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THE CONSTRUCTION AND TESTING
OF A FORCED-CHOICE SCALE FOR
MEASURING SPEAKING ACHIEVEMENT

DISSERTATION

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TABLE OF CONTENTS

Chapter	Page
I THE PROBLEM	1
II BACKGROUND OF THE PROBLEM	7
III PROCEDURE AND ANALYSIS OF SCALE CONSTRUCTION	19
IV PROCEDURE AND ANALYSIS OF SCALE COMPARISONS	81
V SUMMARY AND CONCLUSIONS	86
 Appendix	
A SIMPLE NUMERICAL SCALE	92
B FORCED CHOICE SCALE	94
C STUDENT CHECK LIST OF 133 ITEMS	96
D SCORE CARD FOR FORCED CHOICE SCALE	98
E SAMPLE PROCEDURE FOR DETERMINING INTERCORRELATION OF SCORES	100
 BIBLIOGRAPHY	 106

LIST OF TABLES

Table		Page
I	Categories and Items	21
II	Preference Counts	25
III	Item Indices	39
IV	Indices, Standard Errors, r's, Fiducial Limits	50
V	Pairing Possibilities	57
VI	Forced Choice Tetrads	79
VII	First Day Rank Order of All Speakers Determined by Forced Choice Scale	82
VIII	First Day Rank Order of All Speakers Determined by Numerical Scale	83
IX	Comparison of Daily Rank Order of Speakers Determined by Forced Choice and Numerical Scale	83
X	Intercorrelation of Scores and Fiducial Limits	84
XI	T Test for Significance	85

CHAPTER I

The Problem

The problem of assessment of speaking achievement is difficult and complex. Varying degrees of emphasis on any of the fundamental processes often varies from teacher to teacher and school to school.

While the problem of assessment is difficult and complex, it certainly is not impossible. A great deal has been accomplished. Speech Rating Scales, relatively free from the usual rating scale weaknesses, have been developed and in use. Psychological and Educational testing research has contributed greatly to the advance of rating scale construction and use.

This study is concerned with the construction and testing of a Forced Choice Scale for measuring achievement in speaking.

The theory behind the construction of a Forced Choice Scale is ascribed to Horst by Wherry.¹ The first published suggestion for the Forced Choice technique is quoted from Horst below:

One of the greatest weaknesses of current temperament and personality tests is the fact that they can be "beaten" by persons with sufficient intelligence . . . However, with sufficient ingenuity and resourcefulness, it should be possible to develop techniques which would reduce considerably the possibilities of "beating" the questionnaire type of test. One method which is being experimented with by the National Research Council Committee on Selection and Training of Aircraft Pilots is to have items arranged in pairs in such a way that both members of the pair are

¹Gordon, Leonary V., A Comparison of the Validities of the Forced Choice and Questionnaire Methods in Personality Measurement, Ph.D. Dissertation, Ohio State University, 1950, p. 27.

about equal in general social acceptability and unacceptability. However, each item is presumably on a different continuum and in order for the subject to give the correct choice, he must first identify the continuum. It is quite possible that this principle, or modifications of it, can be extended and further developed. The general principle here is to require the subject to express a preference for one of two alternatives when each member of a pair is equally derogatory or complimentary. It is believed that if systematic effort in this field were encouraged, it would be possible to develop other techniques which would enable much improvement in the validity of questionnaire responses.²

Wherry is accredited with the initial practical application of Horst's theory.³ His work was reported in an abstract of a paper given at the American Psychological Association Meeting by the "staff of the Personnel Research Section of the Adjutant General's Office."⁴ Wherry's definition of the Forced Choice technique, as given in this paper, involves forcing

. . . the rater to choose between descriptive phrases which appear of equal value for selection by the rater, but which are different in validity or discrimination value for the criterion--for example, military leadership. The major problem is the grouping of alternatives to achieve these ends.

Sisson's report on his work with the Forced Choice scale indicated that its chief value was its ability to reduce conscious bias and to minimize individual differences in interpretation of qualita-

²Horst, Paul, The Prediction of Personal Adjustment, Bulletin Number 48, Social Science Research Council, 1941.

³Monroe, Walter S., Encyclopedia of Educational Research, MacMillan, New York, 1950.

⁴Staff of the Personnel Research Section of the Adjutant General's Office. "The Forced Choice Technique and Rating Scales." American Psychological, 1, 1946, p. 267.

tive adjectives and meaning of different scale points. Also, he found that this technique produced a better distribution of ratings in contrast to the negatively skewed leptokurtic distribution of ratings of older methods.⁵

The Staff of the Personnel Research Section of the AGO in reporting on the Forced Choice technique and Rating Scales stated that the utility of rating scales is limited by the ease with which the rater can determine where he is placing a person on the scale. The Forced Choice technique, they claim, is designed to reduce the ratee's ability to control the final result of the rating.⁶ The technique used in accomplishing this end involves forcing the rater to choose between descriptive phrases which appear of equal value--equal preference indices--but are different in validity--discrimination indices. A preference index is the mean of the scale values indicating the degree to which the criterion label applies to the group concerned. A discrimination index represents the correlation of the criterion label with an over-all rating.

The pairing of alternatives to achieve these ends involves five major steps: (1) procurement of descriptive phrases, (2) preparation of a complete list of such phrases, (3) determination of preference and discrimination indices, (4) pairing of alternatives as described above, and (5) application to a specified criterion group.

⁵Sisson, E. D. "Forced Choice, The New Army Rating." Pers. Psychol., 1948, 1, 365-381.

⁶Staff, Personnel Research Section, AGO, op. cit.

The problems involved in the fulfillment of these steps can be facilitated by a thorough consideration of the findings and recommendations of measurement researchers of the past. Particular attention is called to the sources and discussions in Chapter II as they relate to relevant problems concerning choice of items (pp.8-9), item validity (pp. 9-10), definition (pp. 10-11), simplicity (pp. 11-12), item objectivity (pp.11-12), observability of items (p. 12), halo effect (pp. 11-12), ambiguity (pp.11-12), relevancy (pp.11-12), underlining items (p. 12), evaluation of data (p. 12-13), testing results (pp.12-13), rater directions (p.13-14), accuracy versus speed (p.13-14).

The problem of testing in this study involves a comparison between the Knower General Speech Performance Scale⁷ (hereafter referred to as a Simple Numerical Type Scale) and the Forced Choice Scale developed in this study. (See Appendix A and B.) So that the comparison of the two instruments might be principally methodological, it appeared advisable to construct the Forced Choice Scale from the same categories and, as far as possible, from the same items as already existed in the Knower form. These categories with identifying criterion under each, are as follows:

⁷Items in Knower General Speech Performance Scale were tested and reported on in Psychological Studies of Individual Differences among Students of Speech by H. Gilkinson and F. Knower, University of Minnesota, June, 1939, pp. 101-185.

(1) Speech Attitudes and Adjustments

Confidence	Attractiveness
Tact	Sense of Communication
Enthusiasm	Social Responsibility
Sincerity	Personal Appeal

(2) Voice and Articulation

Breathing	Rhythm
Pitch	Diction
Quality	Speech Sounds
Volume	Pronunciation
Tempo	Conversationalism

(3) Bodily Postures and Action

Animation	Steadiness
Directness	Control
Symmetry	Freedom

(4) Language

Appropriate	Accurate
Clear	Vivid

(5) Content--Speech Materials

Logic	Testimony
Suggestion	Reiteration
Examples	Visual Aids
Comparisons	Humor
Statistics	Appeal to Wants

(6) Organization

Central Idea	Transitions
Specific Purpose	Introductions
Main Ideas	Conclusion

(7) Audience Interests and Adaptation

Vital	Knowledge
Familiar	Belief
Varied	Special Interests
Striking	Tastes
Specific	The Situation ⁸

⁸These categories and identifying criterion below are from the Knower General Speech Performance Scale, Form 5012-Revised.

The problems involved in the testing of the Forced Choice Scale involve both errors of the form itself and errors of the raters. References concerning the former are indicated above. The latter (errors of the rater) are also dealt with in Chapter II. These rater errors involve such problems as personal prejudice--conscious and unconscious (p. 14), individual versus group judgments (pp. 14-15), forced judgments (p. 16), training periods (pp. 16-17), rater evaluations (p. 17), skill in observation (pp. 17-18), recording care (pp. 17 -18), objectivity (pp. 17-18), motivation (pp. 17-18), practice (p. 18).

It is hoped that the development of the Forced Choice Scale for measuring achievement and for comparative purposes would throw some light on the differential operation of the two methods (Numerical Scale and Forced Choice Scale) and would lead to the further refinement of the Forced Choice Scale and later scales.

The hypotheses of this study are as follows: (1) Pairings of items cannot be made which have like preference indices and unlike discrimination indices, (2) Pairings of items cannot be made from all categories of emphasis in public speaking, (3) The rank order of all speakers based on total scores of all judges for each speaker will not be different when determined by either scale, (4) The intercorrelation of judges scores will not be significantly different for either form, and (5) The time efficiency for the administration of the Forced Choice Scale will not be different from that of the Numerical Scale.

CHAPTER TWO

Background of the Problem

Evidence is available to the effect that as far back as 1811 attention was given to objective scaling techniques. Robert Owen, at this time, developed a plate "according to which each child could be shown his capabilities, and upon which after a mature self-examination, he could himself discover what progress he had made."⁹ Credit is, however, generally accorded Sir Francis Galton (1822-1911) as being the first to become concerned with objective measurement from the standpoint of psychology when he undertook to measure individuals on a large scale.¹⁰

Galton, not being content with confining his work to an application of the normal curve and elementary statistical methods as developed by Quetelet (1796-1874) in his biological and social data, came forth with a number of additional statistical tools--a method of correlation, use of standard scores, the median, and such psychological scaling methods as the order-of-merit and the rating-scale method. From this beginning, the history of test development flourished with significant contributions from such men as Cattell, Binet, Terman, Otis, Thorndike, Spearman and Thurstone.

⁹Ellson, D. G., and Ellson, E. C., "Historical Note on the Rating Scale," Psych. Bull., 1953, 5, 383-384.

¹⁰Guilford, J. P. Psychometric Methods, First Edition, McGraw-Hill Book Company, Inc., New York, 1936, 7.

These men, along with hundreds of other in various fields, developed and lead to the development of such techniques in rendering judgments as trait degree rating, adjectival descriptive rating, check lists, critical incident technique, forced-choice rating, ranking, paired comparisons, etc. A long list of difficulties found or claimed to apply to ratings and means of improvement has been left by these researchers of the past. The individual interested in undertaking measurement research today may profit greatly by acquainting himself with the significant findings and recommendations that have emerged from the past. Those findings and recommendations which are of particular value to individuals interested in further scaling research might well be divided into two categories: errors due to the form, and errors due to the rater.

Errors Due to the Form

Poor choice of items and failure to validate items are two major causes of error due to the form itself. Boyce cautions that any successful scheme must direct the attention of the rater to really vital factors, so that he cannot be deceived by any display of non-essentials.¹¹ This criterion is substantiated by such men as Halsey, Mahler, Richardson, Gordon, Patterson, Bradshaw, Probst, Sisson--to name but a few--and by the Staff of the Personnel Research Section of the Adjutant General's Office. Halsey stresses that elements

¹¹Boyce, A. C., "Methods for Measuring Teachers' Efficiency." 11th Yearbook of the Nat. Soc. Study of Educ., Part II, 1915.

rated should be important for the job.¹² Mahler, recognizing that the partial success of any rating program is based upon the rater's judgment, emphasizes the importance of providing pertinent criteria on which judgments revolve.¹³ Richardson calls attention to the forced-choice technique, claiming that it provides an improved opportunity to report significant behavior and affords a forced disregard of general impressions.¹⁴ Gordon reports on a study based on the Flanagan critical incident method which champions the inclusion of vital factors.¹⁵ In terms of the vital factors to be included, Paterson recommends that accomplishments be substituted for estimates of capacity and that heterogeneous qualities should be avoided.¹⁶ Bradshaw suggests that further development may come from substituting habits and achievements for traits.¹⁷ Bradshaw, Gordon, Probst,¹⁸ Richardson,

¹²Halsey, G. D. Making and Using Industrial Service Ratings. New York, Harper, 1944, 171 pp.

¹³Mahler, W. R. "Let's Get More Scientific in Rating Employees." Personnel, 1947, 23, 310-320.

¹⁴Richardson, M. W. "Forced Choice Performance Reports, A Modern Merit Rating Method." Personnel, 1949, 26, 205-212.

¹⁵Gordon, T. "The Development of a Method of Evaluating Flying Skill." Personnel Psychol., 1950, 3, 71-84.

¹⁶Paterson, D. G. "Methods of Rating Human Qualities." Annals, American Acad. Pol. and Soc. Sci., 1923, 110, 81-93.

¹⁷Bradshaw, F. F. "American Council of Education Rating Scale." Archives Psychol., 1930, No. 119.

¹⁸Probst, J. B. Measuring and Rating Employee Value. Ronald Press, New York, 1947, 166 pp.

Sisson,¹⁹ and the Staff, Personnel Research Section, AGO,²⁰ recommend the use of item-analysis in the relation of items. Their insistence on validity checks is paramount in scale construction. The proper choice of items and the validity of these items are primary considerations in the construction of any rating scale.

Vagueness and indefiniteness as a result of failure in adequately defining terms is another major error due to the form itself. Recommendations from the literature on rating include: (1) Select more objective items to be rated, (2) Use directly observable items, (3) Substitute achievements and habits for traits, (4) Prepare careful definitions, (5) Abolish trait names and substitute descriptions, and (6) Seek simplicity in items. Sisson, in reporting on the Forced Choice Scale developed for the Army which he states gave less bias and consequently better discrimination among officers at the two ends of the continuum, indicates that one of the underlying assumptions was that real differences in efficiency can be described in objective items of behavior.²¹ Kingsbury stresses the need for better understanding and differentiation among the less objective traits such as

¹⁹Sisson, E. D. "Forced Choice, The New Army Rating." Pers. Psychol., 1948, 1, 365-381.

²⁰Staff, Personnel Research Section, AGO. "The Forced Choice Technique and Rating Scales." Amer. Psychologist, 1946, 1, 267 (abstract).

²¹Sisson, op. cit.

loyalty, cooperation, and honesty.²² Locke²³ and Paterson recommend using directly observable items and preparing careful definitions to facilitate recognition of these habits. Articles and studies by Cardall,²⁴ Heim,²⁵ Charters,²⁶ Clarke²⁷ and a host of others support the six recommendations stated above.

Johnson points out that the ill-defined or the difficult to observe variable increases the halo-effect. When a judgment is difficult, judgment in terms of some other standard is likely. When an abstract judgment is called for, an emotional reaction is commonly given.²⁸ Bruner and Goodman concur with this idea.²⁹ A study by Lewis indicated that the ambiguous situation motivated suggestion.³⁰

²² Kingsbury, F. A. "Analyzing Ratings and Training Raters." J. Person. Res., 1922-23, 1, 377-383.

²³ Locke, W. "Employee Ratings." Personnel Jr., 1943, 21, 282-288.

²⁴ Cardall, J. "Employee Performance Rating." Personnel Jr., 1947, 26, 130-135.

²⁵ Heim, D. W. "Industrial Assessments: Some Problems and Suggestions." Occup. Psychol., (London), 1946, 20, 24-33.

²⁶ Charters, W. W. "A Technique of Trait Analysis." J. Educ. Res., 1924, 10, 95-100.

²⁷ Clarke, W. V. "Rating Employees." Person. J., 1936, 15, 100-104.

²⁸ Johnson, D. M. "A Systematic Treatment of Judgment." Psychol. Bull., 1945, 42, 193-224.

²⁹ Bruner, J. S., and Goodman, C. C., "Value and Need as Organizing Factors in Perception." J. Abnormal Soc. Psychol., 1947, 42, 33-45.

³⁰ Lewis, H. B. "Studies in the Principles of Judgments and Attitudes: IV, The Operation of Prestige Suggestion." J. Soc. Psychol., 1941, 14, 229-256.

Cartwright found that a conflict of forces, tending to increase reaction time, is present when there is uncertainty of judgment.³¹

Thurstone warns that ambiguous and irrelevant statements must be eliminated.³²

A possible way of increasing reliability is to underline the crucial part of each statement. This technique was successfully used and reported on by Hovland and Eberhart.³³ This technique could, conceivably, be an aid to definition by focusing attention and thereby minimizing vagueness.

Errors due to the form may be caused by failure to test the results on the proving ground of human experience and conduct and result in faulty evaluation of data gathered through rating forms and questionnaires. Probst indicates that tests of a good rating system include: (1) absence of halo-effect, (2) simplicity, (3) high objectivity (rater to rater agreement), (4) substantial adherence to normal distribution, (5) provide a trait photograph-ability to recognize person from marks given, (6) usability, (7) ability to detect unfair and dishonest raters, and (8) proved reliability and validity.³⁴

³¹Cartwright, D. "Decision-time in Relation to the Differential of the Phenominal Field." Psychol. Rev., 1941, 48, 425-442.

³²Thurstone, L. L. "Attitudes Can be Measured." Amer. J. Soc., 1928, 33, 529-554.

³³Hovland, C. I. and Eberhart, J. C. "New method of increasing the reliability of the true-false examination." J. Educ. Psychol., 1935, 26, 388-394.

³⁴Probst, op. cit.

An experiment by Heim indicated that over-all rating was more consistant than ratings of individual traits which may imply that the halo effect is not as serious as sometimes claimed, or even that there is more variability in characteristics of the total personality than in specific qualities.³⁵

Directions to raters included in rating forms should be precise and complete. Cartwright and Festinger indicate that directions stressing accuracy increase the restraining forces, while directions stressing speed decrease them. As the restraining forces increase precision increases.³⁶ Restraining forces refers to the personal involvement in decision making. The conclusion here is that a rating form may produce higher reliability when the directions encourage accuracy rather than speed. This hypothesis is supported by the Dunlap, DeMello, Cureton study which found that uncorrected "do not guess" directions were more reliable than complete answers (guessing).³⁷ The Ruch-Degroff study supports the "do not guess" findings.³⁸ Holzinger

³⁵Heim, D. W. "Industrial Assessments: Some Problems and Suggestions." Occup. Psychol., (London), 1946, 20, 24-33

³⁶Cartwright, D. and Festinger, L. "A Quantitative Theory of Decision." Psychol. Rev., 1943, 50, 595-621.

³⁷Dunlap, J. W., DeMello, A., and Cureton, E. E. "The Effects of Different Directions and Scoring Methods on the Reliability of a True-False Test." School Soc., 1929, 30, 378-382.

³⁸Ruch, G. M. and Degraff, M. H. "Corrections for chance and 'guess' versus 'do not guess' instructions in multiple response test." J. Educ. Psychol., 1926, 17, 368-375.

indicates that it is better to allow time for everyone to finish and thereby avoid the necessity of correction for guessing.³⁹

Errors Due to the Rater

Personal prejudice, whether it be in the form of such conscious bias as generosity or social pressure, or of unconscious bias such as optimism, regression, halo, or perseveration, is a principle contributor to rater errors. Every means of influencing raters toward objective observations should be utilized. Cantril contends that the ego-involvement associated with an internal frame of reference minimizes objectivity in prediction.⁴⁰ Asch indicates that impressions of a person grow quickly and easily and once formed are difficult to forget. First terms set up a direction which then exerts a continuous effect on the later terms.⁴¹ It follows, therefore, that it is highly desirable to encourage raters to disregard general impressions and personal feelings in the hope that greater objectivity on the part of the rater will result.

Another study by Asch found that congenial personal and group standards reinforce each other.⁴² This is often the case in the

³⁹Holzinger, K. J. "On scoring multiple response tests." J. Educ. Psychol., 1924, 15, 445-447.

⁴⁰Cantril, H. "The Prediction of Social Events." J. Abnormal Soc. Psychol., 1938, 33, 364-389.

⁴¹Asch, S. E. "Forming Impressions of Personality." J. Abnormal Soc. Psychol., 1946, 41, 258-290.

⁴²Asch, S. E. "Studies in the Principles of Judgments and Attitudes: II - Determination of Judgments by Group and by Ego Standards." J. Soc. Psychol., 1940, 12, 433-465.

classroom situation and undoubtedly is a bias factor effecting group raters. Nevertheless, we have evidence (as in the case of the Gordon study) which indicates that group judgments are superior to those of the average member and equal to those of the best members.⁴³ The relative accuracy of typical current methods for evaluating speaking performances, as shown by the criterion of agreement among equivalent sub-groups of an audience was reported by Wayne N. Thompson in an article appearing in Speech Monographs.⁴⁴ His conclusions were as follows:

(1) The paired comparisons method is superior to rank order.⁴⁵ (2) Linear scale and letter grades techniques are applied equally well. The trend of the data indicates that the former may be more accurately used with practice. (3) Descriptive Letter Scale and letter grades techniques are applied with equal accuracy. (4) A rating scale (Bryan-Wilke) and letter grades are used equally well if the data are not corrected for inequality in variability. "Corrected" data show that letter grades are used more accurately. After practice (or fatigue) letter grades are superior in accuracy. (5) The Speech Attitudes Scale (Thompson) and the Linear scale are used with equal proficiency if the data are not corrected. Corrected data show that the linear scale is superior. (6) The Attitudes Scale and a second rating scale (the Diagnostic Scale) are equally accurate.

⁴³Gordon, K. "Group Judgments in the Field of Lifted Weights." J. Exp. Psychol., 1924, 7, 398-400.

⁴⁴Thompson, Wayne N., "An Experimental Study of the Accuracy of Typical Speech Rating Techniques." Speech Monographs, Vol. XI, 1944, 65-79.

⁴⁵The advantage as tested by the chi-square technique for each trial separately was not conclusive. However, a consideration of the findings when six trials were combined shows a significant advantage in favor of the paired comparisons method.

Thompson listed the following reasons for discrepancies in rater judgment: (1) faulty reception of stimuli, (2) different interpretations of stimuli received, (3) different methods of weighing the interpretations, (4) operation of expectation and habituation, and (5) errors peculiar to the rating device itself. These discrepancies might be reduced by (1) using a group of raters, (2) developing a program of rater training, and (3) constructing better measuring devices.

A good deal of evidence supports the contention that rater bias is minimized when the rater is forced to make a judgment between two items rather than react to a simple item--particularly if the two items are of equal interest value and within equal fields. When items are presented singly it is often difficult for the individual to decide whether he likes it or not; when they are presented in pairs in contrast the situation becomes more meaningful.⁴⁶ Preston concludes that selective discrimination is basic to all measurement.⁴⁷ A study of Guilford and Park concluded that evidence, both objective and subjective, favors the Gestalt theory of comparative judgment.⁴⁸ Brown's experiments indicated that the conditions of keenest discrimination were also conditions of most reliable judgment. His results were in

⁴⁶Lee, E. A. and Thorpe, L. P. "Occupational Interest Inventory, Advanced Series." Manual of Instructions, Los Angeles, California Test Bureau, 1943, 6 pp.

⁴⁷Preston, M. G. "Psychophysical Measurement Methods." Psych. Bull., 1938, 35, 63-83.

⁴⁸Guilford, J. P. and Park, D. G. "The Effect of Interpolated Weights Upon Comparative Judgments." Amer. J. Psychol., 1931, 43, 589-599.

favor of insisting in every instance upon a choice, on the assumption that there is always a difference.⁴⁹

Detecting dishonest or biased raters and supervisor reviews of ratings are two methods of accounting and compensating for errors due to raters. In reference to the former, Probst maintains that the good scale will have such detection ability. Raters can, of course, be evaluated in terms of the group score with individual deviations from the group average signalling degrees of rater deficiency. A supervisor review of ratings can focus attention on locating rater difficulties. Conferences between the supervisor and rater can, in this respect, be of value as long as future ratings are not influenced by the supervisor's prejudices.

Richardson, Sisson, the Staff of the Personnel Research Section, AGO--recommend using the forced-choice technique to minimize bias.⁵⁰ The implications of this technique are discussed in Chapter I. Stevens and Wonderlic support one of the premises of the forced choice technique in their recommendation based on a two-year usage of a rating scale. They recommend substituting descriptive words and phrases for trait names. The statistical analysis of their scale over a two-year period with more than 1900 cases indicated low halo, low acquaintance-ship bias, and high reliability.⁵¹

⁴⁹Brown, W. "The Judgment of Difference." Univ. Cal. Publ. Psychol., 1910, 1, No. 1.

⁵⁰Richardson, op. cit.; Sisson, op. cit.; Staff, op. cit.

⁵¹Stevens, S. N., and Wonderlic, E. F. "An Effective Revision of a Rating Technique." Personnel J., 1934, 13, 125-134.

Regardless of technique, rating reliability is to a large extent dependent upon the intelligence and care with which each rater observes and records the activities and product of each ratee, the deliberation and impartiality with which he generalizes upon his reactions and checks them by further study, and the care with which he records his judgments on the scale provided. Rater errors will be minimized as he is motivated by these methodologies. This motivation can be enhanced by scale directions, supervisor's conferences, forced choices, familiarity with the dimension being scaled, rapport with the scaling technique, interest in formulating judgments, practice, and pride in objectivity.

Needless to say, these errors are not inherent in all other types of scales. Well constructed simple numerical scales, well used, can give results that are relatively free from these errors. It is particularly useful, however, to keep in mind the possibility of and avoidance of these pit falls when developing a new scale or in using any scale.

CHAPTER III

Procedure and Analysis of Scale Construction

In order to insure a scale with a vocabulary meaningful to the student population, in the beginning speech fundamentals course (Speech 401), sixty speech students were asked to write descriptions of the observable speaking habits of effective and ineffective speakers in their speech classes. Thirty students described the observable speaking habits of any classmate considered to be one of the best speakers in their class and thirty students described the observable speaking habits of any classmate considered to be one of the poorest speakers in their class. The sixty descriptions concerned eighteen different students classified as among the best in the class and twenty-two different students classified as among the poorest in the class. Two hundred and forty-four descriptive phrases were culled from these essays. Leading Speech Fundamental texts and available Speech Performance Check Lists were consulted for further descriptive phrases. A total of two hundred and sixty-one descriptive phrases of speaking habits (both desirable and undesirable) were collected. These items were next categorized under the seven general categories of emphasis in speaking as established in the Knower General Performance Speech Scale--Speech Attitudes and Adjustments, Voice and Articulation, Bodily Postures and Action, Language, Content--Speech Materials, Organization, and Audience Interests and Adaptation.

It was assumed at the start that no one of these categories was more important than another. Although certain of these categories

often receive more emphasis than others, no conclusive evidence is available to indicate that such emphasis is desirable. It was, therefore, considered desirable to include as many items under each category as were considered applicable to that particular division.

The list of 261 items was next checked for ambiguity and repetition and 133 items remained. Of these 133 items, 17 were listed under the heading of Attitudes and Adjustments, 26 were listed under the heading of Voice and Articulation, 28 were listed under the heading of Bodily Action, 12 were listed under the heading of Language, 21 were listed under the heading of Content--Speech Materials, 18 were listed under the heading of Organization, 11 were listed under the heading of Audience Interests and Adjustments. The categories and items listed under each are shown in Table I.

Mimeographed check lists of the 133 items were prepared to be administered to 300 Speech 401 students (Appendix C). Each item was checked on a 1 to 5 point scale (slight degree, limited degree, typical degree, outstanding degree, exceedingly high degree) indicating the applicability of each item to the speaker the rater had in mind. Responses were recorded on IEM answer sheets. The following directions were mimeographed at the head of each check list of items.

DIRECTIONS:

- 1) Write your name and your instructor's name on left corner of the answer sheet.
- 2) Identify in your mind those individuals in this class whom you consider to be the best speakers, the individuals in this class whom you consider to be the most average speakers, and the individuals in this class whom you consider to be the poorest speakers.

TABLE I

Seven Speech Processes and Identifying Criteria

I. Speech Attitudes and Adjustments

1. Appears to be living
his speeches	10. Displays signs of
nervousness
2. Confident in self	11. Disregards audience
before speaking
3. Enthusiastic	12. Disregards audience
while speaking
4. Gains Respect	13. Fights audience
5. Interested in audience	14. Indifferent
6. Pleasant appearance	15. Lacks confidence
7. Tactful	16. Slovenly appearance
8. Apologetic	17. Untactful
9. Concentrates on one portion
of audience only	

II. Voice and Articulation

18. Accurate pronunciations	33. Jerky rhythm
19. Adjusts volume to size
of audience	34. Key words and ideas
not stressed
20. Clear articulations	35. Mechanical delivery
21. Conversational	36. Mispronunciations
22. Easy, deep breathing	37. Poor articulation
23. Emphasizes key words and ideas	38. Monotonous voice
24. Meaningful vocal variety	39. Short of breath
25. Speaks fluently	40. Unpleasant pitch
26. Variety of rates	41. Voice not adapted to
situation
27. Voice appropriate to situation	42. Voice quality antag-
onizes audience
28. Voice quality commands respect	43. Volume inappropriate
for audience size
29. Volume contrasts	
30. Artificial stress	
31. Lacks meaningful vocal variety	
32. Delivery too slow	

III. Bodily Postures and Action

44. Alert porture	50. Looks at audience be-
fore speaking
45. Facial expressions help
interpret content	51. Leaves platform with
confidence
46. Gestures add emphasis	52. Moves energetically
47. Good eye contact	53. Moves with confidence
to speaking area
48. Graceful movements	
49. Hands not in way	

TABLE I Continued

Seven Speech Processes and Identifying Criteria

III. Bodily Postures and Action (Continued)

54. Purposeful movement	63. Leaves platform with lack of assurance
55. Relaxed appearance	64. Lifeless arms
56. Weight evenly distributed on balls of feet	65. Little eye contact
57. Approaches platform unbecomingly	66. Moves lazily
58. Excessive movement	67. Nervous mannerisms
59. Facial expressions immobile	68. Posture tense
60. Frowns frequently	69. Restless hands
61. Lacks meaningful gestures	70. Rocking posture
62. Lazy posture	71. Stands rooted to one spot

IV. Language

72. Accurate language	79. Inaccurate language
73. Appropriate language	80. Inappropriate language
74. Clear wording of ideas	81. Faulty sentence structure
75. Colorful language	82. Stilted language
76. Good sentence structure	83. Vocabulary level inappropriate to audience
77. Vocabulary level appropriate to audience	
78. Confused wording of ideas	

V. Content - Speech Materials

84. Details adequate	96. Confused ideas
85. Gives impression of knowing subject	97. Evaded real issues
86. Appeals to audience wants	98. Lacks authoritative statistics
87. Purposeful humor	99. Lacks examples, suggestions, etc.
88. Seemed fair minded	100. Lacks information on topic
89. Content motivating	101. Colorless
90. Uses authoritative statistics	102. Overly repetitious
91. Content impressive	103. Speech lacks audience appeal
92. Uses examples, suggestions, comparisons, etc.	104. Sketchy content
93. Uses supporting evidence	
94. Well informed	
95. Biased	

TABLE I Continued	
Seven Speech Processes and Identifying Criteria	
VI. Organization	
105. Attention-getting introduction	114. Central idea frequently vague
106. Central idea apparent	115. Conclusion leaves much to be desired
107. Meaningful conclusions	116. Dull introductions
108. Meaningful introductions	117. Forgets speech organization
109. Remembers outline	118. Lacks main ideas
110. Smooth transition sentences	119. Little organization
111. Specific purpose clearly stated	120. Material unorganized
112. Speech divided into main ideas	121. Specific purpose vague
113. Well organized	122. Transitions faulty
VII. Audience Interests and Adaptation	
123. Appropriate subject	129. Relates inappropriate personal experiences
124. Keeps audience alert	130. Speeches too long
125. Opening sentences attention getting	131. Speeches too short
126. Relates appropriate personal experiences	132. Subject inappropriate to situation
127. Subject matter based on experience	133. Topics lack audience appeal
128. Topics of general interest	

- 3) Select one speaker from these three groups whose speaking habits you feel best able to describe. Write his name in the upper right hand corner of the answer sheet and indicate what group you feel he is in: best, average, poorest.
- 4) Keeping this one individual in mind, describe him by indicating your responses to each item on the answer sheet. Your answer sheet has five spaces after each number. If you mark space 1, you have indicated that the item is applicable to the speaker you have in mind to a slight degree. Marking space 2 would indicate that the applicability of this item to the speaker you have in mind is to a limited degree. Space 3 indicates a typical degree. Space 4 indicates an outstanding degree.

Space 5 indicates an exceedingly high degree of applicability of this item to the speaker you have in mind.

- 5) Remember that the speaker you are describing may be better on some items and poorer on others. Therefore, be sure that you consider each item individually as it applies to the speaker you have in mind.
- 6) Be sure that you are as accurate as possible.
- 7) You will be given 25 minutes.

The check list was submitted immediately after the mid-term examination, at which time it was felt that the students were sufficiently familiar with speech principles and student speakers in their classes to be able to critically describe the observable speaking habits of at least one member of the class. The 100 students checking the list of 133 items in terms of a classmate they regarded as one of the best speakers in the class described 41 different student speakers. The 100 students checking the list of 133 items in terms of a classmate they regarded as one of the most average speakers in the class described 75 different student speakers. The 100 students checking the list of 133 items in terms of a classmate they regarded as one of the poorest speakers in the class described 56 different student speakers. In all, 300 student speakers were described in terms of the 153 items listed. Many students described the same speaker, however, in all, 172 different classmates were described.

Each of the three categories of speakers rated on IBM answer sheets--100 student descriptions of best speakers, 100 student descriptions of average speakers, 100 student descriptions of poorest speakers--was run separately through the Graphic Item Counter on the International Test Scoring Machine. The board was wired so that preference counts for each of the five choices on the

key for each item would be obtained. This permitted a count of 18 items for each wiring and necessitated eight wirings to obtain position counts for all 133 items in each of the three categories.

The preference counts for each of the 5 choices on the key for each item as they related to best, average and poor categories of speakers are shown in Table II.

TABLE II						
Preference Counts as Determined by Student Responses						
Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
1	Best	1	3	21	58	17
	Average	3	21	55	21	0
	Poorest	39	39	17	4	1
2		0	0	8	41	51
		0	24	42	29	5
		32	49	15	2	2
3		0	2	20	50	28
		3	22	55	20	0
		37	50	11	2	0
4		0	0	11	48	41
		3	14	48	32	3
		27	49	21	2	1
5		1	3	29	39	28
		4	13	52	28	3
		17	45	36	2	0
6		0	3	24	44	29
		0	4	36	41	19
		9	21	47	20	3

TABLE II Continued

Preference Counts as Determined by Student Responses

Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
7	Best Average Poorest	3 0 28	8 14 24	28 58 42	43 22 4	18 6 2
8		44 27 24	18 32 22	25 28 35	10 11 16	3 2 3
9		75 40 21	16 30 27	7 23 35	2 7 13	0 0 4
10		65 23 6	23 29 7	7 33 18	5 12 42	0 3 27
11		60 36 21	19 28 24	14 30 41	5 6 11	2 0 3
12		82 49 19	14 31 30	4 14 32	0 6 16	0 0 3
13		79 57 39	12 21 23	7 18 24	2 4 12	0 0 2
14		71 41 25	20 30 25	4 24 27	5 5 19	0 0 4
15		86 44 6	10 29 18	3 21 23	1 6 35	0 0 18
16		82 68 44	8 14 19	8 14 22	1 3 10	1 1 5

TABLE II Continued						
Preference Counts as Determined by Student Responses						
Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
17	Best	71	19	7	2	1
	Average	45	33	17	5	0
	Poorest	26	14	35	20	5
18		1	8	20	48	23
		4	11	48	31	6
		23	31	31	8	7
19		1	3	43	36	17
		4	20	50	18	8
		32	19	36	13	0
20		0	4	22	55	19
		2	16	45	28	9
		33	41	16	7	3
21		0	5	14	45	36
		3	15	38	37	7
		41	29	19	11	0
22		3	8	35	33	21
		4	24	52	18	2
		35	29	30	6	0
23		1	4	18	45	32
		8	24	44	23	1
		43	36	16	5	0
24		2	4	28	54	12
		6	23	59	11	1
		38	48	12	2	0
25		0	0	9	52	39
		1	16	48	35	0
		38	38	20	4	0
26		3	10	34	46	7
		7	31	54	7	1
		40	41	17	2	0

TABLE II Continued						
Preference Counts as Determined by Student Responses						
Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
27	Best	0	3	27	50	20
	Average	5	13	61	20	1
	Poorest	22	45	31	2	0
28		1	6	17	51	25
		4	32	36	27	1
		43	31	22	4	0
29		1	9	45	37	8
		9	29	51	10	1
		39	38	21	2	0
30		40	31	24	3	2
		28	33	36	3	0
		30	30	30	8	2
31		53	25	21	1	0
		32	38	25	5	0
		35	28	29	6	2
32		83	10	6	1	0
		49	28	17	5	1
		23	13	24	28	12
33		77	14	3	4	2
		38	33	16	9	4
		8	16	22	34	20
34		73	19	7	1	0
		26	45	24	15	0
		3	21	26	38	12
35		58	21	10	9	2
		22	26	36	15	1
		12	20	23	31	14
36		81	17	2	0	0
		53	25	19	3	0
		25	19	33	18	5

TABLE II Continued						
Preference Counts as Determined by Student Responses						
Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
37	Best	78	19	3	0	0
	Average	51	27	18	4	0
	Poorest	13	14	30	34	9
38		71	21	6	2	0
		39	33	17	8	3
		9	15	27	30	19
39		78	12	8	2	0
		57	24	15	3	1
		17	25	33	19	6
40		82	12	5	0	1
		59	25	10	6	0
		29	17	32	16	6
41		74	18	8	0	0
		46	28	21	5	0
		13	22	33	28	4
42		83	11	4	2	0
		64	13	19	4	0
		35	16	23	21	5
43		80	16	4	0	0
		47	35	14	2	2
		29	20	31	15	5
44		4	5	21	52	18
		6	18	43	26	7
		27	34	23	12	4
45		0	6	30	47	17
		14	37	33	14	2
		61	22	15	2	0
46		1	8	34	44	13
		20	37	33	8	2
		59	33	6	2	0

TABLE II Continued					
Preference Counts as Determined by Student Responses					
Item Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
47 Best Average Poorest	2 7 35	2 15 40	16 37 20	53 34 3	27 7 2
48	3 8 54	4 26 33	39 55 11	45 9 2	9 2 0
49	8 7 20	4 20 24	21 39 42	44 29 11	23 5 3
50	1 4 18	5 12 28	21 39 41	46 38 10	27 7 3
51	3 5 44	2 12 33	13 46 18	52 30 3	30 7 2
52	1 10 38	4 20 38	25 41 17	46 20 7	24 9 0
53	2 3 26	4 19 40	17 47 26	45 26 6	32 5 0
54	3 6 33	3 20 45	24 58 20	49 15 2	21 1 0
55	1 3 42	6 28 39	19 33 13	43 31 5	31 5 1
56	1 6 22	10 19 31	25 53 42	49 17 4	15 5 1

TABLE II Continued						
Preference Counts as Determined by Student Responses						
Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
57	Best	80	8	12	0	0
	Average	51	27	18	4	0
	Poorest	31	19	29	16	5
58		72	19	8	1	0
		55	30	11	3	1
		44	12	25	11	8
59		67	19	8	5	1
		37	28	22	11	2
		14	20	22	27	17
60		62	23	9	4	2
		52	23	17	8	0
		33	19	30	18	0
61		59	25	13	3	0
		15	34	36	15	0
		7	17	12	44	20
62		76	12	6	6	0
		48	23	17	12	0
		18	15	35	20	12
63		80	11	5	3	1
		35	32	25	5	3
		6	10	30	33	21
64		76	16	6	2	0
		35	33	22	7	3
		8	18	33	27	14
65		78	13	7	2	0
		45	26	23	4	2
		9	16	26	37	12
66		80	14	6	0	0
		49	30	16	5	0
		23	13	31	24	9

TABLE II Continued

Preference Counts as Determined by Student Responses

Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
67	Best Average Poorest	74 33 5	15 32 11	6 20 22	3 12 39	2 3 23
68		69 33 9	16 40 19	10 17 32	3 10 29	2 0 11
69		69 40 14	20 32 17	8 16 28	1 11 31	2 1 10
70		76 68 27	18 14 31	4 16 19	2 2 14	0 0 9
71		55 31 14	25 23 19	16 29 17	1 11 34	3 6 16
72		1 1 14	3 15 23	19 46 53	55 32 5	22 6 5
73		1 1 11	0 9 33	15 41 44	55 45 9	29 4 3
74		11 1 23	2 15 46	9 46 21	55 32 7	33 6 3
75		1 5 37	2 27 46	29 50 14	50 18 2	18 0 1
76		0 1 16	1 15 37	28 60 41	54 24 6	17 0 0

TABLE II Continued

Preference Counts as Determined by Student Responses

Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
77	Best	0	1	22	48	29
	Average	0	4	44	47	5
	Poorest	10	28	42	15	5
78		79	16	2	3	0
		40	41	15	4	0
		15	21	30	28	6
79		84	13	2	1	0
		56	29	12	3	0
		22	23	33	15	7
80		81	17	1	1	0
		53	35	12	0	0
		30	25	17	21	7
81		76	19	5	0	0
		51	35	13	1	0
		29	15	28	20	8
82		76	15	6	2	1
		55	34	11	0	0
		29	14	45	7	5
83		84	12	2	2	0
		70	19	11	0	0
		31	19	33	13	4
84		13	1	17	48	21
		6	8	56	30	0
		13	43	31	13	0
85		0	0	1	36	63
		0	3	29	49	19
		15	39	31	11	4
86		0	5	26	50	19
		3	17	58	20	2
		30	45	24	1	0

TABLE II Continued						
Preference Counts as Determined by Student Responses						
Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
87	Best Average Poorest	3 12 57	8 36 28	39 29 11	38 18 3	12 5 1
88		1 0 4	3 12 16	29 45 62	51 39 16	16 4 2
89		2 2 28	0 21 45	23 65 25	57 12 2	18 0 0
90		1 7 32	8 25 31	33 43 26	44 24 10	14 1 1
91		0 0 21	2 18 52	18 53 20	53 28 6	27 1 1
92		0 2 14	4 16 40	14 46 39	47 32 7	35 4 0
93		0 2 18	2 12 39	22 61 34	57 23 9	19 2 0
94		0 3 14	1 4 38	11 44 41	56 46 6	32 3 1
95		39 27 35	36 34 16	20 31 42	4 6 5	1 2 2
96		89 58 24	5 31 24	6 9 35	0 2 14	0 0 3

TABLE II Continued						
Preference Counts as Determined by Student Responses						
Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
97	Best	85	9	4	2	0
	Average	58	25	12	3	2
	Poorest	33	17	35	13	2
98		68	19	10	3	0
		41	34	19	6	0
		20	21	22	32	5
99		80	14	4	1	1
		49	31	14	6	0
		14	22	23	36	5
100		92	7	0	0	1
		65	22	13	0	0
		24	20	30	24	2
101		80	11	7	1	1
		49	34	11	5	1
		11	17	17	39	16
102		81	14	4	1	0
		56	31	13	0	0
		24	18	32	23	3
103		84	16	0	0	0
		47	34	14	3	2
		2	16	23	41	18
104		82	14	2	2	0
		44	34	21	1	0
		12	16	27	38	7
105		7	7	20	48	18
		5	29	42	21	3
		48	35	16	1	0
106		2	2	15	53	28
		1	9	61	27	2
		15	41	34	10	0

TABLE II Continued

Preference Counts as Determined by Student Responses

Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
107	Best Average Poorest	2 2 23	1 11 43	7 59 26	69 26 8	21 2 0
108		1 1 22	1 12 52	20 69 20	59 18 6	19 0 0
109		2 2 22	4 7 24	18 53 48	51 32 5	25 6 1
110		0 4 34	1 17 39	35 61 23	48 17 4	16 1 0
111		0 0 17	2 6 44	12 47 27	56 40 12	30 7 0
112		0 1 14	1 9 34	26 60 43	48 28 8	25 2 1
113		0 1 16	2 3 52	5 56 23	51 33 8	42 7 1
114		73 33 9	22 45 25	5 20 34	0 2 25	0 0 7
115		64 35 7	18 31 20	7 26 27	8 8 36	3 0 10
116		84 50 7	11 28 20	5 18 28	0 4 30	0 0 15

TABLE II Continued						
Preference Counts as Determined by Student Responses						
Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
117	Best	91	8	1	0	0
	Average	59	29	9	3	0
	Poorest	11	15	32	30	12
118		92	6	2	0	0
		57	31	12	0	0
		17	26	31	23	3
119		90	8	2	0	0
		60	31	9	0	0
		18	15	31	29	7
120		91	7	2	0	0
		69	25	5	1	0
		19	23	21	30	7
121		87	12	1	0	0
		54	33	13	0	0
		21	18	33	22	6
122		79	17	3	1	0
		40	42	18	0	0
		12	19	29	33	7
123		2	5	18	59	16
		0	12	58	30	0
		9	29	42	17	3
124		0	5	10	48	37
		4	20	57	19	0
		47	38	14	1	0
125		0	5	17	52	26
		7	15	59	17	2
		43	37	18	2	0
126		0	3	25	42	30
		3	23	39	28	7
		26	29	28	13	4

TABLE II Continued						
Preference Counts as Determined by Student Responses						
Item	Category	1 Slight degree	2 Limited degree	3 Typical degree	4 Outsd. degree	5 Exceed- ingly h. degree
127	Best	0	7	32	41	20
	Average	2	18	43	28	9
	Poorest	13	22	37	19	9
128		2	3	16	66	13
		2	8	57	32	1
		14	22	55	8	1
129		85	10	4	1	0
		64	29	6	1	0
		48	29	14	8	1
130		83	10	7	0	0
		60	19	19	2	0
		63	11	24	2	0
131		78	11	9	1	1
		59	14	23	4	0
		23	15	35	16	11
132		88	11	1	0	0
		52	32	13	2	1
		18	44	31	5	2
133		83	16	1	0	0
		47	37	14	0	2
		10	25	27	28	10

These preference counts were next used to determine a preference index and a discrimination index for each of the items. A sample of the statistical procedure followed is given below.

Item 2: Confident in self					
Alternatives:	1	2	3	4	5
Weight (w):	0	1	2	3	4
Frequency (f):					
Best -	0	0	8	41	51 = 100
Average -	0	24	42	29	5 = 100
Poorest -	32	49	15	2	2 = 100
Σf -	32	73	65	72	58 = 300
$\Sigma f \cdot w$ -	0	73	130	216	232 = 651
$d B-P $ -	32	49	7	39	49 = 176

$$\text{Preference Index: } \frac{f \cdot w}{n} \times 100 = \frac{651 \cdot 100}{300} = 217$$

$$\text{Discrimination Index: } d = \underline{176}$$

This procedure was followed for each of the 133 items. To facilitate the pairing of items according to like preference indices and unlike discrimination indices the items were divided into two categories--effective speaking habits and ineffective speaking habits--and listed in descending order according to preference indices. Table III shows this breakdown.

TABLE III		
Item Indices		
Effective Speaking Habits		
Items	Preference Index	Discrimination Index
85. Gives impression of knowing topic	265	168
6. Pleasant appearance	254	100
77. Vocabulary level appropriate to audience	245	114

TABLE III Continued

Item Indices

Effective Speaking Habits

Items	Preference Index	Discrimination Index
73. Appropriate language	238	144
94. Well informed	234	162
113. Well organized	234	168
88. Seemed fair minded	233	98
111. Specific purpose clearly stated	232	148
72. Accurate language	228	134
50. Looks at audience before speaking	226	120
127. Subject matter based on experience	226	66
123. Appropriate subject	225	110
92. Uses examples, suggestions, etc.	224	150
74. Clear wording of ideas	222	156
109. Remembers outline	222	140
112. Speech divided into main ideas	222	128
128. Topic of general interest	222	140
106. Central idea apparent	221	142
18. Accurate pronunciations	218	112

TABLE III Continued

Item Indices

Effective Speaking Habits		
Items	Preference Index	Discrimination Index
2. Confident in self	217	176
126. Relates appropriate personal experiences	217	110
4. Gains respect	216	172
21. Conversational	214	140
93. Uses supporting evidence	213	134
107. Meaningful conclusions	213	164
25. Speaks fluently	212	174
76. Good sentence structure	210	130
91. Content impressive	210	146
5. Interested in audience	209	130
49. Hands not in way	209	106
20. Clear articulations	207	140
53. Moves with confidence to speaking area	207	142
44. Alert Posture	206	108
47. Good eye contact	206	150
84. Details adequate	206	112
7. Tactful	204	110
51. Leaves platform with confidence	204	154

TABLE III Continued		
Item Indices		
Effective Speaking Habits		
Items	Preference Index	Discrimination Index
108. Meaningful introduction	203	144
19. Adjusts volume to size of audience	200	94
27. Voice appropriate to situation	200	136
56. Weight evenly distributed on balls of feet	198	118
55. Relaxed appearance	196	148
86. Appeals to audience wants	193	140
52. Moves energetically	193	142
89. Content motivating	192	146
124. Keeps audience alert	192	168
3. Enthusiastic	191	170
1. Appears to be living his speeches	190	148
23. Emphasizes key words and ideas	190	148
28. Voice quality commands respect	190	144
110. Smooth transition sentences	190	144
125. Opening sentences attention getting	190	152

TABLE III Continued

Item Indices

Effective Speaking Habits

Items	Preference Index	Discrimination Index
90. Uses authoritative statistics	189	108
22. Easy, deep breathing	186	106
54. Purposeful movement	186	114
75. Colorful language	182	160
24. Meaningful vocal variety	175	160
105. Attention-getting introductions	174	138
29. Volume contrasts	164	134
26. Variety of rates	163	136
45. Facial expressions help interpret content	162	154
48. Graceful movements	162	160
87. Purposeful humor	160	148
46. Gestures add emphasis	149	166

TABLE III Continued		
Item Indices		
Ineffective Speaking Habits		
Items	Preference Index	Discrimination Index
10. Displays signs of nervousness	157	150
61. Lacks meaningful gestures	155	202
35. Mechanical delivery	146	94
67. Nervous mannerisms	143	146
71. Stands rooted to one spot	143	94
63. Leaves platform with lack of assurance	132	150
115. Conclusion leaves much to be desired	132	114
8. Apologetic	130	40
33. Jerky rhythm	130	138
59. Facial expressions immobile	127	106
34. Key words and ideas not stressed	126	140
38. Monotonous voice	126	136
68. Posture tense	124	120
64. Lifeless arms	122	136
69. Restless hands	118	116
65. Little eye contact	117	138

TABLE III Continued		
Item Indices		
Ineffective Speaking Habits		
Items	Preference Index	Discrimination Index
103. Speech lacks audience appeal	117	164
15. Lacks confidence in self	116	160
101. Colorless	113	138
95. Biased	112	48
30. Artificial stress	111	22
11. Disregards audience before speaking	109	78
62. Lazy posture	109	116
116. Dull introductions	108	154
98. Lacks authoritative statistics	106	96
114. Central idea frequently vague	106	128
104. Sketchy content	105	140
37. Poor articulation	104	140
122. Transitions faulty	103	134
41. Voice not adapted to situation	102	122
99. Lacks examples, suggestions, etc.	101	132
32. Delivery too slow	100	120

TABLE III Continued

Item Indices

Ineffective Speaking Habits

Items	Preference Index	Discrimination Index
78. Confused wording of ideas	100	128
133. Topic lacks audience appeal	98	146
14. Indifferent	96	92
17. Untactful	96	100
131. Speech too short	95	110
66. Moves lazily	95	116
31. Artificial vocal variety	95	36
9. Concentrates on one portion of audience only	95	108
117. Forgets speech organization	94	160
60. Frowns frequently	92	70
39. Short of breath	91	122
81. Faulty sentence structure	85	102
119. Little organization	84	144
12. Disregards audience while speaking	84	126
36. Mispronunciations	84	112
57. Approaches platform unbecomingly	84	98

TABLE III Continued

Item Indices

Ineffective Speaking Habits		
Items	Preference Index	Discrimination Index
43. Volume inappropriate for audience size	83	102
102. Overly repetitious	82	114
121. Specific purpose vague	82	132
40. Unpleasant pitch	81	106
79. Inaccurate language	81	124
82. Stilted language	79	96
118. Lacks main ideas	78	150
42. Voice quality antagonizes audience	78	96
58. Excessive movement	77	70
70. Rocking posture	77	98
120. Material unorganized	77	114
80. Inappropriate language	77	102
97. Evaded real issue	74	104
96. Confused ideas	73	130
100. Lacks information on topic	73	136
13. Fights audience	72	80
132. Subject inappropriate to situation	70	140
83. Vocabulary level inappropriate to audience	68	106

TABLE III Continued		
Item Indices		
Ineffective Speaking Habits		
Items	Preference Index	Discrimination Index
16. Slovenly appearance	66	76
130. Speeches too long	51	40
129. Relates inappropriate personal experiences	50	74

The use of the Preference and Discrimination Indices as an aid in pairing the items posed two problems: (1) within what limits were varying discrimination indices to be regarded, for all practical purposes, as being alike, and (2) at what point did a significant difference between discriminations indices exist. The first problem was sufficiently answered by determining the Standard Error of the Mean of each preference index. These Standard Errors indicated the possible range within which the mean (preference index) might occur two-thirds of the time in any like population and thereby to be considered alike. The second problem was solved by transforming all discrimination indices into validity r 's and determining the fiducial limits of each r at the 5% and 1% levels. The breakdown of this information is recorded in Table IV.

On the basis of the information tabulated in Table IV each item was listed with all possible pairing choices. The possible

choices included those items whose preference indices fell within the limits of the Standard Error of the preference index concerned and whose discrimination indices were significantly different at the 1% level from the discrimination index concerned. The possible pairing choices for each item are indicated in Table V. Many of the items listed under the heading of Effective Speaking Habits were also listed--in negative form--under the heading of Ineffective Speaking Habits. The selection of any one of these items for pairing eliminated its counterpart from being paired. This elimination prevented content duplication of items.

It was assumed preferable to pair items previously listed under the same category whenever possible. Due to varying degrees of emphasis on the seven categories it was felt that to combine items from different categories might influence rater choice. If, for example, an individual felt that the category Organization was more important than the category Voice and Articulation, then he might exercise personal bias in item selection. By pairing items from the same category this possibility might be avoided.

Another problem involved in the pairing concerned the doubtful advisability of combining extreme differences in discrimination indices. The possibility of obvious face value differences appearing between items with extreme differences in discrimination indices was considered. Although no statistical evidence was available to support this premise, it was felt that such a possibility should be avoided in pairing.

TABLE IV						
Item Indices, Standard Errors, r's, and Their Fiducial Limits						
Item	Pref. Index	S. E.	Discr. Index	r	Fiducial 1%	Limits 5%
85	265	± 6.8	168	.737	.660-.798	.680-.785
6	254	± 5.6	100	.468	.345-.579	.375-.555
77	245	± 5.6	114	.542	.427-.639	.455-.616
73	238	± 5.8	114	.612	.510-.697	.535-.680
94	234	± 6.0	162	.701	.615-.769	.636-.754
113	234	± 6.5	168	.748	.675-.808	.693-.794
88	233	± 5.1	98	.381	.245-.500	.279-.473
111	232	± 5.7	118	.746	.670-.805	.690-.792
72	228	± 5.8	134	.526	.408-.625	.438-.603
50	226	± 6.3	120	.526	.408-.625	.438-.603
127	226	± 6.0	66	.294	.153-.425	.188-.395
123	225	± 5.3	110	.472	.347-.580	.378-.555
92	224	± 6.2	150	.659	.566-.736	.590-.720
74	222	± 6.8	156	.684	.597-.757	.620-.741
109	222	± 6.2	140	.590	.484-.680	.510-.660
112	222	± 5.6	128	.624	.525-.708	.550-.690
128	222	± 5.3	140	.553	.440-.649	.470-.628
106	221	± 6.0	142	.647	.550-.725	.575-.708
18	218	± 6.5	112	.394	.262-.514	.295-.485
2	217	± 7.4	176	.794	.733-.845	.750-.830

TABLE IV Continued

Item Indices, Standard Errors,
r's, and Their Fiducial Limits

Item	Pref. Index	S. E.	Discr. Index	r	Fiducial 1%	Limits 5%
126	217	± 6.7	110	.556	.443-.650	.471-.630
4	216	± 7.0	172	.775	.713-.829	.725-.820
21	214	± 7.3	140	.681	.590-.753	.615-.735
93	213	± 5.8	134	.648	.553-.727	.577-.710
107	213	± 6.3	164	.704	.621-.773	.643-.758
25	212	± 7.1	174	.798	.740-.818	.755-.838
76	210	± 5.5	130	.646	.550-.725	.574-.707
91	210	± 6.3	146	.716	.633-.781	.655-.765
5	209	± 6.1	130	.640	.543-.720	.565-.705
49	209	± 6.6	106	.417	.285-.533	.319-.506
20	207	± 6.8	140	.637	.542-.720	.565-.700
53	207	± 6.8	142	.660	.567-.738	.590-.720
44	206	± 6.8	108	.499	.380-.604	.410-.580
47	206	± 7.2	150	.668	.575-.743	.600-.726
84	206	± 6.3	112	.448	.320-.559	.352-.534
7	204	± 6.2	110	.523	.401-.620	.430-.595
51	204	± 7.4	154	.693	.605-.763	.628-.746
108	203	± 6.0	144	.727	.649-.791	.669-.777
19	200	± 6.3	94	.505	.385-.609	.415-.585
27	200	± 6.0	136	.683	.590-.753	.615-.735
56	198	± 6.1	118	.530	.413-.630	.444-.607

TABLE IV Continued

Item Indices, Standard Errors,
r's, and Their Fiducial Limits

Item	Pref. Index	S. E.	Discr. Index	r	Fiducial 1%	Limits 5%
55	196	± 7.3	148	.685	.597-.757	.620-.741
86	193	± 6.3	140	.704	.621-.773	.643-.758
52	193	± 7.2	142	.642	.543-.720	.567-.703
89	192	± 6.1	146	.726	.645-.789	.666-.775
124	192	± 7.3	168	.800	.740-.848	.755-.838
3	191	± 6.8	170	.784	.720-.837	.740-.830
1	190	± 6.6	148	.711	.628-.777	.650-.760
23	190	± 7.3	148	.715	.634-.781	.655-.765
28	190	± 7.0	144	.692	.603-.761	.625-.745
110	190	± 6.2	144	.695	.610-.765	.632-.750
125	190	± 7.0	152	.744	.670-.805	.690-.792
90	189	± 6.3	108	.539	.425-.638	.455-.615
22	186	± 6.4	106	.565	.455-.659	.485-.635
54	186	± 6.5	144	.689	.603-.761	.625-.745
75	182	± 6.5	160	.715	.633-.781	.655-.766
24	175	± 6.3	160	.716	.633-.781	.655-.765
105	174	± 7.0	138	.648	.554-.728	.579-.710
29	164	± 6.0	134	.618	.513-.700	.540-.685
26	163	± 6.0	136	.637	.538-.716	.560-.700
45	162	± 7.2	154	.715	.633-.781	.655-.765
48	162	± 6.5	160	.698	.614-.768	.635-.753

TABLE IV Continued

Item Indices, Standard Errors,
r's, and Their Fiducial Limits

Item	Pref. Index	S. E.	Discr. Index	r	Fiducial 1%	Limits 5%
87	160	± 7.0	148	.622	.522-.705	.547-.687
46	149	± 6.9	166	.710	.628-.777	.650-.762
10	157	± 7.9	150	-.673	-.745 -.580	-.605 -.730
61	155	± 7.3	212	-.622	-.705 -.520	-.686 -.545
35	146	± 7.2	94	-.453	-.565 -.328	-.540 -.360
67	143	± 8.0	146	-.650	-.728 -.555	-.710 -.580
71	143	± 7.6	94	-.458	-.568 -.332	-.544 -.364
63	132	± 7.7	150	-.667	-.743 -.575	-.725 -.600
115	132	± 7.1	114	-.508	-.611 -.388	-.588 -.419
8	130	± 6.5	40	-.153	-.292 -.001	-.040 -.260
33	130	± 7.9	138	-.604	-.692 -.501	-.670 -.530
59	127	± 7.5	106	-.502	-.604 -.380	-.580 -.410
34	126	± 6.8	140	-.753	-.813 -.682	-.800 -.700
38	126	± 7.5	136	-.616	-.700 -.513	-.680 -.540
68	124	± 7.0	120	-.527	-.626 -.410	-.600 -.440
64	122	± 7.2	136	-.615	-.700 -.513	-.680 -.540
69	118	± 7.1	116	-.527	-.626 -.410	-.605 -.440
65	117	± 7.3	138	-.615	-.700 -.513	-.681 -.540
103	117	± 7.6	164	-.550	-.809 -.677	-.796 -.695
15	116	± 7.5	160	-.698	-.765 -.610	-.630 -.750

TABLE IV Continued

Item Indices, Standard Errors,
r's, and Their Fiducial Limits

Item	Pref. Index	S. E.	Discr. Index	r	Fiducial 1%	Limits 5%
101	113	± 7.5	138	-.625	-.708 -.525	-.690 -.550
95	112	± 5.7	48	-.128	-.272 $\pm .021$	-.239 -.015
30	111	± 5.5	22	-.011	-.160 $\pm .140$	-.120 $\pm .105$
11	109	± 6.1	78	-.314	-.443 -.175	-.210 -.415
62	109	± 7.1	116	-.499	-.545 -.300	-.520 -.335
116	108	± 7.2	154	-.675	-.749 -.585	-.733 -.608
98	106	± 6.6	96	-.478	-.585 -.355	-.560 -.385
114	106	± 6.2	128	-.626	-.708 -.525	-.690 -.550
104	105	± 6.8	140	-.653	-.730 -.558	-.714 -.583
37	104	± 6.9	140	-.641	-.720 -.543	-.703 -.568
122	103	± 6.5	134	-.646	-.725 -.550	-.707 -.574
41	102	± 6.3	122	-.572	-.663 -.460	-.643 -.490
99	101	± 6.7	132	-.584	-.675 -.477	-.655 -.505
32	100	± 7.1	120	-.557	-.650 -.444	-.630 -.470
78	100	± 6.5	128	-.584	-.675 -.478	-.655 -.505
133	98	± 6.7	146	-.652	-.730 -.557	-.713 -.582
14	96	± 6.2	92	-.416	-.531 -.285	-.315 -.505
17	96	± 6.3	100	-.450	-.562 -.323	-.355 -.540
131	95	± 6.8	110	-.487	-.593 -.365	-.569 -.395
66	95	± 6.7	116	-.554	-.650 -.444	-.630 -.471

TABLE IV Continued

Item Indices, Standard Errors,
r's, and Their Fiducial Limits

Item	Pref. Index	S. E.	Discr. Index	r	Fiducial 1%	Limits 5%
31	95	± 5.4	36	-.058	-.202 $\pm$.095	-.169 $\pm$.059
9	95	± 6.0	108	-.456	-.565 $\pm$.328	-.360 $\pm$.545
117	94	± 7.0	160	-.696	-.765 $\pm$.610	-.750 $\pm$.632
60	92	± 6.1	70	-.277	-.408 $\pm$.133	-.378 $\pm$.169
39	91	± 6.4	122	-.511	-.613 $\pm$.390	-.590 $\pm$.420
81	85	± 6.3	102	-.505	-.608 $\pm$.385	-.585 $\pm$.415
119	84	± 6.5	144	-.651	-.728 $\pm$.555	-.710 $\pm$.580
12	84	± 5.8	126	-.532	-.630 $\pm$.414	-.445 $\pm$.605
36	84	± 6.1	112	-.534	-.634 $\pm$.420	.610 $\pm$.450
57	84	± 6.1	98	-.434	-.548 $\pm$.305	.523 $\pm$.340
43	83	± 6.0	102	-.535	-.633 $\pm$.420	.610 $\pm$.450
102	82	± 6.0	114	-.543	-.640 $\pm$.428	.618 $\pm$.458
121	82	± 6.2	132	-.612	-.698 $\pm$.510	.678 $\pm$.535
40	81	± 6.3	106	-.475	-.583 $\pm$.352	.560 $\pm$.383
79	81	± 6.2	124	-.520	-.620 $\pm$.402	.600 $\pm$.430
82	79	± 5.8	96	-.442	-.553 $\pm$.313	.529 $\pm$.345
118	78	± 5.9	150	-.633	-.715 $\pm$.535	.696 $\pm$.560
42	78	± 6.4	96	-.444	-.556 $\pm$.317	.530 $\pm$.350
58	77	± 6.1	70	-.342	-.465 $\pm$.200	.435 $\pm$.235
70	77	± 6.2	98	-.437	-.550 $\pm$.307	.525 $\pm$.340
120	77	± 6.5	144	-.625	-.708 $\pm$.525	.690 $\pm$.550

TABLE IV Continued						
Item Indices, Standard Errors, r's, and Their Fiducial Limits						
Item	Pref. Index	S. E.	Discr. Index	r	Fiducial 1%	Limits 5%
80	77	± 6.0	102	-.499	-.604 -.380	.580 -.410
97	74	± 5.9	104	-.442	-.554 -.313	.529 -.345
96	73	± 5.7	130	-.544	-.642 -.430	.620 -.460
100	73	± 6.0	136	-.585	-.675 -.477	.655 -.505
13	72	± 5.7	80	-.345	-.470 -.207	.240 -.440
132	70	± 5.1	140	-.540	-.638 -.425	.615 -.455
83	68	± 5.7	106	-.485	-.592 -.363	.567 -.394
16	66	± 6.0	76	-.322	-.448 -.180	.215 -.420
130	51	± 4.7	40	-.205	-.348 -.058	.310 -.094
129	50	± 4.7	74	-.325	-.452 -.185	.423 -.220

This two point criteria--(1) pairing items from the same category, and (2) avoiding combinations of items with extreme differences in discrimination indices--was followed whenever possible. Fifty-two items were paired. Criterion one was possible in 10 of the 26 pairs. Criterion two was possible in 21 of the 26 pairs. In all cases, the pairings met the original statistical criterion of like preference indices and significantly different discrimination indices at the 1% level of confidence.

TABLE V
Pairing Possibilities

<p>Item 85 - <u>Gives impression of knowing topic</u></p> <p>Pleasant appearance</p>
<p>Item 6 - <u>Pleasant appearance</u></p> <p>Gives impression of knowing topic</p>
<p>Item 77 - <u>Vocabulary level appropriate to audience</u></p> <p>Well organized</p>
<p>Item 73 - <u>Appropriate language</u></p> <p>Seemed fair minded Subject matter based on experience</p>
<p>Item 94 - <u>Well informed</u></p> <p>Seemed fair minded Subject matter based on experience Appropriate subject</p>
<p>Item 113 - <u>Well organized</u></p> <p>Vocabulary level appropriate to audience Seemed fair minded Accurate language Looks at audience before speaking Subject matter based on experience Appropriate subject</p>
<p>Item 88 - <u>Seemed fair minded</u></p> <p>Well organized Well informed Appropriate language Specific purpose clearly stated Uses examples, suggestions, etc.</p>

TABLE V Continued
Pairing Possibilities

Item 111 - Specific purpose clearly stated

Seemed fair minded	Subject matter based on
Accurate language	experience
Appropriate subject	Looks at audience before
Topic of general interest	speaking
Uses examples, suggestions, etc.	

Item 72 - Accurate language

Specific purpose clearly stated
Well organized
Confident in self
Gains respect

Item 50 - Looks at audience before speaking

Specific purpose clearly stated
Well organized
Confident in self
Gains respect

Item 127 - Subject matter based on experience

Specific purpose clearly stated	Central idea apparent
Well organized	Accurate pronunciations
Well informed	Confident in self
Appropriate language	Relates appropriate per-
Uses examples, suggestions, etc.	sonal experiences
Clear wording of ideas	Gains respect
Remembers outline	Conversational
Speech divided into main ideas	
Topic of general interest	

Item 123 - Appropriate subject

Well informed	Conversational
Well organized	Specific purpose clearly
Confident in self	stated
Gains respect	Clear wording of ideas

TABLE V Continued	
Pairing Possibilities	
Item 92 - <u>Uses examples, suggestions, etc.</u>	
Seemed fair minded Accurate pronunciations Speaks fluently Subject matter based on experience	
Item 74 - <u>Clear wording of ideas</u>	
Seemed fair minded Appropriate subject Accurate pronunciations	Subject matter based on experience Hands not in way
Item 109 - <u>Remembers Outline</u>	
Subject matter based on experience Confident in self Gains respect Speaks fluently	
Item 112 - <u>Speech divided into main ideas</u>	
Seemed fair minded Subject matter based on experience Accurate pronunciations	Confident in self Gains respect Speaks fluently
Item 128 - <u>Topic of general interest</u>	
Specific purpose clearly stated Subject matter based on experience Confident in self Gains respect Speaks fluently	
Item 106 - <u>Central idea apparent</u>	
Subject matter based on experience Accurate pronunciations	Confident in self Speaks fluently Hands not in way

TABLE V Continued
Pairing Possibilities

<p>Item 18 - <u>Accurate pronunciations</u></p>	
<p>Uses examples, suggestions, etc. Speech divided into main ideas Confident in self Conversational Meaningful conclusions Good sentence structure Interested in audience Moves with confidence</p>	<p>Clear wording of ideas Central idea apparent Gains respect Uses supporting evidence Speaks fluently Content impressive Clear articulations Good eye contact</p>
<p>Item 2 - <u>Confident in self</u></p>	
<p>Accurate language Subject matter based on experience Looks at audience before speaking</p>	
<p>Item 123 - <u>Appropriate subject</u></p>	
<p>Remembers outline Speech divided into main ideas Topic of general interest Central idea apparent Accurate pronunciations Relates appropriate personal experience Uses supporting evidence</p>	<p>Good sentence structure Interested in audience Hands not in way Clear articulations Alert posture Details adequate Tactful</p>
<p>Item 126 - <u>Relates appropriate personal experiences</u></p>	
<p>Subject matter based on experience Confident in self Gains respect Speaks fluently</p>	
<p>Item 4 - <u>Gains respect</u></p>	
<p>Accurate language Looks at audience before speaking</p>	<p>Subject matter based on experience Appropriate subject</p>

TABLE V Continued	
Pairing Possibilities	
Item 4 - <u>Gains respect</u> (Continued)	
Remembers outline	Hands not in way
Speech divided into main ideas	Alert posture
Topic of general interest	Details adequate
Accurate pronunciation	Tactful
Relates appropriate experience	
Item 21 - <u>Conversational</u>	
Subject matter based on experience	
Appropriate subject	
Accurate pronunciations	
Hands not in way	
Details adequate	
Item 93 - <u>Uses supporting evidence</u>	
Accurate pronunciations	
Confident in self	
Speaks fluently	
Hands not in way	
Item 107 - <u>Meaningful conclusions</u>	
Accurate pronunciations	
Hands not in way	
Alert Posture	
Details adequate	
Tactful	
Item 25 - <u>Speaks fluently</u>	
Uses examples, suggestions, etc.	Uses supporting evidence
Remembers outline	Adjusts volume to size of audience
Speech divided into main ideas	Good sentence structure
Topic of general interest	Interested in audience
Central idea apparent	Hands not in way
Accurate pronunciations	Clear articulations
Relates appropriate personal experience	

TABLE V Continued	
Pairing Possibilities	
Item 25 - <u>Speaks fluently</u> (Continued)	
Moves with confidence to speaking area Alert posture	Details adequate Tactful
Item 76 - <u>Good sentence structure</u>	
Accurate pronunciations Confident in self Speaks fluently Hands not in way	
Item 91 - <u>Content impressive</u>	
Accurate pronunciations Hands not in way Alert posture Details adequate Tactful	Adjusts volume to size of audience Weight evenly distributed on balls of feet
Item 5 - <u>Interested in audience</u>	
Accurate pronunciations Confident in self Speaks fluently Hands not in way	
Item 49 - <u>Hands not in way</u>	
Clear wording of ideas Central idea apparent Confident in self Gains respect Conversational Uses supporting evidence Meaningful conclusions Speaks fluently Meaningful introductions Relaxed appearance	Good sentence structure Content impressive Clear articulations Moves with confidence to area Good eye contact Leaves platform with con- fidence Voice appropriate to situation

TABLE V Continued
Pairing Possibilities

<p>Item 20 - <u>Clear articulations</u></p> <p>Accurate pronunciations Confident in self Speaks fluently Hands not in way</p>	
<p>Item 53 - <u>Moves with confidence to area</u></p> <p>Accurate pronunciations Speaks fluently Hands not in way Details adequate</p>	
<p>Item 44 - <u>Alert posture</u></p> <p>Confident in self Gains respect Meaningful conclusions Speaks fluently Content impressive</p>	<p>Leaves platform with confidence Meaningful introductions Appeals to audience wants Keeps audience alert</p>
<p>Item 47 - <u>Good eye contact</u></p> <p>Accurate pronunciations Hands not in way Details adequate</p>	
<p>Item 84 - <u>Details adequate</u></p> <p>Confident in self Gains respect Conversational Meaningful conclusions Speaks fluently Content impressive Moves with confidence to area</p>	<p>Good eye contact Leaves platform with confidence Meaningful introductions Voice appropriate to situation Relaxed appearance</p>

TABLE V Continued
Pairing Possibilities

Item 7 - <u>Tactful</u>	
Confident in self	Meaningful introduction
Gains respect	Appeals to audience wants
Meaningful conclusion	Content motivating
Speaks fluently	Keeps audience alert
Content impressive	Enthusiastic
Item 51 - <u>Leaves platform with confidence</u>	
Accurate pronunciations	
Hands not in way	
Alert posture	
Details adequate	
Item 108 - Meaningful introductions	
Adjusts volume to audience size	Alert posture
Weight evenly distributed on	Details adequate
balls of feet	Tactful
Hands not in way	
Item 19 - <u>Adjusts volume to size of audience</u>	
Speaks fluently	Enthusiastic
Content impressive	Appears to be living his
Meaningful introductions	speeches
Appeals to audience wants	Emphasizes key words and
Content motivating	ideas
Keeps audience alert	Smooth transition sen-
Opening sentences attention	tences
getting	
Item 27 - <u>Voice appropriate to situation</u>	
Hands not in way	
Details adequate	

TABLE V Continued	
Pairing Possibilities	
Item 56 - <u>Weight evenly distributed</u>	
Content impressive	Emphasizes key words and ideas
Meaningful introduction	
Content motivating	Opening sentences attention getting
Keeps audience alert	
Enthusiastic	
Item 55 - <u>Relaxed appearance</u>	
Hands not in way	
Details adequate	
Item 86 - <u>Appeals to audience wants</u>	
Alert posture	
Tactful	
Adjusts volume to size of audience	
Item 52 - <u>Moves energetically</u>	
Keeps audience alert	
Enthusiastic	
Item 89 - <u>Content motivating</u>	
Tactful	
Adjusts volume to size of audience	
Weight evenly distributed on balls of feet	
Item 124 - <u>Keeps audience alert</u>	
Tactful	Moves energetically
Adjusts volume to size of audience	Uses authoritative statistics
Weight evenly distributed	Easy, deep breathing

TABLE V Continued	
Pairing Possibilities	
Item 3 - <u>Enthusiastic</u>	<ul style="list-style-type: none"> Uses authoritative statistics Easy, deep breathing
Item 1 - <u>Appears to be living speeches</u>	<ul style="list-style-type: none"> Adjusts volume to size of audience
Item 23 - <u>Emphasizes key words and ideas</u>	<ul style="list-style-type: none"> Adjusts volume to size of audience Weight evenly distributed on balls of feet
Item 28 - <u>Voice quality commands respect</u>	
Item 110 - <u>Smooth transition sentences</u>	<ul style="list-style-type: none"> Adjusts volume to size of audience
Item 125 - <u>Opening sentences attention getting</u>	<ul style="list-style-type: none"> Adjusts volume to size of audience Weight evenly distributed on balls of feet Uses authoritative statistics Easy, deep breathing
Item 90 - <u>Uses authoritative statistics</u>	<ul style="list-style-type: none"> Content motivating Keeps audience alert Enthusiastic Opening sentences attention getting

TABLE V Continued	
Pairing Possibilities	
Item 22 - <u>Easy, deep breathing</u>	Keeps audience alert Enthusiastic Opening sentences attention getting
Item 54 - <u>Purposeful movement</u>	
Item 75 - <u>Colorful language</u>	
Item 24 - <u>Meaningful vocal variety</u>	
Item 105 - <u>Attention-getting introductions</u>	
Item 29 - <u>Volume contrasts</u>	
Item 26 - <u>Variety of rates</u>	
Item 45 - <u>Facial expressions help interpret content</u>	
Item 48 - <u>Graceful movements</u>	
Item 87 - <u>Purposeful humor</u>	
Item 46 - <u>Gestures add emphasis</u>	
Item 10 - <u>Displays signs of nervousness</u>	Mechanical delivery Stands rooted to one spot

TABLE V Continued
Pairing Possibilities

Item 61 - <u>Lacks meaningful gestures</u>	
Mechanical delivery Displays signs of nervousness Leaves with lack of assurance	
Item 67 - <u>Nervous mannerisms</u>	
Apologetic	
Item 71 - <u>Stands rooted to one spot</u>	
Displays signs of nervousness Leaves platform with lack of assurance Apologetic	
Item 63 - <u>Leaves platform with lack of assurance</u>	
Mechanical delivery Stands rooted to one spot Apologetic	
Item 115 - <u>Conclusion leaves much to be desired</u>	
Apologetic Key words and ideas not stressed	
Item 8 - <u>Apologetic</u>	
Nervous mannerisms Stands rooted to one spot Leaves platform with lack of assurance Conclusion leaves much to be desired Jerky rhythm Facial expressions immobile Key words and ideas not stressed	Monotonous voice Posture tense Lifeless arms Restless hands Little eye contact Speech lacks audience appeal Lacks confidence in self

TABLE V Continued	
Pairing Possibilities	
Item 33 - <u>Jerky rhythm</u>	Apologetic
Item 59 - <u>Facial expression immobile</u>	Apologetic Key words and ideas not stressed Speech lacks audience appeal Lacks confidence in self
Item 34 - <u>Key words and ideas not stressed</u>	Conclusion leaves much to be desired Apologetic Facial expressions immobile Posture tense Restless hands
Item 38 - <u>Monotonous voice</u>	Apologetic Biased
Item 68 - <u>Posture tense</u>	Apologetic Key words and ideas not stressed Speech lacks audience appeal Biased Artificial stress
Item 64 - <u>Lifeless arms</u>	Apologetic Biased Artificial stress Disregards audience before speaking

TABLE V Continued
Pairing Possibilities

Item 69 - Restless hands

Apologetic
Speech lacks audience appeal
Key words and ideas not stressed
Biased
Artificial stress

Item 65 - Little eye contact

Apologetic
Biased
Artificial stress
Disregards audience before speaking

Item 103 - Speech lacks audience appeal

Conclusion leaves much to be desired	Restless hands
Apologetic	Biased
Facial expressions immobile	Artificial stress
Posture tense	Disregards audience before speaking
Lacks authoritative statistics	Lazy posture

Item 15 - Lacks confidence in self

Apologetic
Facial expressions immobile
Biased
Artificial stress
Disregards audience before speaking
Lazy posture
Lacks authoritative statistics

Item 101 - Colorless

Biased
Artificial stress
Disregards audience before speaking

TABLE V Continued

Pairing Possibilities

Item 95 - Biased

Monotonous voice	Restless hands
Lifeless arms	Speech lacks audience appeal
Little eye contact	Lazy posture
Lacks confidence in self	Lacks authoritative statistics
Colorless	Sketchy content
Dull introductions	Transitions faulty
Central idea frequently vague	Lacks examples, suggestions, etc.
Poor articulation	Confused wording of ideas
Voice not adapted to situation	
Delivery too slow	
Posture tense	

Item 30 - Artificial stress

Posture tense	Lacks confidence in self
Restless hands	Colorless
Speech lacks audience appeal	Lazy posture
Disregards audience before speaking	Dull introductions
Lacks authoritative statistics	Central idea frequently vague
Sketchy content	Poor articulation
Transitions faulty	Voice not adapted to situation
Lacks examples, suggestions, etc.	Delivery too slow
Confused wording of ideas	Topic lacks audience appeal
Lifeless arms	
Little eye contact	

Item 11 - Disregards audience before speaking

Lifeless arms	Lacks confidence
Speech lacks audience contact	Artificial stress
Colorless	Central idea frequently vague
Dull introductions	Transitions faulty
Sketchy content	Lacks examples, suggestions, etc.
Poor articulation	Topic lacks audience appeal
Voice not adapted	
Delivery too slow	
Confused wording of ideas	
Little eye contact	

TABLE V Continued	
Pairing Possibilities	
Item 62 - <u>Lazy posture</u>	
Speech lacks audience appeal	Biased
Lacks confidence in self	Artificial stress
Dull introductions	Sketchy content
Transitions faulty	Topic lacks audience appeal
Item 116 - <u>Dull introductions</u>	
Indifferent	
Concentrates on one portion of audience only	
Untactful	
Item 98 - <u>Lacks authoritative statistics</u>	
Speech lacks audience appeal	Artificial stress
Lacks confidence in self	Forgets speech organiza- tion
Artificial vocal variety	
Biased	
Item 114 - <u>Central idea frequently vague</u>	
Biased	
Artificial stress	
Artificial vocal variety	
Disregards audience before speaking	
Item 104 - <u>Sketchy content</u>	
Biased	Indifferent
Artificial stress	Artificial vocal variety
Disregards audience before speaking	Frowns frequently
Item 37 - <u>Poor articulation</u>	
Biased	
Artificial stress	
Disregards audience before speaking	

TABLE V Continued
Pairing Possibilities

Item 37 - Poor articulation (Continued)

Indifferent
Artificial vocal variety
Frowns frequently

Item 122 - Transitions faulty

Biased	Lazy posture
Artificial stress	Indifferent
Disregards audience before speaking	Lacks vocal variety
	Frowns frequently

Item 141 - Voice not adapted to situation

Biased	Disregards audience before speaking
Artificial stress	
Frowns frequently	Lacks vocal variety

Item 99 - Lacks examples, suggestions, etc.

Biased	Artificial stress
Disregards audience before speaking	Lacks vocal variety
	Frowns frequently

Item 32 - Delivery too slow

Biased	Artificial stress
Disregards audience before speaking	Artificial vocal variety
	Frowns frequently

Item 78 - Confused wording of ideas

Biased	Artificial stress
Disregards audience before speaking	Artificial vocal variety
	Frowns frequently

TABLE V Continued	
Pairing Possibilities	
Item 133 - <u>Topic lacks audience appeal</u>	
Biased	Disregards audience before speaking
Artificial stress	Indifferent
Lazy posture	Frowns frequently
Artificial vocal variety	
Item 14 - <u>Indifferent</u>	
Dull introductions	Transitions faulty
Poor articulation	Artificial vocal variety
Topic lacks audience appeal	Forgets speech organization
Little organization	
Sketchy content	
Item 17 - <u>Untactful</u>	
Dull introductions	
Forgets speech organization	
Artificial vocal variety	
Item 131 - <u>Speech too short</u>	
Artificial vocal variety	
Forgets speech organization	
Item 66 - <u>Moves lazily</u>	
Artificial vocal variety	
Frowns frequently	
Item 31 - <u>Artificial vocal variety</u>	
Lacks authoritative statistics	Indifferent
Sketchy content	Untactful
Poor articulation	Moves lazily
Voice not adapted to situation	Forgets speech organization
Delivery too slow	
Confused wording of ideas	Short of breath

TABLE V Continued
Pairing Possibilities

Item 31 - Artificial vocal variety (Continued)

Little organization	Speech too short
Mispronunciations	Concentrates on one por-
Approaches platform unbecomingly	tion of audience only
Central idea frequently vague	Faulty sentence struc-
Transitions faulty	ture
Lacks examples, suggestions, etc.	Disregards audience while speaking
Topic lacks audience appeal	

Item 9 - Concentrates on one portion of audience only

Dull introductions
Artificial vocal variety
Forgets speech organization

Item 117 - Forgets speech organization

Lacks authoritative statistics	Indifferent
Untactful	Speech too short
Artificial vocal variety	Concentrates on one por-
Frowns frequently	tion of audience only
Faulty sentence structure	
Approaches platform unbecomingly	

Item 60 - Frowns frequently

Sketchy content	Poor articulation
Transitions faulty	Voice not adapted to situ-
Lacks examples, suggestions, etc.	ation
Delivery too slow	Confused wording of
Topic lacks audience appeal	ideas
Moves lazily	Forgets speech organiza-
Little organization	tion
Disregards audience while speaking	Mispronunciations
Volume inappropriate for audi- ence size	

TABLE V Continued	
Pairing Possibilities	
Item 43 - <u>Volume inappropriate for audience size</u>	Artificial vocal variety Frowns frequently
Item 102 - <u>Overly repetitious</u>	Artificial vocal variety Frowns frequently
Item 121 - <u>Specific purpose vague</u>	Artificial vocal variety Frowns frequently Excessive movement Fights audience
Item 40 - <u>Unpleasant pitch</u>	Forgets speech organization
Item 79 - <u>Inaccurate language</u>	
Item 82 - <u>Stilted language</u>	Little organization
Item 118 - <u>Lacks main idea</u>	Excessive movement Fights audience Slovenly appearance
Item 42 - <u>Voice quality antagonizes audience</u>	

TABLE V Continued	
Pairing Possibilities	
Item 58 - <u>Excessive movement</u>	
Little organization Lacks main ideas Lacks information on topic	Specific purpose vague Material unorganized
Item 70 - <u>Rocking posture</u>	
Little organization	
Item 120 - <u>Material unorganized</u>	
Excessive movement Fights audience Slovenly appearance	
Item 39 - <u>Short of breath</u>	
Artificial vocal variety	
Item 81 - <u>Faulty sentence structure</u>	
Artificial vocal variety Forgets speech organization	
Item 119 - <u>Little organization</u>	
Indifferent Artificial vocal variety Frowns frequently Approaches platform unbecom- ingly	Stilted language Excessive movement Rocking posture Evaded real issue Fights audience
Item 12 - <u>Disregards audience while speaking</u>	
Artificial vocal variety Frowns frequently	

TABLE V Continued	
Pairing Possibilities	
Item 36 - <u>Mispronunciations</u>	
Artificial vocal variety Frowns frequently	
Item 57 - <u>Approaches platform unbecomingly</u>	
Artificial vocal variety Forgets speech organization Little organization	
Item 80 - <u>Inappropriate language</u>	
Item 97 - <u>Evaded real issue</u>	
Little organization	
Item 96 - <u>Confused ideas</u>	
Item 100 - <u>Lacks information on topic</u>	
Excessive movement Fights audience Slovenly appearance	
Item 13 - <u>Fights audience</u>	
Little organization Specific purpose vague Lacks information	Lacks main ideas Material unorganized
Item 132 - <u>Subject inappropriate to situation</u>	
Item 83 - <u>Vocabulary level inappropriate to audience</u>	

TABLE V Continued
Pairing Possibilities
Item 16 - <u>Slovenly appearance</u> Lacks main ideas Lacks information on topic Material unorganized
Item 130 - <u>Speeches too long</u>
Item 129 - <u>Relates inappropriate personal experiences</u>

Tetrads were formed by combining pairs of effective speaking habits with pairs of ineffective speaking habits. This process completed the formation of the scale as shown in Table VI.

TABLE VI	
Forced-Choice Tetrads	
Well informed Appropriate subject Colorless Artificial stress	Speaks fluently Good sentence structure Excessive movement Lacks information
Confident in self Interested in audience Transitions faulty Lacks vocal variety	Clear wording of ideas Seemed fair minded Unpleasant pitch Forgets organization
Content impressive Details adequate Nervous mannerisms Apologetic	Hands not in way Good eye contact Frowns frequently Moves lazily

<p>TABLE VI Continued</p> <p>Forced-Choice Tetrads</p>
<p>Looks at audience before speaking Specific purpose clearly stated Lacks examples, suggestions, etc. Biased</p>
<p>Gives impression of knowing topic Pleasant appearance Stands rooted to one spot Leaves platform with lack of confidence</p>
<p>Easy, deep breathing Opening sentences attention getting Conclusion leaves much to be desired Key words and ideas not stressed</p>
<p>Alert posture Leaves platform with confidence Dull introductions Indifferent</p>
<p>Accurate pronunciations Clear articulations Speech lacks audience appeal Lacks authoritative statistics</p>
<p>Adjusts volume to size of audience Emphasizes key words Stilted language Little organization</p>
<p>Well organized Vocabulary level appropriate to audience Displays signs of nervousness Mechanical delivery</p>

CHAPTER IV

Procedures and Analyses of Scale Comparisons

The construction of the scale having been completed, some method of comparison with other existing scales was undertaken. A simple numerical scale was selected because it was the type commonly used in evaluation of achievement in speech courses. The writer was particularly interested in determining if a Forced Choice Scale was comparable to the simple Numerical Scale in terms of (1) usability and (2) efficiency. The following procedure was pursued to gather data on which to answer these questions.

The Forced Choice tetrads were arranged on a single sheet of paper with two boxes after each item allowing space for rater's checks. (See Appendix A.) The scale directions were:

Directions: Check two items in each of the thirteen groups below, as follows:

(1) In the column headed MOST, check the one item in each group which is most applicable to the speaker.

(2) In the column headed LEAST, check the one item in each group below which is least applicable to the speaker.

The responses were scored + 1, 0 and - 1 according to the discrimination value of each item in a tetrad. If an effective habit was selected as most applicable to the speaker it was scored +1 when it discriminated more (according to discrimination indices) than the other item in the pair or 0 when it discriminated less. If an effective habit was selected as least applicable to the speaker it was scored -1 when it discriminated more than the other item in the pair or 0 when it discriminated less. If an ineffective habit was selected as least applicable to the speaker it was scored +1 when it discriminated more than the other item in the pair or 0 when it discriminated less. If an ineffective habit was selected most applicable to a speaker

it was scored -1 when it discriminated more than the other item in the pair or 0 when it discriminated less. The scoring card with these values attached is in Appendix D.

Twenty student speakers gave twenty five-minute Belief Speeches over a period of four days. Each day five speakers were rated by a like number of students using the Numerical Scale and a like number of students using the Forced Choice Scale. Students were allowed to check their scales while the speakers spoke, however, only two minutes was allowed to complete checking after each speaker concluded. All scales were collected two minutes after the conclusion of the last speaker each day.

The total scores of all judges for each speaker were totaled to determine the rank order of speakers for each day. Tables VII and VIII represent the procedure followed. This was repeated each day.

TABLE VII																	
First Day																	
Rank Order of All Speakers Determined by Forced Choice Scale																	
		J ₁	J ₂	J ₃	J ₄	J ₅	J ₆	J ₇	J ₈	J ₉	J ₁₀	J ₁₁	J ₁₂	J ₁₃	J ₁₄	Total	Rank
	A	17	19	13	18	17	12	19	18	12	14	13	17	18	15	234	1
	B	14	14	11	9	6	8	15	13	15	14	14	9	15	11	183	3
	C	7	10	5	-2	5	5	6	12	9	3	12	1	11	11	81	5
	D	12	5	9	12	10	11	13	11	8	5	-2	9	5	8	109	4
	E	12	19	8	14	6	10	14	17	15	13	14	11	16	14	192	2

TABLE VIII																
First Day																
Rank Order of All Speakers Determined by Numerical Scale																
	J ₁	J ₂	J ₃	J ₄	J ₅	J ₆	J ₇	J ₈	J ₉	J ₁₀	J ₁₁	J ₁₂	J ₁₃	J ₁₄	Total	Rank
A	36	27	27	32	32	30	31	34	30	34	30	33	26	35	468	1
B	37	31	23	29	28	28	28	32	31	35	31	31	27	37	457	3
C	31	24	19	26	24	23	25	25	25	30	26	25	22	30	379	5
D	34	23	21	27	25	27	27	31	27	32	23	28	23	32	406	4
E	35	30	25	30	30	31	30	35	29	33	28	36	28	36	466	2

Table IX shows the rank order of all speakers each day for four days as determined by the Forced Choice and Numerical Scales. On the first day 14 student judges used the Forced Choice Scale and 14 other

TABLE IX						
Comparison of Daily Rank Order of Speakers Determined by Forced Choice and Numerical Scale						
	First Day		Second Day		Third Day	
Speaker	FCS	NS	FCS	NS	FCS	NS
A	1	1	1	1	3	3
B	3	3	5	5	5	5
C	5	5	2	2	1	1
D	4	4	3	3	4	4
E	2	2	4	4	2	2

students used the Numerical Scale. These 24 judges were concerned with the same five speakers. Five different speakers were used each day and the judges alternated daily in their use of the Forced Choice and Numerical Scale--both scales being used each day but by alternate groups.

The average rank order intercorrelations of scores of the judges using each scale each day are shown in Table X.⁵² A sample of the procedure followed is in Appendix E. The fiducial limits were determined at the 5% level of confidence showing a significant

TABLE X						
Intercorrelation of Scores and Fiducial Limits						
Trials	Judging Group	Forced Choice	Fiducial Limits-5%	Judging Group	Numerical Scale	Fiducial Limits-5%
1	B	.61	.51-.69	A	.80	.74-.85
2	A	.36	.20-.50	B	.43	.28-.56
3	B	.72	.63-.79	A	.90	.86-.93
4	A	.57	.47-.69	B	.68	.56-.75

⁵²The formula used was that for determining an average intercorrelation:

$$r = \frac{15zSz - N^2n}{N^2n(n-1)}$$

Average r's were transformed to z' scores according to Table VII, Allen L. Edwards, *op. cit.*, p. 409. The fiducial limits were established according to Edwards, p. 136 with an adaptation of his standard errors formula as follows:

$$\sigma_{z'} = \frac{1}{\sqrt{(N-3) \frac{(n \cdot n-1)}{2}}}$$

difference between the average r's two out of four times. Both of these times Group B was using the Forced Choice Scale and Group A was using the Numerical Scale. The average r increased each time Group A and Group B used the Forced Choice Scale and each time they used the Numerical Scale.

To deal with the eight average r's, they were changed to z' scores for normal distribution. The z' transformation for each of the average r's of the scores from the four uses of the Numerical Scale and from the four uses of the Forced Choice Scale were submitted to a t Test to determine the significance of the scores from the two methods. This statistical computation is shown below. The results in terms of three degrees of freedom could be considered significant only at the 10% level of confidence. We do not consider this difference statistically significant.

TABLE XI					
T Test for Significance					
Trials	Numerical Scale - Z' X ₁	Forced Choice Scale - Z' X ₂	Diff. X=X ₁ -X ₂	Dev. x=X-X̄	Squared Dev. x ²
1	1.099	.709	.390	.085	.007225
2	.460	.377	.083	-.222	.049284
3	1.472	.908	.564	.259	.067081
4	.829	.648	.181	-.124	.015376
Total			1.218		.138966
Mean			.3045		x ² /N-1= .046322
$s = .046322 = .215 \quad s_{\bar{x}}^2 = .046/4 = .0115 \quad s_{\bar{x}} = .107$ $t = (\bar{x}-0)/s_{\bar{x}} = .305/.107 = 2.835$					

CHAPTER V

Summary and Conclusions

On the basis of the procedures followed in this study in constructing a Forced Choice Scale for measuring speaking achievement and in comparing this scale to a Simple Numerical Scale, the following results and conclusions appear to be justified.

(1) The use of student written descriptive essays on the observable speaking habits of best and poor student speakers produced a representative list of effective and ineffective observable speaking habits.

(2) The technique used as a basis for calculating discrimination and preference indices was a satisfactory and convenient method. Each of 300 students in Speech 401 selected the one classmate whom he felt was either one of the best, one of the most average, or one of the poorest speakers in the class and described him by checking each of the 133 descriptive items on a one to five point scale as that item applied to the speaker.

(3) Nineteen of the 133 items could not be paired due to preference indices that were significantly different from any other preference index and/or because of discrimination indices that were not significantly different from another discrimination index whose preference index was considered the same as the preference index of the item concerned.

(4) Of the remaining 114 items, 54 items were effective speaking habits and 60 items were ineffective speaking habits. Thirty-nine of

the 54 effective habits were the counterparts of 39 of the 60 ineffective speaking habits. If one of these effective habits was selected for pairing, its counterpart was automatically eliminated and vice-versa. Therefore, only 39 of these 78 items could be used. Thirty-six of the 114 items (both effective and ineffective) did not have counterparts. In all, 75 items could be used.

(5) Each of the 75 items that could be used had a preference index whose standard error of the mean included at least one other item's preference index and at the same time afforded discrimination indices that were significantly different at the 1% level of confidence.

(6) Twenty-three of the remaining 75 items were rejected for one or more of the following reasons:

- a. Obvious face-value difference in pairing possibilities.
- b. Extreme difference in discrimination indices.
- c. Expert opinion judged item to be of doubtful value or relevance to achievement.

Fifty-two items remained for pairing.

(7) It was assumed preferable to pair items previously listed under the same category whenever possible. This procedure is deemed advisable in order to prevent rater bias on individual values for various categories. This criterion was possible in 10 of the 26 pairs.

(8) It was assumed preferable to avoid pairing items with extreme differences in discrimination indices. The procedure may prevent obvious face value differences and, therein, reduce rater bias. This

criterion was possible in 21 of the 26 pairs.

(9) A total of 26 pairs was included in the final form--13 pairs of effective speaking habits and 13 pairs of ineffective speaking habits. Thirteen groups, each including two pair of phrases describing effective and ineffective speaking habits, were formed on a single sheet of paper.

(10) A training period in the use of the Forced Choice Scale in the classroom is essential. One day was used for this purpose in this study. A second day is recommended and justified in terms of student training in critical evaluation.

(11) The rank order of all speakers was determined each day by the total of judges scores for each speaker. The ranks determined by the Forced Choice Scale and by the Simple Numerical Scale were comparable. The rank order of the 20 speakers (5 speaking each day) was identical in both scales for 18 of the 20 speakers. The one difference occurred on the fourth day when Speaker C was ranked 1st by the total scores from the Forced Choice Scale and 2nd by the judges using the Numerical Scale, while Speaker E was ranked 2nd by the Forced Choice Scale and 1st by the Numerical Scale.

(12) The intercorrelations of scores for each group each day varied regardless of the scale used.

(13) When Group A used the Forced Choice Scale there was no significant superiority or inferiority between the average r 's at the 5% level of confidence to Group B's use of the Numerical Scale.

(14) When Group B used the Forced Choice Scale there was a significant difference between the average r 's at the 5% level of confidence

to Group A's use of the Numerical Scale.

(15) The average r increased each time the Forced Choice Scale was used.

(16) The average r increased each time the Numerical Scale was used.

(17) The average r for the Numerical Scale was in every case higher than the average r for the Forced Choice Scale although only twice was it significantly different and both of these times the Forced Choice Scale was checked by Group B.

(18) The T test score of 2.835 indicated that the above mentioned r 's would be this significant 9 out of 10 times.

(19) The statistics from the comparisons between the two scales must be regarded as only possible indications of the potential of the Forced Choice Scale due to the following differences within the two scales compared:

- a. The Numerical Scale was familiar to the students, having been used by them for approximately two months. The Forced Choice Scale was given a one-day trial run.
- b. The Numerical Scale allows for manipulation of scores in determining final rank order of all speakers. Student bias can, therefore, rate according to previous information about the speaker as revealed in class discussions, teacher criticisms and grades. The Forced Choice Scale appears to give the rater no indication of scoring values.

- c. High intercorrelations of scores of the group of judges is possible by use of a Numerical Scale. Such correlations may be attributable to either excellence of judgment or a consistent bias.

(20) The Forced Choice Scale required no more time for student checking than did the Numerical Scale. Student raters were allowed to check their scales while the speakers spoke, if they so desired, however, all raters using either scale were given only two minutes to complete their checking after each speaker concluded.

(21) The Forced Choice Scale can be scored in approximately ten seconds. The Numerical Scale is self-scoring.

(22) The Forced Choice Scale developed in this study has particular value as a research instrument where values of criteria need not be explained to students who are rated.

(23) This Scale is an excellent predictor of rank order of all speakers when group scores are averaged.

(24) The reliability of this scale is largely dependent on the ability of the individuals in the group to accurately discriminate among their observations of habits listed in each tetrad.

APPENDICES

APPENDIX A
SIMPLE NUMERICAL SCALE

CLASSROOM SPEECH RATING SCALE

1-2 3 4-5
Weak Average Strong

Rator	Speakers Names	1	2	3	4	5	6	7	8	9	10	11	12
Date													
Project													
Speech attitudes and adjustments													
Voice and Articulation													
Bodily Postures and Action													
Language													
Content													
Organization													
Audience Interest and Adaptation													
General Effectiveness													
Total													
Rank order of all speakers of the day													
Turn sheet sidewise and write in any													

APPENDIX B
FORCED CHOICE SCALE

DESCRIPTION OF SPEAKING HABITS

Directions: Check two items in each of the thirteen groups below, as follows:

- (1) In the column headed MOST, check the one item in each group which is most applicable to the speaker.
- (2) In the column headed LEAST, check the one item in each group below which is least applicable to the speaker.

	MOST	LEAST		MOST	LEAST
1.			Well informed		
			Appropriate subject . .		
			Colorless		
			Artificial stress . . .		
2.			Confident in self . . .		
			Interested in audience.		
			Transitions faulty. . .		
			Lacks vocal variety . .		
3.			Content impressive. . .		
			Details adequate. . . .		
			Nervous mannerisms. . .		
			Apologetic.		
4.			Speaks fluently		
			Good sentence structure		
			Excessive movement. . .		
			Lacks information . . .		
5.			Clear wording of ideas.		
			Seemed fair minded. . .		
			Unpleasant pitch. . . .		
			Forgets organization. .		
6.			Hands not in way. . . .		
			Good eye contact. . . .		
			Frowns frequently . . .		
			Moves lazily.		
				MOST	LEAST
7.			Looks at audience before speaking		
			Specific purpose clearly stated		
			Lacks examples, suggestions, etc. . . .		
			Biased		
8.			Gives impression of knowing topic . . .		
			Pleasant appearance		
			Stands rooted to one spot		
			Leaves platform with lack of confidence		
9.			Easy, deep breathing.		
			Opening sentences attention getting . .		
			Conclusion leaves much to be desired. .		
			Key words and ideas not stressed. . . .		

Details adequate . . .	☐	☐	Frowns frequently . . .	☐	☐
Nervous mannerisms. . .	☐	☐	Moves lazily.	☐	☐
Apologetic.	☐	☐			

	MOST	LEAST
7. Looks at audience before speaking	☐	☐
Specific purpose clearly stated	☐	☐
Lacks examples, suggestions, etc. . . .	☐	☐
Biased	☐	☐
8. Gives impression of knowing topic . . .	☐	☐
Pleasant appearance	☐	☐
Stands rooted to one spot	☐	☐
Leaves platform with lack of confidence	☐	☐
9. Easy, deep breathing.	☐	☐
Opening sentences attention getting . .	☐	☐
Conclusion leaves much to be desired. .	☐	☐
Key words and ideas not stressed. . . .	☐	☐
10. Alert posture	☐	☐
Leaves platform with confidence	☐	☐
Dull introductions.	☐	☐
Indifferent	☐	☐
11. Accurate pronunciation.	☐	☐
Clear articulations	☐	☐
Speech lacks audience appeal.	☐	☐
Lacks authoritative statistics.	☐	☐
12. Adjusts volume to size of audience. . .	☐	☐
Emphasizes key words.	☐	☐
Stilted language.	☐	☐
Little organization	☐	☐
13. Well organized	☐	☐
Vocabulary level appropriate to audience	☐	☐
Displays signs of nervousness	☐	☐
Mechanical delivery	☐	☐

RANK OF SPEAKER (1st, 2nd, 3rd, 4th, 5th, etc.) _____

APPENDIX C
STUDENT CHECK LIST OF 133 ITEMS

DO NOT WRITE ON THIS FORM

WRITE ONLY ON THE ANSWER SHEET PROVIDED

Confidential

DIRECTIONS:

- 1) Write your name and your instructor's name on left corner of the answer sheet.
- 2) Identify in your mind those individuals in this class whom you consider to be the best speakers, the individuals in this class whom you consider to be the most average speakers, and the individuals in this class whom you consider to be the poorest speakers.
- 3) Select one speaker from these three groups whose speaking habits you feel best able to describe. Write his name in the upper right hand corner of the answer sheet and indicate what group you feel he is in: best, average, poorest.
- 4) Keeping this one individual in mind, describe him by indicating your response to each item on the answer sheet. Your answer sheet has five spaces after each number. If you mark space 1, you have indicated that the item is applicable to the speaker you have in mind to a slight degree. Marking space 2 would indicate that the applicability of this item to the speaker you have in mind is to a limited degree. Space 3 indicated a typical degree. Space 4 indicates an outstanding degree. Space 5 indicates an exceedingly high degree of applicability of this item to the speaker you have in mind.
- 5) Remember that the speaker you are describing may be better on some items and poorer on others. Therefore, be sure that you consider each item individually as it applies to the speaker you have in mind.
- 6) Be sure that you are as accurate as possible.
- 7) You will be given 25 minutes.

Items	1 Slight degree	2 Limited degree	3 Typical degree	4 Outstanding degree	5 Exceedingly high degree
1. Appears to be living his speeches					

Items	Slight degree	Limited degree	Typical degree	Overcoming degree	High degree
1. Appears to be living his speeches					
2. Confident in self					
3. Enthusiastic					
4. Gains respect					
5. Interested in audience					
6. Pleasant appearance					
7. Tactful					
8. Apologetic					
9. Concentrates on one por- tion of audience only					
10. Displays signs of nervousness					
11. Disregards audience before speaking					
12. Disregards audience while speaking					

Items	1 Slight degree	2 Limited degree	3 Typical degree	4 Outatanding degree	5 Exceedingly high degree
13. Fights audience					
14. Indifferent					
15. Lacks confidence in self					
16. Slovenly appearance					
17. Untactful					
18. Accurate pronunciations					
19. Adjusts volume to size of audience					
20. Clear articulations					
21. Conversational					
22. Easy, deep breathing					
23. Emphasizes key words and ideas					
24. Meaningful vocal variety					
25. Speaks fluently					
26. Variety of rates					

23. Emphasizes key words and ideas					
24. Meaningful vocal variety					
25. Speaks fluently					
26. Variety of rates					
27. Voice appropriate to situation					
28. Voice quality commands respect					
29. Volume contrasts					
30. Artificial stress					
31. Artificial vocal variety					
32. Delivery too slow					
33. Jerky rhythm					
34. Key words and ideas not stressed					
35. Mechanical delivery					
36. Mispronunciations					
37. Poor articulation					

Items	1 Slight degree	2 Limited degree	3 Typical degree	4 Outstanding degree	5 Exceedingly high degree
38. Monotonous voice					
39. Short of breath					
40. Unpleasant pitch					
41. Voice not adapted to situation					
42. Voice quality antagonizes audience					
43. Volume inappropriate for audience size					
44. Alert posture					
45. Facial expressions help interpret content					
46. Gestures add emphasis					
47. Good eye contact					
48. Graceful movements					
49. Hands not in way					
50. Looks at audience before speaking					
51. Leaves platform with confidence					

47. Good eye contact					
48. Graceful movements					
49. Hands not in way					
50. Looks at audience before speaking					
51. Leaves platform with confidence					
52. Moves energetically					
53. Moves with confidence to speaking area					
54. Purposeful movement					
55. Relaxed appearance					
56. Weight evenly distributed on balls of feet					
57. Approaches platform unbecomingly					
58. Excessive movement					
59. Facial expressions immobile					

Items	1 Slight degree	2 Limited degree	3 Typical degree	4 Outstanding degree	5 Exceedingly high degree
60. Frowns frequently					
61. Lacks meaningful gestures					
62. Lazy posture					
63. Leaves platform with lack of assurance					
64. Lifeless arms					
65. Little eye contact					
66. Moves lazily					
67. Nervous mannerisms					
68. Posture tense					
69. Restless hands					
70. Rocking posture					
71. Stands rooted to one spot					
72. Accurate language					
73. Appropriate language					

70. Rocking posture					
71. Stands rooted to one spot					
72. Accurate language					
73. Appropriate language					
74. Clear wording of ideas					
75. Colorful language					
76. Good sentence structure					
77. Vocabulary level appropriate to audience					
78. Confused wording of ideas					
79. Inaccurate language					
80. Inappropriate language					
81. Faulty sentence structure					
82. Stilted language					
83. Vocabulary level inappropriate to audience					
84. Details adequate					

Items	1 Slight degree	2 Limited degree	3 Typical degree	4 Outstanding degree	5 Exceedingly high degree
85. Gives impression of knowing topic					
86. Appeals to audience wants					
87. Purposeful humor					
88. Seemed fair minded					
89. Content motivating					
90. Uses authoritative statistics					
91. Content impressive					
92. Uses examples, suggestions, comparisons, etc.					
93. Uses supporting evidence					
94. Well informed					
95. Biased					
96. Confused ideas					

95. Biased					
96. Confused ideas					
97. Evaded real issues					
98. Lacks authoritative statistics					
99. Lacks examples, suggestions, comparisons, etc.					
100. Lacks information on topic					
101. Colorless					
102. Overly repetitions					
103. Speech lacks audience appeal					
104. Sketchy content					
105. Attention-getting introductions					
106. Central idea apparent					
107. Meaningful conclusions					
108. Meaningful introductions					

Items	1 Slight degree	2 Limited degree	3 Typical degree	4 Outstanding degree	5 Exceedingly high degree
109. Remembers outline					
110. Smooth transition sentences					
111. Specific purpose clearly stated					
112. Speech divided into main ideas					
113. Well organized					
114. Central idea frequently vague					
115. Conclusion leaves much to be desired					
116. Dull introductions					
117. Forgets speech organization					
118. Lack main ideas					
119. Little organization					
120. Material unorganized					
121. Specific purpose vague					
122. Transitions faulty					

119. Little organization					
120. Material unorganized					
121. Specific purpose vague					
122. Transitions faulty					
123. Appropriate subject(s)					
124. Keeps audience alert					
125. Opening sentences attention getting					
126. Relates appropriate personal experiences					
127. Subject matter based on experience					
128. Topics of general interest					
129. Relates inappropriate personal experiences					
130. Speeches too long					
131. Speeches too short					
132. Subject inappropriate to situation					
133. Topics lack audience appeal					

APPENDIX D

SCORE CARD FOR FORCED CHOICE SCALE

Directions: Check two items in each of the thirteen groups below, as follows:

- (1) In the column headed MOST, check the one item in each group which is most applicable to the speaker.
- (2) In the column headed LEAST, check the one item in each group below which is least applicable to the speaker

	MOST	LEAST		MOST	LEAST
1. Well informed	☐	☐	4. Speaks fluently	☐	☐
Appropriate subject . . .	☐	☐	Good sentence structure . .	☐	☐
Colorless	☐	☐	Excessive movement. . . .	☐	☐
Artificial stress	☐	☐	Lacks information	☐	☐
2. Confident in self . . .	☐	☐	5. Clear wording of ideas. .	☐	☐
Interested in audience. .	☐	☐	Seemed fair minded.	☐	☐
Transitions faulty. . . .	☐	☐	Unpleasant pitch.	☐	☐
Lacks vocal variety . . .	☐	☐	Forgets organization. . . .	☐	☐
3. Content impressive. . .	☐	☐	6. Hands not in way.	☐	☐
Details adequate.	☐	☐	Good eye contact.	☐	☐
Nervous mannerisms. . . .	☐	☐	Frowns frequently	☐	☐
Apologetic.	☐	☐	Moves lazily.	☐	☐

	MOST	LEAST
7. Looks at audience before speaking	☐	☐
Specific purpose clearly stated	☐	☐
Lacks examples, suggestions, etc.	☐	☐
Biased.	☐	☐
8. Gives impression of knowing topic	☐	☐
Pleasant appearance	☐	☐
Stands rooted to one spot	☐	☐
Leaves platform with lack of confidence .	☐	☐
9. Easy, deep breathing.	☐	☐
Opening sentences attention getting	☐	☐

7.	Looks at audience before speaking	☐	☐
	Specific purpose clearly stated	☐	☐
	Lacks examples, suggestions, etc.	☐	☐
	Biased.	☐	☐
8.	Gives impression of knowing topic	☐	☐
	Pleasant appearance	☐	☐
	Stands rooted to one spot	☐	☐
	Leaves platform with lack of confidence .	☐	☐
9.	Easy, deep breathing.	☐	☐
	Opening sentences attention getting . . .	☐	☐
	Conclusion leaves much to be desired. . .	☐	☐
	Key words and ideas not stressed.	☐	☐
10.	Alert posture	☐	☐
	Leaves platform with confidence	☐	☐
	Dull introductions.	☐	☐
	Indifferent	☐	☐
11.	Accurate pronunciation.	☐	☐
	Clear articulations	☐	☐
	Speech lacks audience appeal.	☐	☐
	Lacks authoritative statistics.	☐	☐
12.	Adjusts volume to size of audience. . . .	☐	☐
	Emphasizes key words.	☐	☐
	Stilted language.	☐	☐
	Little organization	☐	☐
13.	Well organized.	☐	☐
	Vocabulary level appropriate to audience	☐	☐
	Displays signs of nervousness	☐	☐
	Mechanical delivery	☐	☐

RANK OF SPEAKER (1st, 2nd, 3rd, 4th, 5th, etc.) _____

APPENDIX E
SAMPLE PROCEDURE FOR DETERMINING
INTERCORRELATION OF SCORES

Group I - Numerical Scale

Intercorrelation of scores for First Day Trial

X_1	X_1^2	Zx_1	X_2	X_2^2	Zx_2	X_3	X_3^2	Zx_3	X_4	X_4^2	Zx_4	X_5	X_5^2	Zx_5
36	1296	17.184	27	729	8.539	27	729	9.547	32	1024	14.988	32	1024	10.692
37	1369	17.970	31	961	9.804	23	529	8.133	29	841	13.583	28	784	9.355
31	961	15.056	24	576	7.590	19	361	6.718	26	676	12.178	24	576	8.019
34	1156	16.513	23	529	7.274	21	441	7.426	27	729	12.646	25	625	8.353
35	1225	16.998	30	900	9.488	25	625	8.840	30	900	14.051	30	900	10.023
173	6007		135	3695		115	2685		144	4170		139	3909	

X_6	X_6^2	Zx_6	X_7	X_7^2	Zx_7	X_8	X_8^2	Zx_8	X_9	X_9^2	Zx_9	X_{10}	X_{10}^2	Zx_{10}
30	900	10.772	31	961	14.520	34	1156	9.714	30	900	13.928	34	1156	19.767
28	784	10.054	28	784	13.115	32	1024	9.143	31	961	14.392	35	1225	20.349
23	529	8.258	25	625	11.710	25	625	7.143	25	625	11.606	30	900	17.442
27	729	9.695	27	729	12.646	31	961	8.857	27	729	12.535	32	1024	18.604
31	961	11.131	30	900	14.051	35	1225	10.000	29	841	13.463	33	1089	19.186
139	3903		141	3999		157	4991		142	4056		164	5394	

GROUP I - 401 CHECK LIST

X ₁₁	X ₁₁ ²	Zx ₁₁	X ₁₂	X ₁₂ ²	Zx ₁₂	X ₁₃	X ₁₃ ²	Zx ₁₃	X ₁₄	X ₁₄ ²	Zx ₁₄	S	S _Z	Σ S _Z ²
30	900	10.453	33	1089	8.625	26	676	11.231	35	1225	13.425	437	173.685	30166.48
31	961	10.801	31	961	8.102	27	729	11.663	37	1369	14.192	428	170.656	29123.47
26	676	9.059	25	625	6.534	22	484	9.503	30	900	11.507	355	142.323	20255.84
23	529	8.014	28	784	7.318	23	529	9.935	32	1024	12.275	380	152.091	23131.67
28	784	9.756	36	1296	9.409	28	784	12.095	36	1296	13.809	436	172.300	29687.29
138	3850		153	4755		126	3202		170	5814			811.055	132364.75

$$\sigma_X \sqrt{\frac{N\bar{X}^2 - (\sum X)^2}{N^2}} = \sigma_{X_5} \sqrt{\frac{5(3909) - 19321}{25}} = \sqrt{8.96} = 2.993 \frac{1}{2.993} = .3341$$

$$\sigma_{X_1} \sqrt{\frac{5(6007) - 29929}{25}} = \sqrt{4.24} = 2.059 \frac{1}{2.059} = .48567$$

$$\sigma_{X_6} \sqrt{\frac{5(3903) - 19321}{25}} = \sqrt{7.76} = 2.785 \frac{1}{2.785} = .35906$$

$$\sigma_{X_2} \sqrt{\frac{5(3695) - 18225}{25}} = \sqrt{10} = 3.162 \frac{1}{3.162} = .31625$$

$$\sigma_{X_7} \sqrt{\frac{5(3999) - 19881}{25}} = \sqrt{4.56} = 2.135 \frac{1}{2.135} = .46838$$

$$\sigma_{X_3} \sqrt{\frac{5(2685) - 13225}{25}} = \sqrt{8} = 2.828 \frac{1}{2.828} = .35360$$

$$\sigma_{X_8} \sqrt{\frac{5(4991) - 24649}{25}} = \sqrt{12.24} = 3.50 \frac{1}{3.50} = .28571$$

$$\sigma_{X_4} \sqrt{\frac{5(4470) - 20736}{25}} = \sqrt{4.64} = 2.154 \frac{1}{2.154} = .46425$$

GROUP I - 401 CHECK LIST (Continued)

$$\sigma_{x_{10}} \sqrt{\frac{5(5394) - 26896}{25}} = \sqrt{2.96} = 1.720 \quad \frac{1}{1.720} = .58139$$

$$\sigma_{x_{11}} \sqrt{\frac{5(3850) - 19044}{25}} = \sqrt{8.24} = 2.870 \quad \frac{1}{2.870} = .34843$$

$$\sigma_{x_{12}} \sqrt{\frac{5(4755) - 23409}{25}} = \sqrt{11.64} = 3.826 \quad \frac{1}{3.826} = .26136$$

$$\sigma_{x_{13}} \sqrt{\frac{5(3202) - 15876}{25}} = \sqrt{5.36} = 2.315 \quad \frac{1}{2.315} = .43196$$

$$\sigma_{x_{14}} \sqrt{\frac{5(5814) - 28900}{25}} = \sqrt{6.8} = 2.607 \quad \frac{1}{2.607} = .38358$$

$$Ls_z S_z = N \sum S_z^2 - (\sum S_z)^2$$

$$= 5(132364.75) - (811.06)^2$$

$$= 661823.75 - 657818.32$$

$$= 4005.43$$

$$\bar{r} = \frac{4005.43 - (25)(14)}{(350)(13)}$$

$$\frac{Ls_z S_z - N^2 n}{N^2 n(n-1)}$$

$$\frac{4005.43 - 350}{4550} = \frac{3655.43}{4550} = .80339$$

GROUP I - FORCED CHOICE

X ₁₁	X ₁₁ ²	Zx ₁₁	X ₁₂	X ₁₂ ²	Zx ₁₂	X ₁₃	X ₁₃ ²	Zx ₁₃	X ₁₄	X ₁₄ ²	Zx ₁₄	Sz	Σ S _z ²
15	225	2.564	19	361	3.711	20	400	4.348	17	289	6.855	65.870	4338.86
16	256	2.735	11	121	2.148	17	289	3.696	13	169	5.242	52.492	2755.41
12	144	2.051	3	9	.586	13	169	2.826	13	169	5.242	34.382	1182.12
0	0	0	11	121	2.148	7	49	1.522	10	100	4.032	40.449	1636.12
14	196	2.393	13	169	2.539	18	324	3.913	16	256	6.452	55.712	3103.83
57	821		57	781		75	1231		69	983		248.905	13016.34

Group I - Forced Choice

X_1	X_1^2	Zx_1	X_2	X_2^2	Zx_2	X_3	X_3^2	Zx_3	X_4	X_4^2	Zx_4	X_5	X_5^2	Zx_5
19	361	5.828	21	441	3.896	15	225	5.535	20	400	2.958	19	361	4.279
16	256	4.908	16	256	2.968	13	169	4.797	11	121	1.627	8	64	1.802
9	81	2.761	12	144	2.226	7	49	2.583	0	0	0	7	49	1.577
14	196	4.294	7	49	1.299	11	121	4.059	14	196	2.071	12	144	2.703
14	196	4.294	21	441	3.896	10	100	3.690	16	256	2.367	8	64	1.802
72	1090		77	1331		56	664		61	973		54	682	

X_6	X_6^2	Zx_6	X_7	X_7^2	Zx_7	X_8	X_8^2	Zx_8	X_9	X_9^2	Zx_9	X_{10}	X_{10}^2	Zx_{10}
14	196	5.645	21	441	4.965	20	400	7.168	14	196	4.778	16	256	3.340
10	100	4.032	17	289	4.019	15	225	5.376	17	289	5.802	16	256	3.340
7	49	2.823	8	64	1.891	14	196	5.018	11	121	3.754	5	25	1.044
13	169	5.242	15	225	3.546	13	169	4.659	10	100	3.413	7	49	1.461
12	144	4.839	16	256	3.783	19	361	6.810	17	289	5.802	15	225	3.132
56	658		77	1275		81	1351		69	995		59	811	

GROUP I - FORCED CHOICE (Continued)

$$\begin{aligned}
 \sigma_X \sqrt{\frac{N X^2 - (\Sigma X)^2}{N^2}} &= \frac{1}{X} = \\
 \sigma_{X_1} \sqrt{\frac{5(1090) - (5184)}{25}} &= \sqrt{10.64} = 3.26 = .30674 \\
 \sigma_{X_2} \sqrt{\frac{5(1331) - (5929)}{25}} &= \sqrt{29.04} = 5.39 = .18552 \\
 \sigma_{X_3} \sqrt{\frac{5(664) - (3136)}{25}} &= \sqrt{7.36} = 2.71 = .36900 \\
 \sigma_{X_4} \sqrt{\frac{5(973) - (3721)}{25}} &= \sqrt{15.76} = 6.76 = .14792 \\
 \sigma_{X_5} \sqrt{\frac{5(682) - (2916)}{25}} &= \sqrt{19.76} = 4.44 = .22523 \\
 \sigma_{X_6} \sqrt{\frac{5(658) - (3136)}{25}} &= \sqrt{6.16} = 2.48 = .40323 \\
 \sigma_{X_7} \sqrt{\frac{5(1275) - (5929)}{25}} &= \sqrt{17.84} = 4.23 = .23641
 \end{aligned}$$

$$\begin{aligned}
 1S_2 \ S_2 &= N S_2^2 - (\Sigma S_2)^2 \\
 &= 5(13016.34) - (248.91)^2 \\
 &= 65081.70 - 61956.19 \\
 &= 3125.51 \\
 r &= \frac{3125.51 - 350}{4550} = \frac{2775.51}{4550} = .61
 \end{aligned}$$

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AUTOBIOGRAPHY

I, Keith Brooks, was born in Tigerton, Wisconsin, May 14, 1923. I received my secondary school education in the public schools of Tigerton, Wisconsin. My undergraduate training was obtained at The University of Wisconsin, from which I received the degree Bachelor of Science in January of 1949 and the degree Master of Science in August of 1949. From September, 1949 through July, 1953 I was a member of the faculty of Eastern Kentucky State College, Richmond, Kentucky, in the capacity of Director of Dramatics and Coach of Debate. In October of 1953 I received an appointment as Assistant at The Ohio State University where I specialized in the Department of Speech. During the Spring Quarter of 1955 I held the rank of Assistant Instructor. Requirements were completed for the degree Doctor of Philosophy during the Summer Quarter of 1955 and an appointment as Instructor to the faculty of The Ohio State University was received effective as of October 1, 1955.