Scores Go Down, College Costs Go Up," Stanford Observer, November, 1975, p. 1.

[5]Don Fabun, Communications, The Transfer of Meaning (Beverly Hills: Glencoe Press, 1968), pp. 5-12.

[6]Ibid., pp. 7-12.

[7]McLuhan, p. 24.

[8]Edmund Carpenter, Oh, What a Blow That Phantom Gave Me! (New York: Bantam Books, 1974), p. 25.

[9]Howard Luck Gossage, "You Can See Why the Mighty Would Be Curious," McLuhan: Hot & Cool, ed. Gerald E. Stearn (New York: Signet Books, 1967), p. 22.

[10]Carpenter, p. 179.

[11]McLuhan, p. 88.

[12]Carpenter, p. 38.

[13]Ibid.

[14]McLuhan, p. 291.

[15]Ibid., p. VIII.

[16]Ibid., p. 269.

[17]Ruth Strang, Constance W. McCullough, and Arthur E. Traxler, The Improvement of Reading (New York: McGraw-Hill Book Co., 1967), pp. 12-21.

[18]S. I. Hayakawa, "Who's Bringing Up Your Children?" Searching For Ourselves, ed. Robert Miles (New York: Bantam Books, 1973), pp. 254-63.

[19]Jack Lyle, "Television in Daily Life," Television and Social Behavior, Vol. IV, ed. E. A. Rubinstein, G. A. Comstock, and J. P. Murray (Rockville: U.S. Dept. of HEW, 1971), pp. 6-14.

[20]Pearl G. Aldrich, The Impact of Mass Media (Rochelle Park: Hayden Book Company, Inc., 1975), pp. 11-22.

[21]Lyle, pp. 6-14.

[22]Jeffrey Schrank, TV Action Book (Evanston: McDougal, Little & Co., 1974), pp. 66-67.

[23]"Children's Values," Detroit Free Press, January 11, 1976, Sec. B, p. 41.

[24]Aldrich, pp. 19-20.

[25]Joseph T. Klapper, The Effects of Mass Communication (New York: The Free Press, 1960), pp. 190-97.

[26]Michael Gurevitch, "The Structure and Process of Television Broadcasting in Four Countries: An Overview," Television and Social Behavior, Vol. 1, ed. G. A. Comstock and E. A. Rubenstein (Rockville: U.S. Dept. of HEW, 1971), pp. 9-26.

[27]See the bibliography for a listing of all five volumes.

[28]Lyle, p. 11.

[29]Klapper, pp. 134-65.

[30]Wilber Schramm, Jack Lyle, and Edwin B. Parker, Television in the Lives of Our Children (Stanford: Stanford University Press, 1961), pp. 21-27.

[31]Joseph R. Dominick and Bradley S. Greenberg, Girls' Attitudes toward Violence as Related to T.V. Exposure, Family Attitudes, and Social Class (East Lansing: Michigan State University, Dept. of Comm., 1971), pp. 1-16.

[32]Stanley J. Baran, "Prosocial and Antisocial Television Content and Modeling by High and Low Self-Esteem Children." Journal of Broadcasting, 18:4 (Fall, 1974), 481-94.

[33]Bradley S. Greenberg and Thomas F. Gordon, Children's Perceptions of Television Violence: A Replication (East Lansing: Michigan State University, Dept. of Comm., 1971), pp. 1-17.

[34]Seymour Feshbach and Robert D. Singer, Television and Aggression (San Francisco: Jossey-Bass, Inc., 1971), p. 60.

[35]Stanly Milgram and R. Lance Shotland, Television and Anti-social Behavior (New York: Academic Press, 1973), pp. 65-81.

[36]Klapper, pp. 12-94.

[37]Schrank, pp. 79-80.

[38]Leo Bogart, Strategy in Advertising (New York: Harcourt, Brace & World, Inc., 1967), p. 2.

[39]Ibid., pp. 98-102.

[40]McLuhan, p. 271.

[41]Bogart, p. 243.

[42]S. Pit Corder, English Language Teaching and Television (London: Longmans, 1960), p. 45.

[43]Schramm, et al., pp. 152-53.

[44]Corder, p. 53.

[45]Lynette K. Friedrich and Aletha H. Stein, "Prosocial Television and Young Children: The Effects of Verbal Labeling and Role Playing on Learning and Behavior," Child Development, 46 (1975), pp. 27-38.

[46]Sydney W. Head and C. Lee Philips, A Field Experiment in the Summertime use of Open-Circuit Television Instruction to Bridge the Gap between High School and College (Coral Gables: University of Miami, 1961), pp. 25-36.

[47]Lyman C. Hunt, An Experimental Project Appraising the Effectiveness of a Program Series on Reading Instruction Using Open-Circuit Television (Pennsylvanis State University, 1961), pp. 81-89.

[48]Lotte Bailyn, "Mass Media and Children: A Study of Exposure Habits and Cognitive Effects," Psychology Monograph 73 (1959), pp. 36-38.

[49]Schramm, et al., pp. 152-53.

[50]R. Parker, "The Effects of Television on Public Library Circulation," Public Opinion Quarterly 27 (1963), pp. 578-89.

[51]J. P. Guilford, Fundamental Statistics in Psychology and Education (New York: McGraw-Hill Book Co., 1965), p. 98.

[52]Robert Vander Veen, "History, Activities, Services Traditions, Industries, Neighborhood, Geography, and Systems of Hastings" (Unpublished Report, 1968), pp. 20-37.

[53]"School and Community," Sec. 2 (Unpublished report for North-Central Evaluation, 1973), pp. 17-28.

[54]Schram, et al., p. 34.

[55]Strang, pp. 156-76.

[56]Schramm, et al., pp. 10-28.

APPENDIX

TELEVISION AND READING USE AND ATTITUDE INVENTORY

APPENDIX

TELEVISION AND READING USE AND ATTITUDE INVENTORY

DIRECTIONS: Please check the most appropriate answer or answer each question briefly.

1. What is your father's occupation?

2. What is your mother's occupation?

3. How old are you?

4. How many televisions are in your home?

5. If you had to do one of the following, which would you do? A. Read the newspaper. B. Watch a good show on television. C. Look at your favorite magazine. D. Listen to the radio. E. Read a good book.

6. What was your approximate grade average last year?

7. On the average, how many hours do you spend watching television every day? A. 0 B. 1-2 C. 3-4 D. 5-6 E. 7-8

8. How many newspapers does your family subscribe to?

9. How many books of any kind have you read all the way through in the last year? A. 0 B. 1-5 C. 6-10 D. 11-15 E. More

10. If you had to do one of the following, which would you prefer? A. Read a sports novel. B. Read a sports news story in a newspaper. C. Watch a sports event on T.V. D. Read a sports magazine. E. Listen to a sports event on the radio.

11. Do you consider yourself a good reader? an average reader? a poor reader?

12. What magazines do you read regularily, if any?

13. Which do you think is more entertaining? Television Radio Books Magazines Newspapers.

14. How many hours do you listen to the radio on an average day?

15. Which provides the easiest way for you to forget about your problems, watching television or reading a book you enjoy?

16. How many books did you read because you wanted to in the last year?

17. How many movies did you go to a theatre to watch last year?

18. Which do you think can teach you the most? Television Magazines Radio Books Radio None of these.

19. Which do you think is the most realistic, the closest to real life? A. Story in a book B. Story in a magazine C. A story on television D. None of these.

20. Do you usually watch television to pass the time, for fun and entertainment, to learn about things that interest you, or none of these?

21. Do you read anything other than what is assigned in school? If so, how long would you estimate you spend every day reading?

22. What is more important to you, watching television or reading?

23. Which do you think is most often boring? Television Radio Books Magazines Newspapers

24. Which of the following kinds of shows do you usually watch on T.V.? Check more than one kind if you watch more than one kind.
Cartoons Westerns Crime & Police shows Movies News
Mysteries & Detective shows Situation Comedies Adventure programs
Soap Operas Game shows Horror Movies Talk shows
Medical or Doctor shows Documentaries other_____

25. Would you rather listen to the radio, read a book or read a magazine?

26. How many magazines does your family subscribe to? 0 1 2 3 4 __

27. If you had to, would you rather A. Watch a good myster on television. B. Read a good mystery story. C. Listen to a mystery story on the radio. D. Read Alfred Hitchcock Magazine.

28. How many books are in your home now? _____ (Estimate)

29. How many hours do you watch television on an average day? _____

30. Which do you think is more interesting usually? Television Radio Books Magazines Newspapers

31. How many radios are in your home? ____

32. What kind of books do you read when given the choice? Check more than one if you read more than one type. Science Fiction Historical Fiction Westerns Poetry Realistic Fiction Biographys Sports Stories Romance Adventure Stories Non-fiction Books about cars Animal Stories other _____

33. Which would you rather do for entertainment, read or watch television?

34. How much time do you spend reading because you want to every day? ____

35. What is your total daily reading time? ____

36. Why do you read?

37. Why do you watch television?

38. Do you read most of the time A. Because you have to when teachers assign it? B. For the fun of it, for entertainment? C. To find out about things that interest you?

39. Which do you prefer to read? Novels or books Magazines Newspapers

40. What do you do most often for entertainment?

BIBLIOGRAPHY

BIBLIOGRAPHY

Aldrich, Pearl G. The Impact of Mass Media. Rochelle Park, N.J.: Hayden Book Co., 1975.

Bailyn, Lotte. "Mass Media and Children: A Study of Exposure Habits and Cognitive Effects." Psych. Monograph 73 (1959), pp. 1-48.

Baran, Stanley, J. "Prosocial and Antisocial Television Content and Modeling by High and Low Self-Esteem Children." Journal of Broadcasting 18:4 (Fall, 1974), 1-17.

Bogart, Leo. Strategy in Advertising. New York: Harcourt, Brace & World, 1967.

Carpenter, Edmund. Oh, What a Blow That Phantom Gave Me! New York: Bantom Books, 1974.

"Children's Values." Detroit Free Press, January 11, 1976, Sec. B., p. 41.

Corder, S. Pit. English Language Teaching and Television. London: Longmans, 1960.

Dominick, Joseph R. and Greenberg, Bradley S. Girls' Attitudes toward Violence as Related to T.V. Exposure, Family Attitudes, and Social Class. East Lansing: Michigan State University, Dept. of Comm., 1971.

Fabun, Don. Communications, The Transfer of Meaning. Beverly Hills: Glencoe Press, 1968.

Feshbach, Seymour, and Singer, Robert D. Television and Aggression. San Francisco: Jossey-Bass, 1971.

Friedrich, Lynette K., and Stein, Aletha H. "Prosocial Television and Young Children: The Effects of Verbal Labeling and Role Playing on Learning and Behavior." Child Development 46 (1975), pp. 27-38.

Greenberg, Bradley S., and Gordon, Thomas F. Children's Perceptions of Television Violence: A Replication. East Lansing: Michigan State University, Dept. of Comm., 1971.

Gossage, Howard Luck. "You Can See Why the Mighty Would Be Curious." McLuhan: Hot & Cool. Ed. Gerald E. Stearn. New York: Signet Books, 1967.

Guilford, J. P. Fundamental Statistics in Psychology and Education. New York: McGraw-Hill Book Co., 1965.

Gurevitch, Michael. "The Structure and Process of Television Broadcasting in Four Counties; An Overview." Television and Social Behavior, Vol. 1. Ed. G. A. Comstock and E. A. Rubenstein. Rockville, Md.: U.S. Dept. of HEW, 1971.

Hayakawa, S. I. "Who's Bringing Up YOur Children?' Searching for Ourselves. Ed. Robert Miles. New York: Bantam Books, 1973.

Head, Stanley W., and Phillips, C. Lee. A Field Experiment in the Summertime Use of Open-Circuit Television Instruction to Bridge the Gap Between High School and College. Coral Gables, Fla.: University of Miami, 1961.

Hunt, Lyman C. An Experimental Project Appraising the Effectiveness of a Program Series on Reading Instruction Using Open-Circuit Television. Pennsylvania State University, 1961.

Johnson, Nicholas. How to Talk Back to Your Television Set. New York: Bantam Books, 1967.

Klapper, Joseph T. The Effects of Mass Communication. New York: The Free Press, 1960.

Lyle, Jack. "Television in Daily Life." Television and Social Behavior, Vol. IV. Ed. E. A. Rubinstewin, G. A. Comstock, and J. P. Murray. Rockville, Md.: U.S. Dept. of HEW, 1971.

McLUhan, Marshall. Understanding Media. New York: The New American Library, 1964.

Milgram, Stanly, and Shotland, R. Lance. Television and Antisocial Behavior. New York: Academic Press, 1973.

Parker, R. "The Effects of Television on Public Library Circulation." Public Opinion Quarterly 27 (1963), pp. 578-89.

"Sat Scores Go Down, College Costs Go Up." Stanford Observer, November, 1975, p. 1.

Schenet, Robert. "Today's Grads Find They Can't Write." Detroit Free Press, November 12, 1975, Sec. A, p. 6.

"School and Community," Sec. 2. Unpublished North-Central Evaluation Report, 1973.

Schramm, Wilber; Lyle, Jack; and Parker, Edwin B. Television in the Lives of Our Children. Stanford: Stanford University Press, 1961.

Schrank, Jeffery. TV Action Book. Evantson, Ill.: McDougla, Little, & Co., 1974.

Strang, Ruth; McCullough, Constance M.; and Traxler, Arthur E. The Improvement of Reading. New York: McGraw-Hill Book Co., 1967.

Vander Veen, Robert. "History, Activities, Services, Traditions, Industries, Neighborhood, Geography, and Systems of Hastings." Unpublished report, 1968.

General References

Brown, J. A. C. Techniques of Persuasion. London: Penguin Books, 1968.

Comtock, G. A., and Rubinstein, E. A., eds. Television and Social Behavior, Vol. I. Rockville, Md.: U.S. Dept. of HEW, 1971. Media Content and Control.

Murray, J. P.; Rubinstein, E. A.; and Comstock. G. A., eds. Television and Social Behavior, Vol. II: Television and Social Learning. Rockville, Md.: U.S. Dept. of HEW, 1971.

Comstock, G. A., and Rubinstein, E. A., eds. Television and Social Behavior, Vol. III: Television and Adolescent Aggressiveness. Rockville, Md.: U.S. Dept. of HEW, 1971.

Rubinstein, E. A.; Comstock, G. A.; and Murray, J. P., eds. Television and Social Behavior, Vol. IV: Television in Day-to-Day Life: Patterns of Use. Rockeville, Md.: U.S. Dept. of HEW, 1971.

Comstock, G. A.; Rubinstein, E. A.; and Murray, J. P., eds. Television and Social Behavior, Vol. V: Television's Effects; Further Explorations. Rockville, Md.: U.S. Dept. of HEW, 1971.

Duffy, Gerald G., and Sherman, George G. Systematic Reading Instruction. New York: Harper & Row, 1972.

Hayakawa, S. I., ed. Language, Meaning and Maturity. New York: Harper & Row, 1954.

Johnson, Nicholas. Test Pattern for Living. New York: Bantam Books, 1972.

McLuhan, Marshall. The Gutenberg Galaxy. New York: New American Library, 1969.

Kohl, Herbert. Reading, How to. New York: Bantam Books, 1974.

Postman, Neil. Television and the Teaching of English. New York: Appleton-Century-Crofts, Inc., 1961.