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# The Effects of Interest and Scholastic Ability upon Listening Retention

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THE EFFECTS OF INTEREST AND SCHOLASTIC ABILITY

UPON LISTENING RETENTION  
(TITLE)

BY

DAVID EMIL MRIZEK

**THESIS**

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF

MASTER OF ARTS

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY  
CHARLESTON, ILLINOIS

1969  
YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING  
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## TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION	
The Problem.....	1
Review of Selected Literature.....	4
Interest and Retention.....	4
Summary.....	8
Scholastic ability and Retention.....	8
Summary.....	13
Interest, Scholastic Ability and Retention.....	13
Summary of Literature.....	20
Interest and Retention.....	20
Scholastic Ability and Retention.....	20
Interest, Scholastic Ability and Retention.....	20
Object of the Study.....	21
Specific Objectives.....	21
Hypotheses.....	22
Definition of Terms.....	22
Assumptions.....	25
Summary.....	26
II. METHOD.....	27
Preliminaries.....	27
Subjects.....	27
The Speech.....	27



CHAPTER	PAGE
Development of the Speeches.....	28
Testing of the Speeches.....	29
The Test.....	29
The Interest Evaluation Sheet.....	30
Determining Scholastic Ability.....	30
The Experiment.....	30
Design of the Experiment.....	30
Setting for the Experiment.....	31
Procedure for the Experiment.....	31
Schedule.....	32
Collection of Data.....	33
Methods of Collection of the Data.....	33
Interest evaluation sheet.....	33
Multiple choice retention test.....	33
ACT-composite scores.....	34
Treatment of the Data.....	34
Refinement.....	34
Statistical treatment of the data.....	34
III. RESULTS.....	36
Interaction Between Variables.....	36
High Interest-High Scholastic Ability.....	39
High Interest-Low Scholastic Ability.....	40
Low Interest-High Scholastic Ability.....	40
Summary of Results.....	40
Application of Data to the Hypotheses.....	40
IV. CONCLUSION	
Summary.....	43

CHAPTER	PAGE
Theoretical Implications .....	45
Summary .....	47
Practical Implications .....	48
Suggestions for Further Study .....	50
V. APPENDICES	
A. Instructions to Teachers .....	52
B. Interest Evaluation Sheet .....	54
C. Speech Text .....	55
D. Multiple Choice Retention Test .....	61
E. Frequency Distribution of Interest and Scholastic Ability .....	64
VI. BIBLIOGRAPHY .....	65
VII. ABSTRACT .....	69

# LIST OF TABLES

TABLE	PAGE
I. SCHEDULE FOR THE DETERMINATION OF ACCEPTABLE SPEECH .....	32
II. SCHEDULE FOR THE EXPERIMENT .....	33
III. ANALYSIS OF INTERACTION BETWEEN INTEREST AND SCHOLASTIC ABILITY .....	36
IV. ANALYSIS OF VARIANCE .....	37
V. ANALYSIS OF DIFFERENCE BETWEEN CONDITIONS .....	37
VI. F-RATIOS FOR COMBINATIONS OF INTEREST AND SCHOLASTIC ABILITY .....	39

## CHAPTER I

### INTRODUCTION

#### The Problem

Since 1945 the amount of published research in the area of listening has increased at a steady pace. Accompanying this research has been an increased realization that listening does play an important part in the daily communication process of all people, no matter what their job or activity. Consequently, researchers of the communication field have found the area of listening rich with new concepts and areas for experimentation.

In general, the majority of quantitative studies conducted by researchers in the listening field centered around: (1) the attributes of listening;<sup>1</sup> and (2) the teaching of listening as an academic subject.<sup>2</sup>

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<sup>1</sup>See I. H. Anderson and Grant Fairbanks, "Common and Differential Factors in Reading Vocabulary and Hearing Vocabulary," Journal of Educational Research, XIX (January, 1937), pp. 317-324; Roger E. Nebergall, "An Experimental Investigation of Rhetorical Clarity," Speech Monographs, XIV (November, 1958), pp. 243-54; Stanley Ainsworth and Charles High, "Auditory Functions and Abilities in Good and Poor Listeners," Journal of Communication, IV (Fall, 1954), pp. 84-88; Daniel W. Mullin, "An Experimental Study of Retention in Educational Television," Speech Monographs, XXIV (March, 1957), pp. 31-38; et. al.

<sup>2</sup>See Kenneth O. Johnson, "The Effects of Classroom Training upon Listening Comprehension," Journal of Communication, I (May, 1951), pp. 57-62; Maurice S. Lewis, "The Effect of Training in Listening for Certain Purposes upon Reading for Those Same Purposes," Journal of Communication, II (November, 1952), p. 81-84; Paul M. Hollingsworth, "The Effect of Two Listening Programs on Reading and Listening," Journal of Communication, XIV (March, 1964), pp. 19-21; et. al.

Through a series of questions, Harold A. Anderson summarized the future needs of research regarding the functions of listening:

There is needed, also, for research to ascertain the relation between listening competence and intelligence and between listening and school achievement. A few studies have been made but the findings are minor as compared with the importance of the questions. We need to know whether intelligence is a factor in language competence quite independent of the mode of presentation. Do slow pupils learn more readily, as is sometimes alleged, through listening than through reading? Do bright children know how to listen better than slower ones? Do pupils who get along well in school as measured in school marks know how to listen better than those who do less well? What is the relation between listening and vocational success?

Do pupils improve in listening competence from grade to grade, or do they get worse as they grow older? What is, or should be, normal performance at each grade level? Can listening norms be established? What is the correlation between listening ability and intelligence? Between listening ability and vocabulary? How can poor listening habits be identified and detected? To what extent are day-dreaming, inattention, and wandering attention due to deficient hearing? How widely do pupils vary in their ability to learn through listening?<sup>3</sup>

How influential upon the quality of listening is the speaker's reputation, authority, affiliation, sponsor? What effect do the listeners interest, motivation, and purpose have on listening? What barriers stand between the speaker and listener?<sup>4</sup>

Based upon his evaluation of available research studies, Anderson felt these questions were extremely important in an examination of the listening area. However, fifteen years later Wayne N. Thompson concluded:

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<sup>3</sup>Harold A. Anderson, "Needed Research in Listening," Elementary English, XXIX (April, 1952), pp. 218-19.

<sup>4</sup>Ibid., p. 221.



Research in the speech field on the reception of communications in twenty years justifies several generalizations of practical and theoretical significance, but the work . . . in listening needs re-examination and redirection.<sup>5</sup>

Therefore, an apparent conclusion is previous research findings should be re-examined and clarified through new research in the listening field.

Results reached by previous researchers indicate relationships between scholastic ability and retention, as well as interest and retention. However, these past research studies indicate sizeable variances in the obtained correlations. Secondly, no attempt has been made to identify the relative strengths of each variable. With retention as the dependent variable, does high interest low scholastic ability equal low interest and high scholastic ability?

It is to this problem that the present investigation is directed. The study is designed to compare the combined effects of interest and scholastic ability upon retention.

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<sup>5</sup>Wayne N. Thompson, Quantitative Research in Public Address and Communication, (New York: Random House, 1967), pp. 301-2.

## REVIEW OF SELECTED LITERATURE

For purposes of the investigation, the review dealt with the variables of interest and scholastic ability. The review revealed that research studying the two variables were attempting to determine their relation to retention.

### Interest and Retention

A review of the literature pertaining to the interest variable revealed two methods in which interest was determined. The majority of researchers ascertained levels of interest: (1) through a survey of the test population; or (2) through administering the Kuder Preference Record. A survey of test populations specified "stated interest" while the Kuder Preference Record indicated "occupational interest."

Nichols included interest as an aspect which related directly to listening comprehension. He claimed that "real interest in the subject discussed," was a factor.<sup>6</sup> The degree of interest was not specified.

Harold E. Nelson conducted an experiment on "The Effect of Variations of Rate on the Recall by Radio Listeners of 'Straight' News-casts." Because he included an interest scale in relation to the news stories that were utilized, he was able to draw conclusions regarding

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<sup>6</sup>Ralph Nichols, "Factors in Listening Comprehension," Speech Monographs, IV (1948), p. 162.

the correlation of interest and retention. His data revealed low through positive correlations. Nelson hypothesized reasons for the low correlations.

The reason for the low correlations obtained between responses on the ~~new~~ interest inventory and the ~~newscast~~ recall test scores may be attributed to many factors, among them: (a) difference in the set of the students in responding to the interest inventory and in the newscast recall test situation. (b) Lack of similarity between inventory items and test items. (c) The fact that interest in news stories may be a transitory interest.<sup>7</sup>

Chall and Dial indicated much higher correlations than those determined by Nelson. They indicated:

Our data showed a definite relationship between comprehension and interest, as can be seen from the high correlations between the judgment of understanding and interest (.93), and between the number of objective questions correct and judgment of interest (.82).<sup>8</sup>

In 1951, however, Paul W. Gauger, as reported by Caffrey, found "near zero correlations between ausing scores and the auser's interest or favorable reaction to the ausing ~~tests~~."<sup>9</sup>

Francis Cartier was interested in the effect of interest on Listensability.<sup>10</sup> The experiment, however, approached the subject

<sup>7</sup>Harold E. Nelson, "The Effect of Variations of Rate on the Recall by Radio Listeners of 'Straight' Newscasts," Speech Monographs, XV (1948), p. 179.

<sup>8</sup>Jeanne S. Chall and Harold E. Dial, "Predicting Listener Understanding and Interest in ~~Newscasts~~," Educational Research Bulletin, XXVII (September 15, 1948), p. 152.

<sup>9</sup>John Caffrey, "Ausing," Review of Educational Research, XIV (April, 1945), p. 129.

<sup>10</sup>Francis Cartier, "An Experimental Study of the Effect of 'Human Interest' on Listensability, (unpublished Ph. D. dissertation, University of Southern California, (1951), abstracted by Milton Dickens, Speech Monographs, XIX (June, 1952), p. 114.



differently than previous investigations. The experimenter determined certain words which were classified as "Human Interest" words, such as "mother", "father", "country", etc. These words were then added or subtracted from a prepared speech. When the variations of the speech were presented, and the subjects tested on retention, it was then possible to determine the effect of these "Human Interest" words on retention. Cartier determined from this design that "Human Interest" words did not affect retention of material to any significant level.

In 1955 Ralph Nichols summarized previous research in the different areas of listening. Specifically about interest, he stated:

All objective studies in the area point out the tremendous significance of the interest factor in aural assimilation. They reveal that good listeners seem to find interesting elements in almost any or all topics for discussion, and that poor listeners frequently find a topic "dry". Persons truly interested in the content of a presentation concentrate their attention very well and learn efficiently enough through listening.<sup>11</sup>

During this same year, two experiments revealed varying results.

The first, reported by James I. Brown, showed a high positive correlation between interest and retention, while the second, reported by John Caffrey, indicated a low positive correlation.

Brown concluded by saying:

The consistently close relationship between interest and comprehension, particularly on the aural listening scores, helped students realize that good listening and interest go hand in hand and that one way to improve listening is to develop stronger and wider interest. Taking the three classes, for

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<sup>11</sup>Ralph Nichols, "Ten Components of Effective Listening," Education, LXV (January, 1955), p. 293.

example, where this informal check was made, the nine students who rated the article read to them as "Very interesting" averaged 10.6 on the test (13 was a perfect score). The three who rated it "very uninteresting" averaged 3.6 on the same test.<sup>12</sup>

John Caffrey found that the correlations between listening comprehension and interest were very low. He reported:

It is noteworthy, . . . , that the relation between aural test scores and a scored self-rating of interest taken at the time of the testing is very low:  $r = .12$  (Form F) and  $r = .26$  (Form AB).<sup>13</sup>

In 1959 Charles T. Brown included interest as a variable of listening comprehension. He was interested in answering three questions:

1. How important is anticipatory set in listening?
2. How important is theoretical interest in listening?
3. How important is word association in listening?<sup>14</sup>

Brown defined theoretical interest as:

. . . an interest in the search for truth, an interest in making comparisons and contrasts, an interest in observation and reasoning. Theoretical drive is what makes us try to order and systemize our knowledge.<sup>15</sup>

Furthermore, he stated, theoretical interest is one of:

. . . six human values: theoretical, economic, aesthetic, social, political, and religious.<sup>16</sup>

<sup>12</sup>James I. Brown, "Evaluating Student Performance in Listening," *Education*, LXIV (January, 1955), p. 319.

<sup>13</sup>John Caffrey, "Aural Ability at the Secondary Level," *Education*, LXIV (January, 1955), p. 306.

<sup>14</sup>Charles T. Brown, "Studies in Listening Comprehension," *Speech Monographs*, XVI (November, 1959), p. 288.

<sup>15</sup>*Ibid.*, p. 292.

<sup>16</sup>*Ibid.*

With regard to the second question, Brown concluded:

The test scores in this study suggest that the theoretical interest of college freshmen is not significantly related to their listening. The correlation between listening and the scores of theoretical interest is too low to indicate any significant relation.

However, he went on to say:

...the listening scores of that particular student group whose theoretical interest is a primary interest were significantly high. It would appear that very intense theoretical interest tends to guarantee good listening but that intense theoretical interest is not a necessary ingredient of good listening.<sup>17</sup>

### Summary

There have been investigations specifically relating interest and listening comprehension, but the majority of these experiments have treated the interest factor as a minor aspect of the listening area.

The problem was summed up by Witty and Sizemore:

We cannot emphasize too strongly the fact that most of the experiments on listening have failed to take into account, or even recognize, the significance of the interest factor. It is to be hoped that the future will bring greater attention to this factor...<sup>18</sup>

This hope still remains, for according to Thompson, there are still too few studies to permit firm conclusions in the area of interest and retention.

### Scholastic Ability and Retention

The review in the area of scholastic ability indicated that the term was identified in different ways. William J. Michaels and M. Ray Darnes stated this problem:

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<sup>17</sup>Ibid.

<sup>18</sup>p. A. Witty and R. A. Sizemore, "Studies in Listening: III," Elementary English, XXVI (February, 1959), p. 139.



. . . most tests that have been developed for the purpose of predicting school success or ability to learn have endeavored primarily to measure the person's abilities in this respect. Such tests have commonly been called "intelligence tests" (and still are), although the present trend is to use the terms "scholastic aptitude" or "educational-aptitude tests." Undoubtedly this is a more accurate indication of the real nature of such tests.<sup>19</sup>

Furthermore, P. E. Vernon established an operational approach to the problem when he wrote:

Probably, . . . , the best definition we can give [to intelligence] is a rather simple, non-specific one, such as "all-round thinking capacities," or "mental efficiency," or, as Hurt and Ballard suggest, "general mental ability."<sup>20</sup> (Brackets by the writer)

An examination of the research indicated some researchers used these terms interchangeably, whereas other researchers felt each term was distinctly different from the other. Therefore, for purposes of this investigation, the definition provided by Michaels and Darnes was utilized. The term "scholastic ability" will be used when referring to intelligence, scholastic aptitude or academic potential.

In 1956 Harold Anderson asked, "what is the correlation between listening ability and intelligence?"<sup>21</sup>

Since 1945 a number of studies have been completed investigating this pertinent question. Franklin H. Knower, David Phillips and Fern Neoppel asked:

What are the relationships of auditory comprehension as

<sup>19</sup>William J. Michaels and M. E. Darnes, Measuring Educational Achievement (New York: McGraw-Hill Book Company, Inc., 1950), p. 29

<sup>20</sup>P. E. Vernon, Intelligence and Attainment Tests, (New York: Philosophical Library, 1960), p. 32.

<sup>21</sup>Anderson, Op. cit., p. 219.

measured in this study to college ability tests and silent reading comprehension test scores.<sup>22</sup>

With this question as one of eight hypothesized questions, their research indicated:

Auditory comprehension as measured in this test had a low though positive correlation with college ability test scores.<sup>23</sup>

In 1948 Ralph Nichols attempted to identify "as many as possible of the factors which accounted for differences in comprehension of expository materials presented orally in a classroom situation to 200 college freshmen."<sup>24</sup>

His data revealed a correlation of .94 between scholastic ability and listening comprehension. He summarized that one of the factors which lead to the difference in listening comprehension was the scholastic ability factor.

Nelson, also in 1948, found that "Positive but low correlations were obtained between the composite scores [of the Iowa Composite Entrance Exam] and newscast recall tests."<sup>25</sup> (Brackets by the writer)

In an abstract of a thesis completed by Bernard L. Prince, Robert R. Lyon stated:

The study found that the following factors have the most significant positive relationship with classroom listening

<sup>22</sup>Franklin H. Knower, David Phillips, and Fern Keoppel, "Studies in Listening to Informative Speaking," Journal of Abnormal and Social Psychology, XL (January, 1945), p. 83.

<sup>23</sup>Ibid., p. 87.

<sup>24</sup>Nichols, "Factors in Listening Comprehension," Op. cit., p. 154.

<sup>25</sup>Nelson, Op. cit., p. 179.

behavior; reading effectiveness, scholastic aptitude, listening vocabulary and objective tendencies in personal-social adjustment.<sup>26</sup>

Kraver, Phillips, and Keoppel in 1945, Nichols in 1948, Nelson in 1948 and Prince in 1948, found low but positive correlations between scholastic ability and retention. These findings were supported by Hallam in 1951, who found a .56 correlation,<sup>27</sup> Caffrey who reported a .53 correlation<sup>28</sup> and Bow who indicated a correlation of .44.<sup>29</sup>

In 1953, with the help of Robert J. Keller, Ralph Nichols continued his research of 1948. They were interested in determining the measurement of communication skills, which they defined as reading, writing, speaking, and listening. Their conclusion revealed: "The pretest group, which was more intelligent, showed more listening ability."<sup>30</sup> Walter Stromer further validated this conclusion in his research of 1953.

With good listeners defined as those who ranked above the 85th percentile on the listening test, and poor listeners as

<sup>26</sup>Bernice L. Prince, "A Study of Classroom Listening Effectiveness in Basic Communication and Its Relation to Certain Other Personal Factors," (unpublished M.A. thesis, University of Denver, 1948), abstracted by Robert H. Lyon, Speech Monographs, XVI (September, 1949), p. 352.

<sup>27</sup>A. W. Hallam, "An Investigation in Measuring and Improving Listening Ability of College Freshmen," Speech Monographs, XVIII (November, 1951), p. 307.

<sup>28</sup>Caffrey, "Aiding Ability at the Secondary Level," Op. cit., p. 306.

<sup>29</sup>Lyle W. Bow, "The Development of Listening Comprehension Tests for Michigan State College Freshmen," (unpublished Ph. D. dissertation, Michigan State College, 1952), abstract: Dissertation Abstracts, 13:268-9, (November, 1953).

<sup>30</sup>Ralph Nichols and Robert J. Keller, "The Measurement of Communication Skills," Junior College Journal, XXIV (November, 1953), p. 160.



those who ranked below the 15th percentile, the good listeners were found to have significantly higher mean scores on the following aspects of the Wechsler-Bellevue Intelligence Scale: Full scale, total verbal, total performance, information, vocabulary, similarities . . .<sup>31</sup>

Further studies were completed by Hollow, who found a .56 correlation;<sup>32</sup> Pratt, who found a correlation of .66;<sup>33</sup> and Biggs who indicated a .64 correlation.<sup>34</sup> These studies were further supported by P. I. McClendon who concluded his report by stating:

The positive correlation between listening comprehension and intelligence or scholastic aptitude as found by Ralph G. Nichols, Arthur Heilman, Bernice Biggs and others was supported.<sup>35</sup>

In a review of research done in the listening area, Sam Duker stated that Baldauf, in 1960, "found the overall correlation between intelligence and school achievement and between listening and school achievement to be identical: .82."<sup>36</sup>

<sup>31</sup>Walter F. Stromer, "An Investigation Into Some of the Relations Between Reading, Listening, and Intelligence," (unpublished Ph. D. dissertation, University of Denver, 1952), abstract: Speech Monographs, XX (November, 1953), p. 161.

<sup>32</sup>Sister Mary K. H. Hollow, "Listening Comprehension at the Intermediate Grade Levels," Elementary School Journal, LVI (December, 1955), p. 161.

<sup>33</sup>Edward Pratt, "Experimental Evaluation of a Program for the Improvement of Listening," Elementary School Journal, LVI (March, 1956), p. 320.

<sup>34</sup>Bernice Prince Biggs, "Construction, Validation and Evaluation of a Diagnostic Test of Listening Effectiveness," Speech Monographs, XXIII (March, 1956), p. 13.

<sup>35</sup>P. I. McClendon, "An Experimental Study of the Relationship Between the Note-Taking Practices and Listening Comprehension of College Freshmen During Expository Lectures," Speech Monographs, XXV (August, 1958), p. 222.

<sup>36</sup>Thompson, Op. cit., p. 136.

From 1960 there is a noticeable void in the amount of research relating to listening comprehension and scholastic ability. Furthermore, scholastic ability has been studied as an isolated factor, with it being eliminated when other variables were tested. It is this void and the elimination of scholastic ability when testing other variables which led Thompson to state:

If intelligence is in reality a constituent of listening ability, an instrument that succeeded in eliminating intelligence would be only a partial measure of listening skill. On the other hand, if intelligence is not a true constituent of listening ability, the present tests overestimate the receptive skill of intelligent persons and are misleading. At present the issue is undetermined experimentally and remains speculative. The writer's position is that because intelligence probably is a major constituent of listening ability, tests eliminating intelligence as a factor would be invalid. Some tests, on the other hand, probably are too largely measures of intelligence and hence underrepresent the other factors.

### Summary

Research has indicated a positive correlation between scholastic ability and retention. Analysis of selected studies indicated that as measures of scholastic ability of subjects increased, retention also increased.

### Interest, Scholastic Ability and Retention

There have been only two studies, as can be determined through a survey of selected literature, which isolate the variables of interest, scholastic ability and retention in one research design.

In 1951 Martha Ann Heath completed a study entitled "An Experimental Analysis of the Relations Between Interest, Educability, and a Score on an Objective Examination Over the Factual Content of an Informative Speech."



Her stated purpose in this study was:

. . . to determine the possible relative influence of (1) educational ability and (2) interest upon ability to answer correctly factual questions over an informative speech. Stated in question form the problem is: What correlations may exist between stated interest in a subject dealing with vocational choice, vocational interest as measured by the Kuder Preference Record, educational ability as measured by the American Council on Education Psychological Examination, and a score on an objective examination over an informative speech?<sup>37</sup>

To achieve this stated purpose, she compiled the scores for 209 students in the areas of a psychological examination, the Kuder Preference Record, stated interest and a listening examination over the factual content of an informative speech.<sup>38</sup> The psychological examination scores were available from school records, while the other three measures were administered to the students.

The results of the Kuder Preference Record revealed a high vocational degree of interest in Social Service. The students were then asked to rate their desires to hear a speech on social service, through the administering of a five point scale of interest. These two tests determined vocational interest, and stated interest.

The speech was developed so that it would fulfill six criteria.

The speech must (1) contain material that would appeal to individuals interested in social service; (2) contain material that was relatively unfamiliar to the students to be examined in order to rule out the factor of previous

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<sup>37</sup>Martha Ann Heath, "An Experimental Analysis of the Relations Between Interest, Educability, and a Score on an Objective Examination Over the Factual Content of an Informative Speech," (unpublished thesis, Florida State University, August, 1951), pp. 4-5

<sup>38</sup>Ibid., p. 13.

knowledge; (3) contain material of an informative nature only; (4) be written in good oral style; (5) be written in such a way that the factual content would be the only element in the speech that would attract interest; and (6) be approximately twenty minutes long in order to provide enough information to make a reliable test and still not be too fatiguing to the listeners.<sup>39</sup>

With these points in mind, the speech was written on the subject of Alaskan Eskimos.

To create an affective test over the speech, ninety-five multiple choice questions were devised and administered to three controlled classes after they had heard the speech. From this pretest of the actual multiple choice exam, the questions which seemed to have a high probability of being answered right, the questions which could be answered with prior knowledge, and the questions which showed a large number of incorrect answers, were eliminated. The final test contained 72 questions.

After the students heard the speech, a three question survey was administered. The following questions were asked:

1. Approximately what percentage of the information in the speech was familiar to you?  
(a) 0%; (b) 10%; (c) 20%; (d) 30%; (e) more than 30%.
2. Which term best describes your emotional state today?  
(a) very depressed; (b) slightly depressed; (c) average;  
(d) quite good; (e) highly elated.
3. Which term best describes your physical state today?  
(a) ill; (b) slightly ill; (c) normal; (d) much better than normal.<sup>40</sup>

After this questionnaire was administered, the students were asked to complete the 72 question test.

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<sup>39</sup>Ibid., p. 17.

<sup>40</sup>Ibid., p. 66.

The conclusions derived from this experiment supported previous research in the area of intelligence.

Table 6 shows the coefficients of correlation found between scores on the four tests. Of the four correlations only two are significant, both at the 1% level of confidence.

TABLE 6  
COEFFICIENTS OF CORRELATION OF SCORES ON  
4 TESTS (N=209)

	Kuder	A. C. E.	Stated Interest
Listening	-0.133	+0.310 <sup>a</sup>	-0.068
Kuder	.....		+0.467 <sup>b</sup>

<sup>a</sup>Significant at 1% level.

<sup>b</sup>Significant at 1% level.

These are: a positive correlation of .31 between listening ability and intelligence (A.C.E.) and a positive correlation of .47 between interest as measured by the Kuder Preference Record and Stated interest.<sup>41</sup>

In the area of interest versus listening ability she determined that:

A negative correlation of -.13 between interest as measured by the Kuder and listening ability is not significant. It indicates that there is probably no relationship between these two factors. In interpreting this correlation, however, it is necessary to take into account the possibility that the main objective of the speech—to appeal to people interested in social service—may not have been accomplished.<sup>42</sup>

She concluded by stating:

Further research is needed before final conclusions can

<sup>41</sup>Ibid., pp. 30-1.

<sup>42</sup>Ibid., p. 32.

be drawn concerning the relationship between interest in a subject and the ability to remember the factual content of a speech about the subject.<sup>43</sup>

Also in 1951, Mary E. Karraker developed an experiment which basically examined variables similar to those investigated by Heath.

The problem of this study was to determine the relationships between listening effectiveness and certain factors believed to influence listening. The primary factors that were selected for study in the investigation were as follows:

- I. Listening effectiveness and interest.
  - A. Relationships between listening effectiveness and interest as measured by the Kuder Preference Record.
  - B. Relationship between listening effectiveness and interest as indicated by the interest questionnaire.
  - C. Relationship between stated interest and vocational experience as indicated by the interest questionnaire.
- II. Listening effectiveness and "set."
- III. Listening effectiveness and miscellaneous items.
  - A. The comparisons of listening effectiveness as demonstrated by the different class groups.
  - B. Listening effectiveness as influenced by various types of material.
  - C. Listening effectiveness as related to school marks.
  - D. Listening effectiveness as influenced by intelligence.
  - E. Listening effectiveness as influenced by reading ability.
  - F. Listening effectiveness as influenced by age.<sup>44</sup>

To obtain data regarding these different factors, she compiled scores achieved by the students on the entrance examination for admission to the university, the Kuder Preference Record, an original interest test, and the test over the speeches heard by the students.

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<sup>43</sup>Ibid., p. 42.

<sup>44</sup>Mary E. Karraker, "An Evaluation of the Influence of Interest and 'Set' on Listening Effectiveness in the Basic Communications Class," (unpublished Ed. D. dissertation, University of Denver, August, 1951), pp. 63-4.



To determine interest of the students, both the Kuder Preference Record and the original interest test were used to indicate occupational interest. The original interest test was divided into eight areas of occupation: mechanical occupations, scientific occupations, persuasive occupations, artistic occupations, literary occupations, musical occupations, social service occupations, and clerical occupations. The students were asked to rate these eight occupational areas according to a first, second, and third choice in terms of their interest.<sup>45</sup>

The speeches used were developed in two ways. In the first case eight speeches were developed no longer than twenty minutes in length which were each associated to one of the occupational areas that the students were asked to rank. With these speeches and accompanying tests, she was able to determine interest level versus listening effectiveness.

The second set of speeches was developed to handle another area of research: the effect of "set" on listening effectiveness. For this purpose, three speeches were developed on the biographies of three famous men. Prior to hearing these speeches, in order to provide sophistication with the research procedure, the students listened to two prior speeches on the biographies of two other famous people, over which they were not tested.

The tests were developed in a way similar to that of the Heath experiment.

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<sup>45</sup>Ibid., p. 168.

Three conclusions that she reached are of importance:

Part I. A. Relationship between listening effectiveness and interest as measured by the Kuder Preference Record.

The extreme range of the correlations of listening effectiveness and interest, varying between  $-.43$  and  $.83$ , indicates that there are many other factors other than occupational interest that are operating to influence listening effectiveness. The median of the correlation is  $.16$ ,  $Q^3$  is  $.31$ , and  $Q^1$  is  $-.23$ . The coefficient of alienation is  $.986$ , which indicates that prediction of listening effectiveness on the basis of interest is fifty-one chances in 100.<sup>46</sup>

Part I. B. Relationship between listening effectiveness and interest as indicated by the interest questionnaire.

This interest questionnaire is probably not as accurate in the measurement of interest as the Kuder Preference Record and therefore shows less relationship to listening effectiveness. The range is from  $-.60$  to  $.64$ , the median is  $.06$ ,  $Q^3$  is  $.32$ , and  $Q^1$  is  $-.23$ . The coefficient of alienation is  $.995$ .<sup>47</sup>

And:

Part III. D. Listening effectiveness as influenced by intelligence.

The relationship between listening effectiveness and total scores on the American Council of Education Psychological Examination is  $.52$ , and the coefficient of alienation is  $.85$ . These findings indicate that the prediction of listening effectiveness from total scores on the American Council of Education Psychological Examination is fifty-eight chances in 100.<sup>48</sup>

There is a significant relationship between listening effectiveness and intelligence.<sup>49</sup>

<sup>46</sup>Ibid., p. 98.

<sup>47</sup>Ibid., p. 99.

<sup>48</sup>Ibid., p. 105.

<sup>49</sup>Ibid., p. 106.

### Summary of Literature

The review of literature relative to interest and scholastic ability revealed: (1) a variety of indicators used to determine scholastic ability, thereby making it necessary to simplify discussion of research by using the term "scholastic ability" when referring to intelligence, scholastic aptitude or academic potential; (2) a lack of research indicating the combined affects of scholastic ability and interest on retention.

### Interest and Retention

In none of the quantitative studies surveyed was interest the primary variable of the investigation. Where conclusions were reached, however, relating interest and retention, it was shown that there is not enough evidence to generalize regarding this relationship.

### Scholastic Ability and Retention

Past research has revealed a relationship between scholastic ability and listening comprehension or retention. Experimenters in the past have found correlations ranging from a low of .54 to a high of .82.

### Interest, Scholastic Ability and Retention

In the studies where these three variables were isolated, both Heath and Karraker supported previous research indicating a positive correlation between scholastic ability and retention. They both also determined that there was not enough evidence to draw a firm relationship between interest and retention. Neither study attempted to compare the combined effects of interest and retention.

### Object of the Study

Research in scholastic ability and interest has long been separating the two variables, handling each to find its individual effect on retention. Numerous investigations into the effect of scholastic ability on retention have determined that there is a positive correlation between the two variables. However, research relating interest to retention has not been conclusive. Researchers have agreed that both interest and scholastic ability affect retention, but the combined effect of these two variables has not been investigated. What effect will high interest and high scholastic ability have on retention? What effect will high interest and low scholastic ability have on retention? What effect will low interest and high scholastic ability have on retention? What effect will low interest and low scholastic ability have on retention? This investigation was designed to provide some tentative answers and explanations to these and other questions related to interest and scholastic ability.

### Specific Objectives

Specifically, this study was structured to measure the relative retention capacity of students according to dimensions of: (1) interest and (2) scholastic ability. Of prime concern are the combinations of high interest and low scholastic ability along with low interest and high scholastic ability. Because these two pairs of variables have not been investigated before, they are being studied to find their combined effects upon retention.

Further, the retention ability of students with high interest and high scholastic ability was measured, as was the retention ability of students with low interest and low scholastic ability.



### Hypotheses

For purposes of this investigation, the theoretical position of high interest plus high scholastic ability was given the weight of probability. This resulted from the past research of investigators who reported that when interest and scholastic ability increased, retention usually increased. Furthermore, the degree of probability seemed high that students possessing high interest in a subject but low scholastic ability would retain the same amount of material as the students possessing low interest in a subject and high scholastic ability. The following were the hypotheses for the investigation:

- (1) Subjects possessing high interest in a subject and high scholastic ability will rank highest in retention of material.
- (2) Subjects possessing high interest in a subject and low scholastic ability and subjects possessing low interest in a subject and high scholastic ability will retain less than subjects possessing high interest in a subject and high scholastic ability.
- (3) Subjects possessing high interest in a subject and low scholastic ability will equal subjects possessing low interest in a subject and high scholastic ability in terms of retention.
- (4) Subjects possessing high interest in a subject and low scholastic ability and subjects possessing low interest in a subject and high scholastic ability will retain more than subjects possessing low interest in a subject and high scholastic ability.

### Definition of Terms

In this study, interest will be defined as it was by Mary E. Karraker

In 1951:

. . . the term interest refers to a preference of liking which influences our selection or our participation in an activity which will bring pleasure and which will satisfy an inward desire. Interest is a learned reaction to specific things and may be modified by re-education. Interests may be dormant or may be aroused; when aroused, action results.<sup>50</sup>

Interest will be determined by an interest evaluation sheet.

As indicated, scholastic ability was measured by several different tests in past research. In the studies surveyed scholastic ability was ascertained through the use of the Iowa Composite Entrance Exam,<sup>51</sup> the California Test of Mental Maturity,<sup>52</sup> the Detroit Intelligence Test,<sup>53</sup> the Wechsler-Bellevue Intelligence Scale,<sup>54</sup> college ability test scores,<sup>55</sup> the American Council of Education Examination,<sup>56</sup> the American Council on Education Psychological Tests for College Freshmen,<sup>57</sup> and the A.C.E. Test

<sup>50</sup>Karraker, Op. cit., pp. 13-14.

<sup>51</sup>Nelson, Op. cit.

<sup>52</sup>Robert C. Hall, "An Exploratory Study of Listening of Fifth Grade Pupils," (unpublished Ph. D. dissertation, University of Southern California, 1954), p. 227.

<sup>53</sup>Paul T. Rankin, "The Measurement of the Ability to Understand Spoken Language," (unpublished Ph. D. dissertation, University of Michigan, 1926), p. 227.

<sup>54</sup>Strasser, Op. cit.

<sup>55</sup>Knower, Phillips and Leopple, Op. cit.

<sup>56</sup>Nichols, "Factors in Listening Comprehension," Op. cit.

<sup>57</sup>Olgers, Op. cit.

# of Scholastic Aptitude.<sup>58</sup>

However as was indicated by Micheels and Darnes:

. . . most tests that have been developed for the purpose of predicting school success or ability to learn have endeavored primarily to measure the person's abilities in this respect. Such tests have commonly been called "intelligence tests" (and still are), although the present trend is to use the terms "scholastic aptitude" or "educational-aptitude tests." Undoubtedly this is a more accurate indication of the real nature of such tests.<sup>59</sup>

Furthermore, P. E. Vernon established an operational approach to the problem when he wrote:

Probably, . . . , the best definition we can give [to intelligence] is a rather simple, non-specific one, such as "all-round thinking capacities," or "mental efficiency," or, as Burt and Ballard suggest, "general mental ability."<sup>60</sup>  
(Brackets mine)

Therefore, in this study, the term scholastic ability will be defined as measured by the American College Testing Program (ACT) composite score. This test is required for admission to Eastern Illinois University, and the scores were readily available to the investigator.

Of the ACT-composite score, Kenneth EdlIs indicated:

. . . The ACT-composite score is most closely correlated with the other scores (CEEB, SCAT, CQT) which are generally accepted as measures of general scholastic ability.<sup>61</sup>

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<sup>58</sup>Edward J. J. Kramer, "The Relationship of the Wechsler-Bellevue and the A.C.E. Intelligence Tests with Performance Scores in Speaking and the Brown-Carlson Listening Comprehension Test," (unpublished Ph. D. dissertation, Florida State University, 1955), abstract: Dissertation Abstract, 15:2599; nos. 12, 1955.

<sup>59</sup>Micheels and Darnes, Op. cit.

<sup>60</sup>Vernon, Op. cit.

<sup>61</sup>Kenneth EdlIs, How Will the ACT Test Serve Illinois Needs?-- A Research Report, prepared for the Committee on Freshman Testing of the Illinois Joint Council on Higher Education, 1962, p. 233.

Furthermore, he stated:

...Act tests overlap most heavily with the other tests of general scholastic ability (correlations in the .70's and low .80's except for the high-school rank)...<sup>62</sup>

These statements indicate the relationship between the tests which are classified and defined to measure scholastic ability and the ACT test composite scores.

Retention was defined as the score received on a multiple choice test of speech content.

#### Assumptions

The investigation required making several assumptions related to the design of the experiment and the population which served as the basis for the supply of experimental subjects. The study assumed:

- (1) That the ACT-composite score was accurate in all cases.
- (2) That the sample of subjects was representative of the total population.
- (3) That the students would approach the speech and test as they would a "normal" classroom assignment.
- (4) That a thirty-minute time period allowed ample time to complete playing of the tape, indicating an interest level, and completing a multiple choice test over the speech.

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<sup>62</sup>Ibid.

### Summary

Research has shown that correlations between interest and retention have not been as high as the studies dealing with scholastic ability. In some cases, investigators indicate a high positive correlation between the variables of interest and retention, but in other quantitative studies the correlation is much lower. It has therefore been summarized by investigators that more research is needed.

Investigations have shown that there is a positive correlation between scholastic ability and retention. Investigators have determined that when an individual has high scholastic ability he is able to retain more material.

There are no studies which have researched the effects of high interest plus high scholastic ability or low interest plus low scholastic ability on retention. Nor have there been studies which compared high interest plus low scholastic ability against low interest plus high scholastic ability through analysis of retention.

Therefore this experiment has been designed to relate these various combinations of interest and scholastic ability as to their effects upon retention.



## CHAPTER II

### METHOD

#### Preliminaries

##### Subjects

228 students enrolled in the basic speech course at Eastern Illinois University served as subjects in this experiment. One week prior to the experiment twelve sections of the beginning speech course were randomly selected for the testing procedure. These classes contained an average of twenty students, with a range of from nineteen to twenty-two students. Because of absences, twelve of the original students selected were not tested.

The instructors were in all cases asked to run the actual experiment, and were given appropriate instructions prior to the testing dates (Appendix A).

##### The Speech

Because of the nature of retention as the dependent variable, it was necessary to develop a speech that would meet the qualifications of the experiment.

The qualifications for choosing the speech were: (1) the length of the speech must be approximately ten minutes; (2) the speech had to contain enough factual material on which the students could be tested; and

(3) the speech must be of a nature that it would interest some students and not others.

Three speeches were developed to fulfill the requirements of the first two criteria. The third criteria was fulfilled through utilization of a seven point interest scale for each speech (Appendix B).

Development of the speeches. For the purpose of finding an appropriate speech for the experiment, three speeches were developed and pre-tested on students in the beginning speech course.

The first speech was taken from the first affirmative speech at the 1968 National Debate Tournament Final Debate on the topic, Resolved: Should the Federal Government Guarantee a Minimum Annual Cash Income to all Citizens?<sup>1</sup> The speech was edited by the investigator and recorded on tape by a member of the speech department faculty.

The second speech, entitled "A New Look At The Old Ticker," was written by Theodore G. Klumpp, M.D.<sup>2</sup> The original text of the speech was edited to fit into the ten minute time limit. The subject of the speech was heart attacks.

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<sup>1</sup>First Affirmative Constructive of the 1968 National Debate Tournament Final Debate: Should the Federal Government Guarantee a Minimum Annual Cash Income to all Citizens? Edited by Stanley G. Rives, Journal of the American Forensic Association, Vol. V, (Fall, 1968), pp. 115-118.

<sup>2</sup>Theodore G. Klumpp, M.D., "A New Look at the Old Ticker," Fundamentals of Public Speaking, Donald C. Bryant and Carl R. Wallace, editors, (New York: Appleton-Century-Crofts, Inc., 1960), pp. 489-500.

The third speech was "Our Greatest Wartime Blunder," originally presented by a Nisei student in 1949.<sup>3</sup> The subject of the speech was the impounding of Japanese-Americans after the bombing of Pearl Harbor.

Testing of the speeches. Speech number one was recorded by a member of the speech department faculty; speech number two was recorded by the experimenter; and speech three was recorded by a member of the speech department faculty.

For testing, three different classes were used, each hearing one speech. Upon the completion of the recorded speech in each case, the students were asked to rate their interest in the speech on the seven point interest scale (Appendix B).

The interest scales were collected and scored to determine which speech best fulfilled the needs of the experiment. From this score it was determined that the speech on heart attacks would be most acceptable for the actual experiment (Appendix C).

### The Test

For the purpose of securing retention scores, a multiple choice test over the speech was developed. The test contained sixty questions, from which thirty were eliminated because they were determined to be vague or closely related to other questions. The final test contained thirty questions (Appendix D).

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<sup>3</sup>A Nisei student, "Our Greatest Wartime Blunder," Speech, Idea and Delivery, Charles W. Lomas and Ralph Richardson, editors, (Boston: Houghton Mifflin Company, 1963), pp. 287-293.



### The Interest Evaluation Sheet

Interest in the speech and/or content of the speech was found by administering a seven point interest evaluation sheet. The students were asked to supply their social security number, rank in school and sex data (Appendix B).

### Determining Scholastic Ability

Scholastic Ability was determined by the composite American College Testing Program (ACT) scores. These scores were available to the investigator at the testing center on the campus of Eastern Illinois University.

Prior to the testing dates, the class rosters were obtained for the classes to be utilized in the investigation. The composite ACT score was then found for each student and recorded.

## The Experiment

### Design of the Experiment

Twelve classes, having from eighteen to twenty-two members, were randomly chosen for this experiment. In all cases the regular instructor of the class was asked to run the experiment.

All classes were exposed to the same speech on heart attacks (Appendix C). In addition, each group received the same instructions, and followed the same format (Table II).

Consequently, all the classes were exposed to the same experimental materials in the same order.

Not knowing they would be tested on retention, the students were asked to listen carefully to the speech recording. They were then requested to complete the interest evaluation sheet (Appendix B). Finally the students were asked to complete the thirty question multiple choice retention test (Appendix D).

### Setting for the Experiment

The investigation was conducted in one university building at Eastern Illinois University. The rooms utilized by the experiment were those in which the students normally met for their basic speech class. Each experimental session was scheduled for one hour, although the actual experiment required approximately thirty minutes.

### Procedure for the Experiment

Each instructor was given a set of instructions providing step-by-step directions. Information regarding the nature of the investigation was also specified.

Procedure: I ask that the instructor at no time tell the students that they are taking part in an experimental study. This request is necessary because of the number of days needed to run the tape in the various classes (Appendix A).

In all cases the instructors were asked not to reveal the reason for student participation in the investigation.

The instructors were requested to position the tape machine. After the students were seated, they were simply instructed to listen carefully to the tape.

Upon completion of the tape, the instructors distributed the interest evaluation sheet, indicating to the students that their performance in

the course would not be affected by this evaluation measure. The students were instructed to complete the information regarding their social security number, rank in school, and sex data. Two minutes were allowed for completion of the interest evaluation sheet prior to collection by the instructor.

Next the retention test on the speech contest was distributed, and the students were asked to place their name on the test before beginning completion of the items. Fifteen minutes were allowed for completion of this thirty point test.

The tests were collected, placed with the interest evaluation sheets, and returned to the investigator at the conclusion of the class period.

### Schedule

The schedule for the investigation is reported in Table I and Table II.

TABLE I  
SCHEDULE FOR THE DETERMINATION OF  
ACCEPTABLE SPEECH

Instructions	Speech 1	30 seconds
	Speech 2	
	Speech 3	
Listening to the Speech	Speech 1	12 minutes
	Speech 2	11 minutes
	Speech 3	14 minutes
Interest Evaluation Sheet	Speech 1	2 minutes
	Speech 2	
	Speech 3	

TABLE II  
SCHEDULE FOR THE EXPERIMENT

Instructions	-	30 seconds
Listening to the Speech	-	11 minutes
Interest Evaluation Sheet	-	2 minutes
Test on Retention	-	10 minutes

Collection of Data

Methods of Collection of the Data

Three methods were utilized in securing data in the investigation: subjects reported their interest on the interest evaluation sheet, the retention test over the content of the speech, and the ACT-composite scores.

Interest evaluation sheet. Immediately following the taped speech, the students were asked to complete the required information on the interest sheet. They were then directed to indicate their interest in the speech (Appendix B).

Multiple choice retention test. A thirty item test was administered to the students upon the completion of the interest evaluation sheet. The test was designed to measure the students' retention of factual material found in the recorded speech (Appendix D).



ACT-composite scores. The ACT-composite scores were secured from the individual student's record at the testing office at Eastern Illinois University. The students were identified through their name and social security number.

#### Treatment of the Data

Refinement. All raw data was transformed into numerical scores adaptable to statistical manipulation for the testing of the hypotheses of the investigation. The scores on the multiple choice retention test automatically provided such data as did the ACT-composite scores. The scores of the interest evaluation sheet were transformed by assigning numerical values along the seven point continuum.

Statistical treatment of the data. The multiple choice retention test was scored, and the number right was placed on the corresponding interest evaluation sheet. The rating the student placed on the interest evaluation sheet was given a number to correspond with the levels of interest: 1 = strong dis-interest; 2 = dis-interest; . . . ; 7 = strong interest.

The tests were numbered from one to 216, for purposes of identification, and this number was placed on a graph in a position which corresponded to the student's ACT-composite score and the rating on the interest evaluation sheet (Appendix E).

Four populations of students representing high interest-high scholastic ability, high interest-low scholastic ability, low interest-high scholastic ability and low interest-low scholastic ability groupings

were selected by drawing four quadrants on the graph (Appendix E). The tests which fell into one of the four quadrants were located and the scores received were recorded under the specific heading in which they fell. The final population to be analyzed statistically was eighty-eight, divided into four groups: Group I\* contained 34 subjects; Group II\*\* contained 23 subjects; Group III\*\*\* had 16 subjects; and Group IV\*\*\*\* had 15 subjects.

Analysis of variance was then utilized to analyze the differences among the four groups. In order to ascertain rank order of the groups it was necessary to run additional tests of significance. An analysis of variance between two groups was used to explore these specific differences.

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- \*Group I = high interest-high scholastic ability
  - \*\*Group II = high interest-low scholastic ability
  - \*\*\*Group III = low interest-high scholastic ability
  - \*\*\*\*Group IV = low interest-low scholastic ability

## CHAPTER III

### RESULTS

#### Interaction Between Variables

Because of the nature of this study, it was necessary to determine the combined effects of the two variables upon retention. Results of the analysis of variance for a two-by-two factorial design of interest and scholastic ability are reported in Table III.

TABLE III

ANALYSIS OF INTERACTION BETWEEN  
INTEREST AND SCHOLASTIC ABILITY

	df	Mean Square	F	Significance
TOTAL	87			
S.A.*	1	262.90	20.33	p = .01
INTEREST	1	124.33	9.62	p = .01
INTEREST X S.A.	1	21.65	1.69	n. s.
ERROR	84	12.93		

\*S.A. = Scholastic Ability

The results summarized in Table III indicated that both interest and scholastic ability resulted in significant differences in retention (significant at the 1% level).

Although the data indicated that interest and scholastic ability individually affected retention, the combined effects of interest and scholastic ability upon retention was additive—the variables did not interact.

In order to determine differences in rank of the various combinations of interest and scholastic ability, a completely randomized analysis of variance was utilized (see Table IV). Analysis of variance for two groups was used to explore specific differences among all combinations of interest and scholastic ability. These results are summarized in Table V.

TABLE IV  
ANALYSIS OF VARIANCE

Source of Variation	df	Mean Square	F	Significance
Between Conditions	3	411.49	10.65	p = .01
Within Conditions	84	1082.15		1% level

TABLE V  
ANALYSIS OF DIFFERENCE BETWEEN  
CONDITIONS

Difference between $H_I^{**}H_{S.A.}^{**}$ and $H_I^{*}H_{S.A.}^{*}$				
Source of Variation	df	Mean Square	F	Significance
Between Groups	1	98.74	7.84	p = .01
Within Groups	55	12.60		1% level

\*I = Interest

\*\*S.A. = Scholastic Ability



Difference Between  $H_I^{-H}$  S.A. and  $L_I^{-H}$  S.A.

Source of Variation	df	Mean Square	F	Significance
Between Conditions	1	16.72	1.51	$p \neq .01$
Within Conditions	48	11.04		n. s.

Difference Between  $H_I^{-H}$  S.A. and  $L_I^{-L}$  S.A.

Source of Variation	df	Mean Square	F	Significance
Between Conditions	1	346.16	26.44	$p = .01$
Within Conditions	47	13.09		1% level

Difference Between  $H_I^{-L}$  S.A. and  $L_I^{-H}$  S.A.

Source of Variation	df	Mean Square	F	Significance
Between Conditions	1	16.84	1.21	$p \neq .01$
Within Conditions	37	13.97		n. s.

Difference Between  $H_I^{-L}$  S.A. and  $L_I^{-L}$  S.A.

Source of Variation	df	Mean Square	F	Significance
Between Groups	1	107.13	6.96	$p = .05$
Within Groups	36	15.34		5% level

Difference Between  $L_I^{-H}$  S.A. and  $L_I^{-L}$  S.A.

Source of Variation	df	Mean Square	F	Significance
Between Groups	1	179.40	13.37	$p = .01$
Within Groups	29	13.42		1% level

The F-ratios for the various combinations of interest and scholastic ability are summarized in Table VI.

TABLE VI

F-RATIOS FOR COMBINATIONS OF  
INTEREST AND SCHOLASTIC ABILITY

	HI*-HS.A.**	HI-L.S.A.	LI-HS.A.
HI-L.S.A.	7.84****		
LI-HS.A.	1.51	1.21	
LI-L.S.A.	26.44****	6.98***	13.37****

\*\*\*Significant at .05

\*\*\*\*Significant at .01

The completely randomized analysis of variance to determine differences in rank of the various combinations of interest and scholastic ability was significant at the 1% level. Specific analysis of variance indicated that: HI-HS.A.

(1) Subjects in the high interest-high scholastic ability group retained more than subjects in the high interest-low scholastic ability group. This was significant at the 1% level.

(2) In terms of retention, no significant difference was found between high interest-high scholastic ability and low interest-high scholastic ability.

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\*I = Interest

\*\*S.A. = Scholastic Ability

(3) The high interest-high scholastic ability group retained more (significant at 1% level) than the group with low interest-low scholastic ability.

#### HI-Ls.A.

(1) High interest-low scholastic ability showed no significant difference in retention over low interest-high scholastic ability.

(2) The high interest-low scholastic ability group retained more than did the low interest-low scholastic ability group (significant at the 5% level).

#### LI-Hs.A.

(1) The low interest-high scholastic ability group retained more than the low interest-low scholastic ability group (significant at the 1% level).

### Summary of Results

In order to test the five hypotheses data was collected and treated statistically by utilization of three forms of analysis of variance. To test the combined effects of interest and scholastic ability upon retention, a two-by-two analysis was conducted. To determine the rank of the various treatments a randomized analysis of variance test was utilized. To give a final rank to the variables, F between pairs was used.

### Application of Data to the Hypotheses

In the two-by-two analysis of variance, it was found that both

variables individually affected retention (significant at the 1% level).

Interaction between the two major variables was not significant.

Retention scores provided data to test the five stated hypotheses. Regarding the ranking of the four treatments, a one dimensional analysis of variance indicated:

Hypothesis #1: Subjects possessing high interest in a subject and high scholastic ability will rate highest in retention of material.

With one exception, data supported this hypothesis. Analysis of the hypothesis revealed that the high interest and high scholastic ability group demonstrated more retention than the high interest-low scholastic ability and low interest-low scholastic ability groups, significant at the 1% level. However, differences between the high interest-high scholastic ability group and the low interest-high scholastic ability group were not significant.

Hypothesis #2: Subjects possessing high interest in a subject and low scholastic ability and subjects possessing low interest in a subject and high scholastic ability will retain less than subjects possessing high interest in a subject and high scholastic ability.

This hypothesis was partially supported by the data. Analysis of variance indicated that subjects with interest and low scholastic ability retained less than did subjects with high interest and high scholastic ability, but, there was no significant difference between the low interest-high scholastic ability group and the high interest-high scholastic ability group.



Hypothesis #3: Subjects possessing high interest in a subject and low scholastic ability will equal subjects possessing low interest in a subject and high scholastic ability in terms of retention.

Analysis of variance indicated support of this hypothesis. The group with high interest and low scholastic ability showed no significant difference in retention than the group with low interest and high scholastic ability.

Hypothesis #4: Subjects possessing high interest in a subject and low scholastic ability and subjects possessing low interest in a subject and high scholastic ability will retain more than subjects possessing low interest in a subject and low scholastic ability.

Analysis of variance supported this hypothesis. Subjects in the high interest and low scholastic ability group retained more than the subjects in the low interest and low scholastic ability group, significant at the 5% level. Subjects in the low interest and high scholastic ability group retained more than the subjects in the low interest and low scholastic ability group, significant at the 1% level.

The group demonstrating low interest and low scholastic ability retained less than both the high interest and high scholastic ability and low interest and high scholastic ability groups (significant at the 1% level).

## CHAPTER IV

### CONCLUSION

#### Summary

Researchers and scholars in the area of listening have demonstrated interest in investigating the individual effects of interest and scholastic ability upon retention. However, there have been no attempts to analyze the combined effects of interest and scholastic ability upon retention. Therefore, this investigation was designed to experimentally determine these combined effects. Secondly, the study was structured to measure the relative retention capacity of students according to dimensions of: (1) interest and (2) scholastic ability, particularly the combinations of high interest-low scholastic ability and low interest-high scholastic ability.

228 students enrolled in the basic speech course at Eastern Illinois University served as subjects in this experiment.

A week prior to the beginning dates of the experiment three speeches were pretested to determine the one speech which most closely met the requirements of the investigation. The selected speech, ten minutes and fifty-five seconds in length, was recorded by the investigator.

Sixty multiple choice questions were phrased on material from the speech. These questions were then analyzed and thirty were eliminated because of vagueness and similarity to other questions.

An interest evaluation sheet was devised to measure subject interest in the speech. The interest measure also provided social security numbers, rank in school and sex data.

Two days prior to administering the experiment, instructors of the selected classes were given detailed instructions about the experiment.

Prior to the class period in which the experiment was to be conducted, the instructors were supplied with the taped speech, interest evaluation sheet and the multiple choice test of retention.

Students were instructed to listen carefully to the tape, then indicate their reaction on the interest evaluation sheet. This sheet was collected, and the students were given the multiple choice retention test.

The interest evaluation sheet was paired with the corresponding multiple choice retention test. The rating the student placed on the interest evaluation sheet was given a number to correspond with the levels of interest: 1 = strong dis-interest; 2 = dis-interest, . . . , 7 = strong interest.

The multiple choice retention test was then scored, and the number of correct responses was placed on the interest evaluation sheet, along with a number, from one to 228 needed for later identification.

The student's ACT-composite score was obtained and placed on the interest evaluation sheet.

The identification number of each test was then placed on a graph in a position appropriate to the ACT-composite score and the rated interest.

Four quadrants were drawn on the graph so the number in each quadrant was at least fifteen: Group I = 34; Group II = 23; Group III = 16; Group IV = 15.

Retention scores for subjects in each treatment were then statistically compared.

### Theoretical Implications

The experiment provided information relating to four hypotheses that were formulated for purposes of the investigation. A consideration of the findings as they apply to each of these four hypotheses reveals certain implications of the investigation.

Hypothesis #1: Subjects possessing high interest in a subject and high scholastic ability will rate highest in retention of material.

With one exception, the findings of this study supported this hypothesis. Analysis of variance revealed significant retention differences between Group I\* and Groups II\*\* and IV\*\*\*. These were significant at the 1% level. There was no significant difference in retention between Group I and Group III\*\*\*.

Hypothesis #2: Subjects possessing high interest in a subject and low scholastic ability and subjects possessing low interest in a subject and high scholastic ability will retain less than subjects

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\*Group I = high interest-high scholastic ability  
 \*\*Group II = high interest-low scholastic ability  
 \*\*\*Group III = low interest-high scholastic ability  
 \*\*\*\*Group IV = low interest-low scholastic ability



possessing high interest in a subject and high scholastic ability.

This hypothesis was partially supported by the data. It was found that the high interest and low scholastic ability group did retain less than the high interest and high scholastic ability group, significant at the 1% level.

The analysis of variance also indicated that the group possessing low interest and high scholastic ability did not retain less material than the high interest-high scholastic ability group.

Hypothesis #3: Subjects possessing high interest in a subject and low scholastic ability will equal subjects possessing low interest in a subject and high scholastic ability in terms of retention.

Data from the experiment supported this hypothesis. The group with high interest and low scholastic ability showed no significant difference in retention than the group with low interest and high scholastic ability.

Hypothesis #4: Subjects possessing high interest in a subject and low scholastic ability and subjects possessing low interest in a subject and high scholastic ability will retain more than subjects possessing low interest in a subject and low scholastic ability.

This hypothesis was supported in this experiment. Analysis of variance established a significance of 1% between Group III\*\*\* and Group I. \*\*\*\*.

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\*\*\*Group III = low interest-high scholastic ability  
 \*\*\*\*Group IV = low interest-low scholastic ability

Furthermore, Group II\*\* retained more material than did Group IV, significant at the 5% level.

This low interest and low scholastic ability group retained less than the high interest-high scholastic ability group and the low interest-high scholastic ability group (significant at the 1% level), and the high interest-low scholastic ability group (significant at the 5% level).

A final measurement showed the effects of the combined variables, interest and scholastic ability, upon retention were significant. As summarized in Table III, the two-by-two analysis of variance indicated that scholastic ability affects retention individually (significant at the 1% level). These findings supported the findings of Knover, Phillips and Keoppel (1945), Nichols (1948), Elvett (1951), Heilman (1951), Nichols and Keller (1953), Biggs (1956), and McClelland (1958).

Significant at the 1% level was the individual effect of interest on retention. This conclusion supports research by Nichols (1948), Nelson (1948), Leath (1951), Karraker (1951), James I. Brown (1955), and Charles T. Brown (1959).

### Summary

The following conclusions were reached by an examination of the data:

(1) Interest and scholastic ability combined significantly affect retention.

(2) Interest significantly affects retention.

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\*\*Group II = high interest-low scholastic ability

(3) Scholastic ability significantly affects retention.

(4) High interest and high scholastic ability revealed the highest degree of retention.

(5) The subjects having high interest and low scholastic ability retained the same amount of material as the subjects with low interest and high scholastic ability.

(6) Low interest and low scholastic ability revealed the lowest degree of retention.

#### Practical Implications

Restraint should be exercised in generalizing from the findings of only one experimental investigation relating the combined effects of interest and scholastic ability. Additional research endeavors are needed to fully explore the possible effects these variables have on each other and on retention. Providing that these additional research explorations support the practical implications of this investigation, these implications should be of great value to educators interested in the listening abilities of students.

The findings of this investigation indicate the importance of the individual effects of interest and scholastic ability upon retention. Furthermore, subjects possessing high interest and high scholastic ability rated highest in retention. Application of the interest-scholastic ability factors could significantly influence the sectioning of students for if the findings of this experiment are replicated, students with high interest and low scholastic ability could be placed with students having low interest and high scholastic ability.

Another important implication centers around the teacher in a classroom. It could be hypothesized that if the student's interest in a subject can be increased by the teacher, his ability to retain material could also be increased. This may mean adjusting teaching methods to find one that is most interesting to a particular class, or relate concepts to subjects in which the students are interested. For example, if students were grouped according to their vocational interest, math could be taught as it relates to that interest. The application of the results in this study could be especially useful in high school classrooms.



### Suggestions for Further Study

Examinations of the findings of this investigation suggest at least four areas for future research. These major areas could be summarized as:

(1) Research concerning the increase of interest and its effect on low scholastic ability groups. Results from this experiment indicated that as measures of interest increased, the amount of material retained increased. A study in this area of learning could be of importance to educators.

(2) Research concerning the combined effects of interest and scholastic ability on each other. As indicated through analysis of variance, when interest and scholastic ability were combined and measured as to their affect on retention, the results were significant. The question of why they were significant was not answered in this investigation.

(3) Research concerning the effects of the results of this study in the classroom situation. Because the results of this experiment were obtained in an experimental situation, it would be of interest to see if the same results would be obtained in a classroom situation. Practical application of these results could also be of importance to educators.

(4) Research concerning the delayed effects of the interest and scholastic ability variables. This investigation measured the immediate recall of the students hearing the speech, but did not measure whether this recall would be significant after a period of time.

## APPENDIXES

## APPENDIX A

## INSTRUCTIONS TO COOPERATING TEACHERS

**Purpose:** The following are instructions to be followed while helping Dave Krizek run an experiment for his thesis. Please read them carefully and follow them closely. Thank-you.

**Synopsis:** The experimental study being run is developed to measure the immediate retention ability of the Speech 131 students in your class. The purpose of the study is to determine if high intelligence plus low interest in a subject will equal low intelligence plus high interest in a subject in terms of retention of material heard in a speech. The speech being played was selected from three in a pilot study, as being most applicable to this study.

**Procedure:** I ask that the instructor at no time tell the students that they are taking part in an experimental study. This request is necessary because of the number of days needed to run the tape in the various classes.

**Specific  
Instructions:**

1. The instructor should set up the tape machine with no indication to the students as to what is on the tape. (Tape machines, tapes and tests will be supplied the instructor prior to the class.
2. When all the students are seated and roll is taken, simply ask the students to listen closely to the tape.
3. Play the tape.
4. Upon conclusion of the tape pass out the Interest Evaluation Sheet, indicating to the students that their answer on this sheet will in no way reflect on them.
5. Ask the students to fill in the required information and read the instructions carefully before marking the interest scale. (Allow two (2) minutes for this part of the test).
6. Collect the Interest Evaluation Sheet.
7. Pass out the Multiple Choice Test over the speech content.
8. Ask the students to place their name in the space provided on the first page of the test.
9. Ask the students to please read the directions carefully before beginning to work on the test.
10. Allow exactly fifteen minutes for completion of the test.
11. Ask the students to double check to see if their name is on the test and then collect it.
12. Please rewind the tape at any point after it has been played.
13. Place the tape machine out of your way. It will be picked up at the end of the period along with the tests.

14. Indicate to the students that they will be told at some time in the future, their scores on the test.
15. If there are any questions from the students, answer by stating that they will be told in the future the purpose of the test. Anything more than this you cannot tell them.
16. If you have any questions, contact either Dr. Wheatley or Dave Strizek.
17. The total time needed for this experiment should not exceed 30 minutes.

Thank-you for your assistance,

Dave Strizek

Dr. Bruce Wheatley



# APPENDIX B INTEREST EVALUATION SHEET

Social Security  
Number \_\_\_\_\_

Rank in School  
(Circle one)

Freshman

Sophomore

Junior

Senior

Sex: Male \_\_\_\_\_ Female \_\_\_\_\_

## Instructions:

This is not a test. It will in no way be reflected back to you no matter what answer you give below. Please answer the question honestly.

Below you will find a scale of interest. Please indicate by placing an "X" under the choice you make, how you feel about the speech in terms of interest.

Strong		Moderate		Moderate		Strong
Interest	Interest	Interest	Neutral	Dis-Interest	Dis-Interest	Dis-Interest

\_\_\_\_\_

## APPENDIX C

## SPEECH TEXT

## A NEW LOOK AT THE OLD TICKER

By Theodore G. Klumpp, M.D.

I might have chosen to speak to you about the pharmaceutical industry and what it has contributed to the progress of medicine. But I decided instead to talk about something even more important than that, in fact the most important aspect of life itself if you happen to be a male and are interested in staying alive.

Not so long ago a friend of mine told me that the hydrogen bomb was the most important thing in our lives. Shortly thereafter he died of a heart attack. There was something more important to him than the hydrogen bomb. Those who are dead or about to die need have no fear of thermonuclear energy.

The period in which we are privileged to be living has been referred to as This Fabulous Age. If this designation is warranted, and I am certain it is, it comes to us because all of a sudden in the twentieth century the idea of scientific research caught fire. Throughout the span of recorded history there have been truly great scientific investigators, but always before they were lonely voices crying in a vast wilderness of ignorance. In this era, as never before, large numbers of individuals have seen the vision of research and science and what they can do to make this a better world in which to live. For instance, more progress has been made in the last fifty years in the conquest of disease and the prolongation

of life than had been accomplished in the entire 999 centuries of man's previous existence on earth.

The most eloquent summation of what has been accomplished can be expressed in terms of life expectancy, which has moved upward from 49 years in 1900 to almost 70 in 1967. In 1900, among any average group of 1,000 persons, you could count on 17 dying that year. Today only nine of that same number will depart this world. Among infants the revolution is even more marked. At the turn of the century, of every 1,000 babies that survived birth, 162 died within the first year, whereas today less than 26 succumb. At the beginning of the twentieth century some 7,000 children died yearly of whooping cough. In 1955 only 470 died of this disease. In half a century the greatest reaper of them all--pneumonia--has been all but defeated as witnessed by the fact that the death rate has declined from 152 per 100,000 to 12. Only 40 years ago, one of every four persons subjected to a major operation met his doom, whereas today only one in a hundred succumbs; and if that still seems high, let us remember that surgeons can now operate where the risk is great, whereas a few years ago they would not have dared touch many cases that now have been given at least a fighting chance to live.

Since the discovery of penicillin by Sir Alexander Fleming in the late twenties, over 4,000 antibiotics have been isolated in the United States, of which 19 have been placed on the market. The sulfa drug brought in its wake more than 5,000 others, it took 999 centuries to develop the first antihistamine, and THEN before you could say "Jack Robinson" more different antihistamines were synthesized than we know what to do with. Truly this is a fabulous age.

Since the turn of the century, our population has doubled, but the number of persons over 65 has quadrupled. Today there are approximately 14 million persons 65 years of age and over. By 1980, in only 11 years, we will have more than twice that number.

Altogether these figures tell a story of spectacular advances in longevity and life saving. But in the face of it all, there has been a phenomenal rise in diseases of the heart and blood vessels, until today these are far and away the most important causes of death.

Perhaps there are good reasons why this is so. In the first place, other causes of death which were once prominent, such as pneumonia and tuberculosis, have been brought under control. These to a large extent destroyed young lives, so that we have more persons surviving to middle and old age where at least they now have the opportunity of running the gauntlet of heart and blood vessel conditions. This doesn't sound like a very cheerful prospect on a fine day like this, but I dare say it's a lot better to face the risk of heart attack at 50 or 60 than to be dead of pneumonia or tuberculosis at 25. Finally, I think that vascular accidents are in many instances the unpleasant by-products of our changing civilization and standard of living—but perhaps not in the way commonly supposed.

Today, diseases of the heart and blood vessels are the most common cause of death in adult life. They will kill four times as many persons as cancer, six times as many as accidents, eight times as many persons as tuberculosis, and at least five hundred times as many as infantile paralysis.

When we speak of diseases of the heart and blood vessels, what do we mean? In youth we are referring to the three major causes of heart disease: (1) rheumatic fever, (2) other infections including syphilis, and (3) congenital heart disease. Coronary thrombosis, cerebral hemorrhage and thrombosis, and renal insufficiency of adult life are principally the effects of arteriosclerosis . . .

What then is this villain arteriosclerosis, how does it come and what can we do about it? Certain clues now appear to be emerging from the unknown. They are beginning to fit into an orderly pattern, the logic of which is appealing.

The very first detectable evidence of arteriosclerosis is a small deposit of cholesterol, here and there in the inner lining of the arteries. This material either injures or is associated with an injury of the blood vessel, and subsequently scars tissue and calcium salts replace the normal structure of the vessel where it occurs. The injury to the intimas of the artery predisposes to the formation of a blood clot which when it occurs may plug the vessel at the site or it may be whipped loose by the blood stream and carried to another location.

Arteriosclerosis does not appear uniformly throughout the vascular tree. Its distribution is spotty at the beginning, and there is no known reason why it selects one site in one individual and another in others. Those that suffer a heart attack at a relatively early age are the unlucky ones. The arteries of their hearts happened to be involved early. But there are also the lucky ones who despite intense and widespread arteriosclerosis somehow or other seem to escape fatal involvement of the vessels supplying blood to one of the vital organs of the body. There are



some who are of the opinion that the process of arteriosclerosis is reversible at some stages in its development. We know as an absolute certainty that the body has the capacity of building entirely new blood channels as the old ones become obliterated--providing the process of obliteration proceeds slowly.

If the whole thing starts with cholesterol, we ought to know more about this murderous material. The amount of cholesterol in the blood varies from person to person and it varies with the degree of activity of the thyroid gland. In conditions of overactivity of the thyroid gland the blood cholesterol level is low and arteriosclerosis does not appear to develop during the active stages of this condition. The reverse of this is also true. In conditions of hypothyroidism the blood cholesterol level is characteristically high and one of the striking manifestations of this disease is marked and progressive arteriosclerosis.

All of these factors lead irresistibly to the conclusion that arteriosclerosis is the end result of a metabolic or glandular disturbance, the development of which is encouraged by reduction in physical activity and overeating with its resultant gain in weight.

Some idea of the magnitude of the problem of obesity is revealed by surveys indicating that 34 million persons, or one-third of our adult population, are overweight, of which 12 million consulted a physician for this condition in 1951.

This then, indicates that exercise must be part of our daily fare. However, we are just beginning to wake up to the importance of continued physical activity. I don't think that there is any doubt that the amount of exercise one should take to remain healthy is related to the degree of physical activity an individual has been accustomed to. Nothing that

anyone has ever discovered has repealed the laws of common sense. A book-worm, whose greatest exertion was walking to the dining hall in college should not suddenly take up tennis or skiing at 45, but whether sedentary or not, he must at all costs avoid gaining weight.

Many years ago an old and very wise medical teacher concluded his final lecture with these words: "I have tried to teach you all that I have learned in a lifetime of practice and study. But I am reasonably certain that half of what I have taught you is wrong. I am not so much troubled about that as I am about the fact that I don't know which half it is."

It may be that half of what I have tried to tell you is wrong. If it is, then like my old professor I don't know which half it is. But I do know that what I have said makes sense to me, and I have a deep conviction that time will prove the soundness of its basic philosophy.

TIME: 10 minutes 55 seconds

## APPENDIX D

## MULTIPLE CHOICE RETENTION TEST

(Print Your Name) \_\_\_\_\_

## Instructions:

Below you will find a series of 30 statements which have to be completed according to the information found in the speech just heard. In each case select the best possible answer. There is only one correct answer for each of the statements. Place the letter which corresponds to the answer you choose in the space indicated. Work quickly but accurately. You have 15 minutes to complete this test.

## Answer

- \_\_\_\_\_ 1. According to the speaker, man has existed on earth for approximately: (A) 157 centuries; (B) 9999 centuries; (C) 500 centuries; (D) 999 centuries; (E) one-hundred-million years.
- \_\_\_\_\_ 2. As indicated, at the beginning of the twentieth century some 7,000 children died yearly of: (A) measles; (B) Mumps (C) chicken pox; (D) polio; (E) whooping cough.
- \_\_\_\_\_ 3. Coronary thrombosis, cerebral hemorrhage and thrombosis, and renal insufficiency of adult life are principally the effects of: (A) congenital heart disease; (B) death in old age; (C) lack of exercise in youth; (D) arteriosclerosis; (E) penethrombosis.
- \_\_\_\_\_ 4. The speaker feels that people who have suffered intense and widespread arteriosclerosis, are lucky: (A) if the vital organs of the body are unaffected; (B) if the disease occurs late in life; (C) when compared to those who die young of other diseases; (D) to have lasted as long as they have; (E) to be alive, but must remain in bed for the rest of their lives.
- \_\_\_\_\_ 5. The facts seem to indicate that arteriosclerosis is the end result of: (A) age finally catching up with the individual; (B) thermoneuclear fallout; (C) metabolic or glandular disturbances; (D) diseases of youth; (E) coronary thrombosis.
- \_\_\_\_\_ 6. Figures seem to indicate that, of our total population, the fraction that are overweight is: (A)  $1/2$ ; (B)  $1/4$ ; (C)  $3/4$ ; (D)  $1/3$ ; (E)  $2/5$ .
- \_\_\_\_\_ 7. A characteristic of high cholesterol level in the blood is: (A) marked and progressive arteriosclerosis; (B) a kind of listlessness; (C) a desire for sweets; (D) flushness of the face and neck; (E) the skin breaking out with pimples.

## Answer

8. The speaker seems to think that it is better to risk the chance of heart attack at 50 or 60 than: (A) to change the freeways of our nation; (B) to submit to the pressures; (C) to be dead of pneumonia or tuberculosis at 25; (D) to be unable to take part in physical activity while still young; (E) at 35 or 40.
9. Of the 4,000 antibiotics that have been isolated in relation to the discovery of penicillin, how many have been placed on the market? (A) 19; (B) 29; (C) 59; (D) 99; (E) 219.
10. According to the speaker, "Those who are dead or about to die, need have no fear of: (A) air pollution; (B) the advances of the pharmaceutical industry; (C) advancing old age; (D) thermo-nuclear energy; (E) childhood diseases.
11. The speaker might have chosen to speak about: (A) medical giants; (B) the pharmaceutical industry; (C) the people in quandries; (D) dentistry and its advances; (E) interesting medical experiments.
12. Penicillin was discovered by: (A) Dr. Benton Kooley; (B) Sir Howard Chatting; (C) Dr. Christian Bernard; (D) Sir Alexander Fleming; (E) Sir Issac Newton.
13. Diseases of the heart and blood vessels kill: (A) four times as many persons as cancer; (B) six times as many as accidents; (C) five hundred times as many as infantile paralysis; (D) all of the above; (E) none of the above.
14. When the blood cholesterol level is characteristically high, the condition is called: (A) high blood pressure; (B) hypertension; (C) hypothyroidism; (D) dangerous; (E) over active thyroid gland.
15. Arteriosclerosis can be caused by: (A) smoking and drinking; (B) lack of sleep; (C) blood clots in the blood stream; (D) heart murmers; (E) reduction in physical activity and overeating.
16. Blood clots may form if injury is caused to: (A) the arms or legs; (B) eyes, ears, nose or throat; (C) the intinas of the artery; (D) the vital organs; (E) all of the above.
17. If a blood vessel is injured, scar tissue forms along with: (A) calcium salts to replace the normal structure of the vessel; (B) a divergence of the blood along other arteries; (C) a slow down of the blood flow past the point of injury; (D) a red spot, visible on the surface of the skin; (E) a quickening beat of the heart.
18. Today there are approximately 14 million persons: (A) 65 years of age and over; (B) suffering yearly from heart attacks; (C) unable to find work; (D) who have not heard of penicillin; (E) being put through U.S. schools.
19. The speaker's friend died of: (A) radiation poisoning; (B) a simple childhood disease; (C) reasons unknown to medical science; (D) stroke; (E) heart attack.

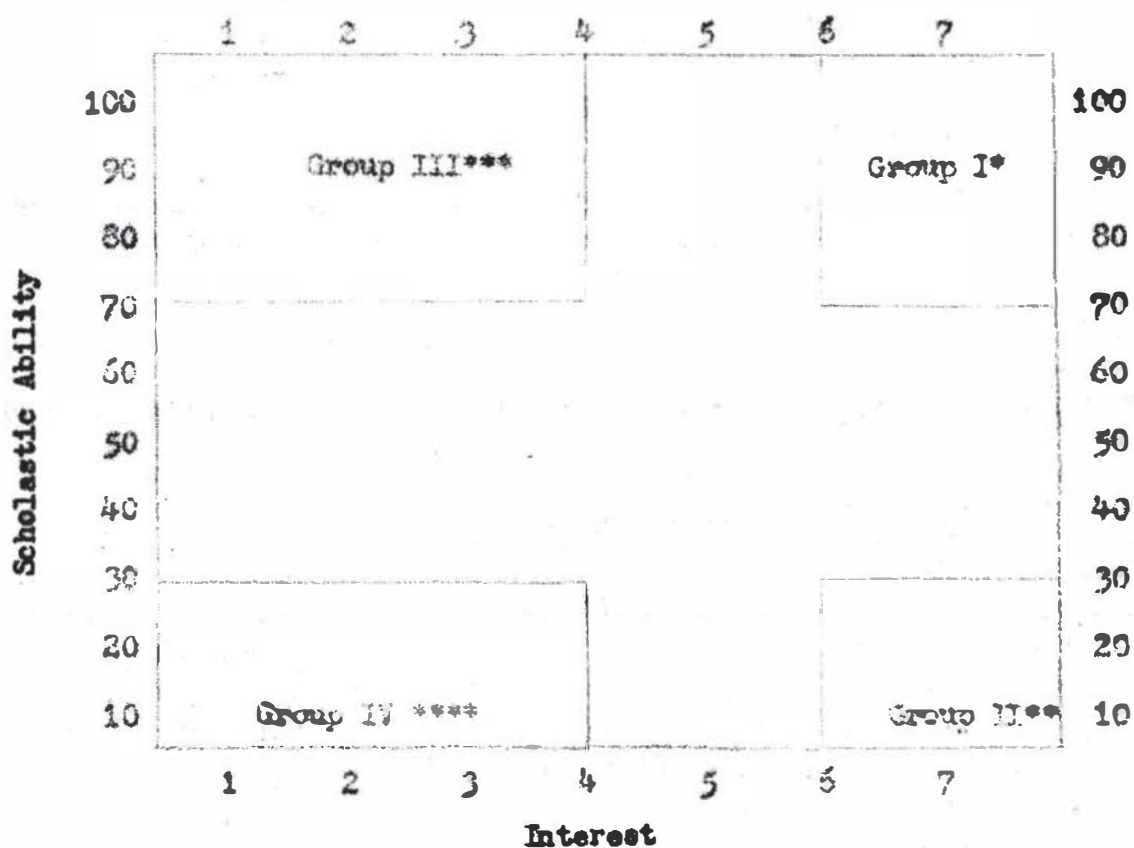


## Answer

20. Much progress has been made in the conquest of disease in the past: (A) 20 years; (B) 25 years; (C) 30 years; (D) 40 years; (E) 50 years.
21. In 1900, if there were 1,000 people in a group, the approximate number that would die in a single year was: (A) 63; (B) 41; (C) 27; (D) 17; (E) 12.
22. The first detectable signs of arteriosclerosis is a: (A) uncontrollable beating of the heart; (B) deposit of cholesterol in the arteries; (C) shortness of breath; (D) tendency to develop leg cramps; (E) development of high blood pressure.
23. The amount of cholesterol in the blood varies with the: (A) amount of activity of the individual; (B) the age of the individual; (C) time of day at which it is measured; (D) degree of activity of the pituitary gland; (E) the degree of activity of the thyroid gland.
24. Arteriosclerosis does not appear uniformly throughout: (A) the vascular tree; (B) the Western Hemisphere; (C) the lungs; (D) the large and small intestines; (E) life.
25. Today, diseases of the heart and blood vessels are the most common cause of death in: (A) the over 35 generation; (B) people of the negroid race; (C) the world; (D) large cities; (E) adult life.
26. The speaker remarked that the revolution in the number of deaths per given number of individuals was most seen among: (A) children; (B) teenagers; (C) infants; (D) adults; (E) People over 65.
27. We are privileged to be living in this era, referred to as: (A) The Age of Revolution; (B) This Fabulous Age; (C) This time of Trial; (D) The War Years; (E) A Time in Which Decisions are Made.
28. The speaker's friend indicated that the most important things in our lives are: (A) hydrogen bombs; (B) heart attacks; (C) congenital diseases; (D) small pox; (E) plague.
29. In youth, the three major causes of heart disease are: (A) mumps, measles, and chicken pox; (B) rheumatic fever, scarlet fever, and other high fevers; (C) congenital heart disease, rheumatic fever, and other infections including syphilis; (D) bleeding ulcers, violent physical activity coupled with congenital heart disease, and blue baby; (E) breathing toxic fumes, drinking polluted water, and eating rotten food.
30. Some in the medical field feel that arteriosclerosis: (A) is fatal no matter what is done to stop its advance; (B) plays havoc with older folks; (C) is reversible at some stages of its development; (D) cannot be considered a major cause of death; (E) only a disease of the human race.



## APPENDIX E

FREQUENCY DISTRIBUTION OF  
INTEREST AND SCHOLASTIC ABILITY

- \*Group I = High interest-high scholastic ability  
 \*\*Group II = High interest-low scholastic ability  
 \*\*\*Group III = Low interest-high scholastic ability  
 \*\*\*\*Group IV = Low interest-low scholastic ability

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## ABSTRACT

THE EFFECTS OF INTEREST AND SCHOLASTIC ABILITY  
UPON LISTENING RETENTION

by

DAVID EMIL MRIZEK

B. S. in Ed., Eastern Illinois University, 1968

ABSTRACT OF A THESIS

Submitted in partial fulfillment of the requirements  
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## ABSTRACT

Researchers and scholars in the area of listening have demonstrated interest in investigating the individual effects of interest and scholastic ability upon retention. However, there have been no attempts to analyze the combined effects of interest and scholastic ability upon retention. Therefore, this investigation was designed to experimentally determine these combined effects. Secondly, the study was structured to measure the relative retention capacity of students according to dimensions of: (1) interest and (2) scholastic ability, particularly the combinations of high interest-low scholastic ability and low interest-high scholastic ability.

Two hundred and sixteen students in the basic speech course at Eastern Illinois University served as subjects. They were asked to listen to a taped speech prepared for the investigation, but were not told that they would be tested over the content of the speech. At the conclusion of the speech, they were asked to complete an interest evaluation sheet, indicating their interest in the speech and/or subject of the speech by placing a mark at their appropriate level of interest on the seven point scale provided. This sheet was then collected, and the students were asked to complete a thirty question multiple choice test developed over the material found in the speech.

At the conclusion of the testing period, all testing materials were collected. The test was scored, a numerical equivalent was given to the marked level of interest on the interest sheet filled out by the student, and the student's ACT-composite score, which was being used as indicator of scholastic ability, was located and recorded.

From the total of two hundred and sixteen subjects the final sample chosen to be analyzed contained eighty-eight subjects. These eighty-eight subjects were chosen according to their ACT-composite score and interest rating, and placed in each of four groups needed for statistical evaluation. Group I ( $N = 34$ ) contained students with high interest in the speech and high scholastic ability; Group II ( $N = 23$ ) was composed of students with high interest in the speech and low scholastic ability; Group III ( $N = 16$ ) had students with low interest in the speech and high scholastic ability; and Group IV ( $N = 15$ ) contained students with low interest in the speech and low scholastic ability.

The results indicated the following: (1) interest and scholastic ability did not interact in this investigation; (2) interest significantly affected retention; (3) scholastic ability significantly affected retention; (4) high interest and high scholastic ability revealed the highest degree of retention; (5) The subjects having high interest and low scholastic ability retained the same amount of material as the subjects with low interest and high scholastic ability; and (6) low interest and low scholastic ability revealed the lowest degree of retention.