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THE EFFECTS OF TRAINING AND EXPERIENCE ON ATTITUDES
TOWARD SPEECH DEFECTS

by

William F. Hickey

B.A., Carroll College, 1966

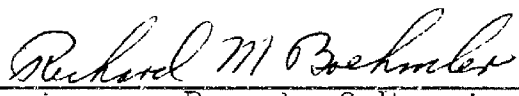
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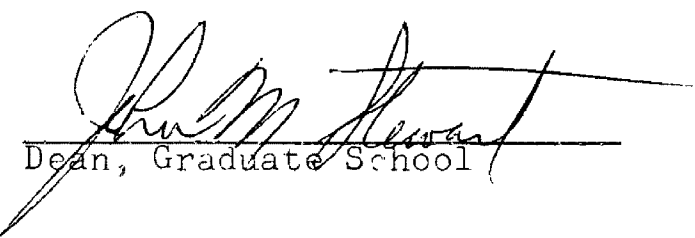
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TABLE OF CONTENTS

	Page
ACKNOWLEDGMENT	11
LIST OF TABLES	12
Chapter	
I. INTRODUCTION AND STATEMENT OF THE PROBLEM . . .	13
Introduction	13
Statement of the Problem	19
II. EXPERIMENTAL PROCEDURE	21
Selection of Speech Samples	21
Selection of Experimental Groups	21
Test Procedure	21
III. RESULTS	26
Analysis of the Data	26
IV. DISCUSSION	44
Limitations and Suggestions	44
V. SUMMARY AND CONCLUSION	52
BIBLIOGRAPHY	51
APPENDIX A	50
APPENDIX B	50

LIST OF TABLES

Table	Page
1. Means for Professionals on Types of Speech and Each of the Four Factors	19
2. Means for Seniors on Types of Speech and Each of the Four Factors	21
3. Means for Freshmen on Types of Speech and Each of the Four Factors	23
4. Means for Elementary Teachers on Types of Speech and Each of the Four Factors	25
5. Means for Speech Pathologists on Types of Speech and Each of the Four Factors	27
6. Means for Nurses on Types of Speech and Each of the Four Factors	29
7. Professionals: Analysis of Variance of Professionals (P) and Types of Children's Speech (S) on Factor II (Pleasantness)	32
8. Professionals: Analysis of Variance of Professionals (P) and Types of Children's Speech (S) on Factor IV (Difficulty)	32
9. Seniors: Analysis of Variance of Seniors (S') and Types of Children's Speech (S) on Factor II (Pleasantness)	33
10. Seniors: Analysis of Variance of Seniors (S') and Types of Children's Speech (S) on Factor IV (Difficulty)	33
11. Freshmen: Analysis of Variance of Freshmen (F) and Types of Children's Speech (S) on Factor II (Pleasantness)	34
12. Freshmen: Analysis of Variance of Freshmen (F) and Types of Children's Speech (S) on Factor IV (Difficulty)	34

LIST OF TABLES--Continued

Table	Page
13. Elementary Teachers: Analysis of Variance of Training Level (L) and Type of Children's Speech (S) on Factor II (Pleasantness)	35
14. Elementary Teachers: Analysis of Variance of Training Level (L) and Type of Children's Speech (S) on Factor IV (Difficulty)	35
15. Speech Pathologists: Analysis of Variance of Training Level (L) and Types of Children's Speech (S) on Factor II (Pleasantness)	36
16. Speech Pathologists: Analysis of Variance of Training Level (L) and Types of Children's Speech (S) on Factor IV (Difficulty)	36
17. Nurses: Analysis of Variance of Training Level (L) and Types of Children's Speech (S) on Factor II (Pleasantness)	37
18. Nurses: Analysis of Variance of Training Level (L) and Types of Children's Speech (S) on Factor IV (Difficulty)	37
19. Summary of the Statistical Differences Found on Factor IV (Difficulty)	39

CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

Introduction

This study was concerned with the attitudes, as measured by the semantic differential, of elementary teachers toward specified speech defects as compared to the attitudes of nurses and speech pathologists. The elementary teachers have been a major concern to many researchers because teachers comprise the largest trained group of professionals dealing with children. Nurses were used as a control group of professionals untrained in dealing specifically with speech defects. Speech pathologists were used as a control group of professionals who are trained in dealing specifically with speech defects. Previous investigations in this area have made relatively few quantifying measures and have used no control population for comparing teachers to other groups, trained and untrained, in making their predictions.

Lloyd and Ainsworth¹ reported a study on the activities and attitudes of elementary teachers relating

¹Gretchen Wright Lloyd and Stanley Ainsworth, "The Classroom Teacher's Activities Relating to Speech Correction," JSHD, XIX, No. 2 (March, 1954), 244-249.

to areas of speech correction via personal interview. They reported fifteen findings about teachers' behavior and attitudes on the basis of fifty-five interviews. One of their conclusions was: "Teachers do not try to build acceptable attitudes in the classroom for the child with a speech problem."² Lloyd and Ainsworth felt it was necessary for teacher training institutions to provide speech correction courses for teachers.

McKenzie³ conducted a study to determine the courses taken by fifty elementary teachers in Speech Pathology and related areas. From the results of this study he suggested that the bulk of teachers left college with limited formal training in speech disorders and related difficulties in personality adjustment. McKenzie felt there was a clear need for more intensive and comprehensive training in the area of speech handicaps for the public school teachers in this country.⁴

Ewing⁵ conducted a study of the friendship status

²Ibid., p. 247.

³Fredrick A. McKenzie, "Courses in Speech Pathology in the College Transcripts of Fifty Teachers," in Stuttering in Children and Adults: Thirty Years of Research at the University of Iowa, ed. Wendell Johnson (Minneapolis: University of Minnesota Press, 1955), pp. 430-431.

⁴Ibid., p. 431.

⁵Charlotte Fraser Ewing, "Teacher's Ability to Predict the Friendship Status of Speech-Handicapped Children" (unpublished Master's thesis, Speech Pathology, University of Montana, 1966).

of speech-defective children as rated by their teachers and found that these teachers were unable to predict the social status of the speech defective as accurately as they were able to predict the status of the communicatively normal child. She recommended that the next step should be an investigation of the effect of speech correction courses on the classroom teacher.⁶

These three studies suggest the relationship between the classroom teacher and the speech-defective child might be improved by additional training in speech pathology. This assumed training and experience would modify attitudes and behavior in some way. It, therefore, seemed logical to attempt an empirical and objective measurement of the cumulative effect of training and experience on the attitude of the elementary teacher and compare the teacher to other professions.

Ammons and Johnson⁷ developed a Linkert attitudinal scale, "The Iowa Scale of Attitude Toward Stuttering," and made some comparisons of groups with it. They provided mean scores for various groups and thereby had some basis from which a given series of scores or a single score could

⁶Ibid., p. 21.

⁷R. Ammons and W. Johnson, "The Construction and Application of a Test of Attitude toward Stuttering," Journal of Speech Disorders, IX, No. 1 (March, 1944), 39-49.

be compared. A limitation of the Linkert-scale was that subjects could easily fake good or bad responses.⁸ In this study the three professions were compared with a common, objective, quantitative attitudinal measure, "The Semantic Differential for Speech Correction Concepts."⁹ Such an attitudinal scale is assumed to assess the connotative meaning of a given concept for a particular person and to be less easy to fake good or bad responses.

Briefly, the rationale of such a measurement rests on the following assumptions of Osgood:

1. The process of description or judgment can be conceived as the allocation of a concept to an experiential continuum, definable by a pair of polar terms.
2. Many different experiential continua, or ways in which meanings vary, are essentially equivalent and hence may be represented by a single dimension.
3. A limited number of such continua can be used to define a semantic space within which the meaning of any concept can be specified.¹⁰

Osgood, Suci, and Tannenbaum devote the first chapter of their book, The Measurement of Meaning, to

⁸Wendell Johnson, Fredric L. Darley, and D. C. Spriestersbach, Diagnostic Methods in Speech Pathology (New York: Harper and Row, Publishers, 1952), p. 284.

⁹Raymond G. Smith, "A Semantic Differential for Speech Correction," SM, XXIX, No. 1 (March, 1962), 32-37.

¹⁰Charles E. Osgood, "The Nature and Measurement of Meaning," The Psychological Bulletin, XLIX (May, 1952), 227.

explaining the rationale of semantic differentiation. They briefly summarized this by saying:

The location of a concept in the semantic space defined by a set of factors is equated with the evocation by the concept of a set of component mediating reactions, direction in space being equated to what mediators are evoked (from among reciprocally antagonistic pairs) and distance from the origin as being equated to how intensely (with what habit strength) these are evoked. Each position on one of our semantic scales is also assumed to be associated with a complex mediating reaction, the dominant component depending on the polar terms, X and Y, and intensity depending upon the qualifier. . . . These different mediators are associated, in encoding, with checking the various scale positions. Through the functioning of a generalization principle, the concept will elicit checking of the scale position whose dominant mediator component most closely matches in intensity the corresponding component in the process associated with the concept itself. Since the position checked on the scales constitutes the coordinates of the concept's location in the semantic space, we assume that the coordinates in the measurement space are functionally equivalent with the components of the representational mediators process associated with the concept.¹¹

In the actual operation, the subject allocates a concept within the framework of a standard set of bipolar adjectives as a result of a series of independent associative acts. The subject is presented with a stimulus and a standard set of bipolar adjectives and indicates the intensity of his association by checking on an equidistant

¹¹C. E. Osgood, G. J. Suci, and P. H. Tannenbaum, The Measurement of Meaning (Urbana: University of Illinois Press, 1957), pp. 29-30.

seven-step scale.¹²

As a result of experimentation and factor analysis, various sets of bipolar adjectives are found to be relevant in measuring a given stimulus or concept of the stimulus.

"The Semantic Differential for Speech Correction" was used in this study. It was developed by Raymond G. Smith and was an extension of the methodology developed by Osgood. Smith's factors were similar to Osgood's except Osgood's scale had three factors while Smith's had four factors. Osgood's "potency" corresponds to Smith's "interestingness," "value" to "pleasantness," "activity" to "difficulty," and Smith has an additional factor termed "honesty."¹³

The "Semantic Differential for Speech Concepts" was used in this study to assess the concepts of normal speech, cleft palate speech, functional articulatory disorders, and stuttering. Smith has used nine bipolar adjectives and four factors in the scale:

Factor I	Interestingness
Scales:	boring-interesting
	empty-full
	narrowness-broad
Factor II	Pleasantness
Scales:	lenient-severe
	pleasurable-painful
	relaxed-tense

¹²Osgood, "Nature and Measurement of Meaning," p. 228.

¹³Smith, "Semantic Differential for Speech Correction Concepts," p. 33.

Factor III
Scales:

Honesty
honest-dishonest
true-false

Factor IV
Scales:

Difficulty
difficult-easy¹⁴

The four factors and nine bipolar adjectives of Smith were experimentally developed through "varimax rotated factor analysis"¹⁵ and were used in this study. Although the stimulus was different in this study, the researcher felt that the commonality was sufficient to use Smith's factors. Smith used the printed label of a particular type of speech disorder as the stimulus to be rated. This investigator used a taped sample of a particular type of speech as the stimulus to be rated. It was felt that the recorded samples of speech would elicit a more genuine response than would the label. This study was intended to measure attitudes toward speech defects rather than attitudes toward particular labels for speech defects.

The objectivity of the semantic differential is demonstrated by the quantitative data yielded which can be verified by other investigators with similar standardization

¹⁴Ibid., p. 34.

¹⁵H. F. Kaiser, "The Varimax Criterion for Analytic Rotation in Factor Analysis," Psychometrika, XXIII (Sept., 1958), 187-200.

procedure.¹⁶ Osgood has test-retest reliability coefficient of .85 for this type of scale.¹⁷ The sensitivity of the semantic differential has been lauded as being able to "tease out nuances in meaning which are clearly felt but hard to verbalize deliberately."¹⁸

Fransella¹⁹ did an experimental evaluation of Smith's semantic differential

. . . to investigate whether Smith's four factors would still emerge when subjects differed in sex and nationality, when both stutterers and non-stutterers used the test, and when the concepts were of a more general type than were those in the original study.²⁰

Osgood suggested that factorial structures tend to vary as a function of the type of concept.²¹ Kogan and Wallach felt that factorial studies may vary as a function of sex.²²

¹⁶Osgood, "Nature and Measurement of Meaning," p. 230.

¹⁷Ibid.

¹⁸Ibid.

¹⁹Fay Fransella, "An Experimental Evaluation of the Speech Correction Semantic Differential," SM, XXXII (Nov., 1965), 448-451.

²⁰Ibid., p. 448.

²¹Osgood, Suci, and Tannenbaum, The Measurement of Meaning, pp. 176-188.

²²Nathan Kogan and Michael Wallach, "Age Changes in Values and Attitudes," Journal of Gerontology, XIV (July, 1961), 272-279 (reported in Fransella's study).

Sex was therefore controlled in this study.²³ Fransella found the boring-interesting adjectives did not clearly align themselves with any one factor. Smith's four factors coalesced into two factors. Fransella felt that under these altered experimental conditions there is "reasonable similarity in the basic factor structure obtained in the investigation."²⁴ Fransella's study implies that one could assume Smith's factors, although the methods of presenting the stimuli differed, and be relatively safe. Ideally, it would have been safer to validate Smith's factors through "varimax rotated factor analysis," but this would have been very expensive. It would also have been directing the emphasis away from this study and toward a validation study of the method.

Statement of the Problem

In light of the review, the question under consideration in this study is twofold: to ascertain if training programs and professional experiences have an effect on the attitude, as measured by the semantic differential, of the elementary teacher toward speech defects; and then to compare the elementary teacher with nurses and speech

²³The practical reasons for controlling sex were the limited male population in these professions and the difficulty balancing each group with the same proportion of males and females.

²⁴Fransella, "An Experimental Evaluation," p. 451.

pathologists on a common, objective and quantifiable basis.

The "Semantic Differential for Speech Correction Concepts" was used to rate two taped samples of "normal speech" and each of the following defects: "stuttered speech"; "cleft palate speech"; and "functionally mis-articulated speech." These were eight samples of children's speech, ages 7 to 14, who had been assigned to the aforementioned categories of speech by the agreement of six speech pathologists. The recordings of these children were rated by elementary teachers, speech pathologists and nurses in various stages of training and professional experience.

Specifically, answers to the following questions were sought:

1. Do elementary teachers differ significantly in their semantic differential ratings of these children's speech from speech pathologists and nurses?
2. Do the attitudes of elementary teachers, speech pathologists and nurses change as a function of training and experience?
3. Is there a significant interaction among professions and levels of training when rating different types of children's speech?

CHAPTER II

EXPERIMENTAL PROCEDURE

Selection of Speech Samples

The eight samples of speech were taken from public school children in Missoula and Cascade counties reciting the "Pledge of Allegiance." These children were between 7 and 14 years of age. Two of the eight children had "normal speech" as labeled by six speech pathologists who clinically judged these children to have intelligible speech free from stuttering, nasality, articulatory defects and all other defects. Six of the eight children were clinically diagnosed as possessing only one of the three defects (stuttered speech, cleft palate speech or functionally misarticulated speech) by the agreement of six speech pathologists. All recordings were made under similar conditions and with the same tape recorder.

Selection of Experimental Groups

The population for this study was taken from elementary teachers, nurses and speech pathologists at various stages of training and professional life. The total N was 113. The breakdown was as follows:

	Elementary Teachers (group I)	Speech Pathologists (group II)	Nurses (group III)
Freshmen	N = 15	N = 12	N = 15
Seniors	N = 15	N = 8	N = 13
Professionals	N = 15	N = 10	N = 10
Totals	<u>N = 45</u>	<u>N = 30</u>	<u>N = 38</u>

The freshman and senior elementary education students were a random sample of seniors and freshmen enrolled in Elementary Education at the University of Montana. Their status in school was determined by the official role of the registrar for Spring 1968. The professional elementary teachers were a random sample of elementary teachers working in the Missoula Public School System who had graduated from the University of Montana between the years of 1960 and 1966. This group was required to have at least one year of experience.

All of the students enrolled in the freshman and senior classes in Speech Pathology and Audiology at the University of Montana were used as subjects. The official registrar's role for Spring 1968 was used to determine the population and class status. The professional speech pathologists were taken from those graduates of the University of Montana in Speech Pathology and Audiology between the years 1960 and 1966 who attended the 1968 Spring meeting

of the Montana Speech and Hearing Association. This group was also required to have at least one year of experience.

The nursing population was selected to see if helping professions in general were responsible for a particular attitude. The fifteen freshman nursing students were a random sample of first-year students attending St. Patrick's School of Nursing during the 1967-1968 school year. The senior nursing students were all senior students attending St. Patrick's School of Nursing during the 1967-1968 school year. Their status was determined by the official role of the registrar for Spring 1968. The professional nurses were all of the nurses working in St. Patrick's Hospital (during May of 1968) who had graduated from St. Patrick's School of Nursing between the years of 1960 and 1966. This group was also required to have at least one year of professional experience.

Test Procedure

The procedure for administration of the semantic differential was as follows for each of the nine subgroups:

1. The subjects were placed in a room suited for testing and were assigned a number.
2. The subjects received only one scale at a time.
3. All of the verbal instructions were recorded as follows:

- a. "You have just received a number. Copy this number on the line at the upper right hand corner of this page and every other page you receive. This is very important."
- b. "As you hear the recorded instructions read them to yourself. These instructions are the same for each of the five scales."

"You will hear samples of children's speech. After careful consideration, rate this speech on all of the scales below. These scales are measures of meaning and there are no 'good' or 'bad' ratings in the usual sense. Note that there are seven steps on each scale. A check at one end means 'extremely.' If, for example, you were rating the concept Politics and checked the first scale as follows, it would mean that you felt politics were extremely interesting. The second scale checked as follows would mean that you felt politics were quite tense.

Boring: _____ : _____ : _____ : _____ : _____ : _____ : x : Interesting
Tense : _____ : x : _____ : _____ : _____ : _____ : _____ : Relaxed

A check in the position second from the end on any scale means 'quite.' A check in the middle position on any scale means that you are neutral or undecided or do not feel that the scale applies to the concepts. A check in the position third from either end means 'slightly.' Only one position should be checked on each of the nine scales, but please check all nine of them."

- c. "You will now hear two samples of children's speech." The samples were then played and the subjects were told: "Now mark the scale."
- d. Procedure c was repeated for each pair of speech samples.
4. The order of speech samples was as follows:
normal speech; cleft palate speech; functional

articulation; stuttering; and normal speech. The normal speech sample was rated first and last so as to evaluate the presence of an order effect. It was not feasible to counter-balance for order.

5. After the scale was rated, it was collected before another was distributed.
6. The directions were played for only the first scale, but they appeared on every scale.
7. After each scale was distributed, the speech sample for that rating was played.
8. After the five scales were completed and collected, a short questionnaire was distributed.

The following recorded instructions were played:

"After placing your number at the upper right hand corner, please fill out the questionnaire. This concludes the experiment. Thank you very much for your cooperation."

9. The bipolar adjectives were placed into three different orders. Each group was subdivided into three groups, each of which received a different order of the bipolar adjectives to minimize any ordering effect of this kind.

CHAPTER III

RESULTS

Analysis of the Data

The semantic differential ratings were scored in the system 1, 2, 3, 4, 5, 6, 7 (the 1 was equal to the negative polar adjectives). The negative polar adjectives were: boring, severe, dishonest, difficult, empty, painful, false, narrow, tense. The scales for each individual were treated for each factor according to the standard distance formula ($D = \sqrt{d^2}$).²⁵ The simple mean was then found for each of the nine subgroups on each of the four factors.

The significance of the difference among group means was evaluated by a two-dimensional analysis of variance using a "Type II Design" as described by Lindquist.²⁶ When interaction was found, a test for simple effects was used.²⁷ The analysis could have been best performed via a four-dimensional technique, but because of unequal

²⁵Osgood, Suci, and Tannenbaum, The Measurement of Meaning, pp. 333-334.

²⁶E. F. Lindquist, Design and Analysis of Experiments in Psychology and Education (Cambridge: The Riverside Press, 1953), pp. 267-273.

²⁷Ibid., pp. 54-56.

numbers in the groups a two-dimensional technique was utilized. The analysis involved four variables: (1) type of speech; (2) type of profession; (3) levels of training; and (4) semantic factors.

The statistical tests were run on an IBM 1620 computer at the University of Montana. The data were also checked manually to corroborate the accuracy of the program.

The analysis of variance was used to answer the following questions:

1. Do elementary teachers differ significantly in their semantic differential ratings of these children's speech from speech pathologists and nurses?
2. Do the attitudes of elementary teachers, speech pathologists and nurses change as a function of training and experience?
3. Is there a significant interaction among professions and levels of training when rating different types of children's speech?

A .05 coefficient of risk was used in assessing the following null hypotheses:

1. H_0 : Elementary teachers will not differ significantly in their attitudes toward the speech of these children from speech pathologists

and nurses.

2. H_1 : The attitudes of elementary teachers, speech pathologists and nurses will not change as a function of training and experience.
3. H_2 : There will not be a significant interaction among professions and levels of training.

The means according to type of speech, semantic factors and type of profession are presented for the three levels (professionals, seniors and freshmen) in Tables 1, 2 and 3 respectively. The same means are represented and organized according to separate professional groups (elementary teachers, speech pathologists and nurses) in Tables 4, 5 and 6 respectively. Factor I (Interestingness) and Factor III (Honesty) showed very little difference on an inspection of means and did not seem to discriminate among the different levels of professions (professionals, seniors and freshmen) or within the levels of a separate profession (elementary teachers, speech pathologists and nurses). In many instances Factors I and III did not even discriminate between types of children's speech. The differences on these Factors (I and III) were so slight that it was obvious further analysis would consistently show no statistical difference and a computation of the variance was not necessary for assessing the null hypotheses. The data on

TABLE 1

MEANS FOR PROFESSIONALS ON TYPES OF SPEECH AND EACH OF THE FOUR FACTORS

Profession	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
INTERESTINGNESS (F I)						
Elementary Teacher	7.02	6.95	7.54	6.52	8.66	7.34
Speech Pathologist	6.29	6.81	7.78	7.21	7.02	7.02
Nurse	7.47	8.46	6.78	8.00	8.58	7.86
Mean	7.09	7.41	7.37	7.24	8.09	7.43
PLEASANTNESS (F II)						
Elementary Teacher	7.17	4.17	4.54	3.63	9.96	5.89
Speech Pathologist	5.83	5.24	5.82	3.98	9.16	6.01
Nurse	8.10	4.95	5.62	4.44	10.32	6.69
Mean	7.03	4.79	5.33	4.02	9.55	6.16

TABLE 1--Continued

Profession	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
HONESTY (F III)						
Elementary Teacher	6.87	6.92	6.69	6.52	6.99	6.80
Speech Pathologist	6.85	6.73	6.57	6.19	6.20	6.51
Nurse	7.84	7.25	6.91	6.18	7.12	7.20
Mean	7.19	6.97	6.72	6.53	6.77	6.84
DIFFICULTY (F IV)						
Elementary Teacher	5.27	1.27	1.87	1.53	6.67	3.32
Speech Pathologist	5.50	2.40	3.40	1.30	6.00	3.72
Nurse	4.40	1.60	2.40	2.00	6.40	3.56
Mean	5.06	1.76	2.56	1.61	6.36	3.49

TABLE 2

MEANS FOR SENIORS ON TYPES OF SPEECH AND EACH OF THE FOUR FACTORS

Profession	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
INTERESTINGNESS (F I)						
Elementary Teacher	8.09	7.00	7.00	7.31	9.72	7.82
Speech Pathologist	9.33	6.84	7.16	7.07	8.85	7.85
Nurse	8.09	8.39	9.32	8.87	9.67	8.87
Mean	8.50	7.41	7.83	7.75	9.41	8.18
PLEASANTNESS (F II)						
Elementary Teacher	8.16	4.13	5.90	4.20	9.72	5.81
Speech Pathologist	9.36	5.45	6.47	3.93	6.72	6.39
Nurse	8.39	4.88	7.21	4.36	8.20	6.61
Mean	8.64	4.82	6.52	4.16	8.21	6.27

TABLE 2--Continued

Profession	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
HONESTY (F III)						
Elementary Teacher	7.34	6.64	6.39	6.26	6.64	6.65
Speech Pathologist	6.60	6.64	6.62	5.54	6.72	6.42
Nurse	8.21	8.46	8.39	8.08	8.20	8.27
Mean	7.38	7.25	7.13	6.63	7.19	7.12
DIFFICULTY (F IV)						
Elementary Teacher	5.80	1.47	2.53	1.80	5.87	3.49
Speech Pathologist	6.50	2.00	3.63	2.50	6.50	4.23
Nurse	6.31	1.23	2.15	1.08	6.62	3.48
Mean	6.10	1.57	2.77	1.79	6.22	3.72

TABLE 3

MEANS FOR FRESHMEN ON TYPES OF SPEECH AND EACH OF THE FOUR FACTORS

Profession	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
INTERESTINGNESS (F I)						
Elementary Teacher	7.25	7.41	7.60	7.27	8.69	7.64
Speech Pathologist	6.78	7.29	7.42	7.20	9.48	7.63
Nurse	3.75	7.07	7.83	7.68	8.85	7.04
Mean	5.93	7.26	4.56	4.43	9.01	6.69
PLEASANTNESS (F II)						
Elementary Teacher	8.69	5.17	5.67	4.18	10.15	6.77
Speech Pathologist	7.17	4.59	5.91	4.46	9.91	6.41
Nurse	7.94	5.21	5.36	4.10	9.81	6.48
Mean	7.70	4.99	5.65	4.25	9.96	6.53

TABLE 3--Continued

Profession	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
HONESTY (F III)						
Elementary Teacher	7.41	6.83	6.75	6.13	7.01	6.83
Speech Pathologist	8.18	7.52	7.11	7.29	7.79	7.58
Nurse	7.70	7.04	7.63	7.21	7.71	7.46
Mean	7.76	7.13	7.16	6.88	7.50	7.29
DIFFICULTY (F IV)						
Elementary Teacher	5.13	1.27	1.80	1.53	6.73	3.29
Speech Pathologist	5.33	1.75	2.42	2.12	6.38	3.60
Nurse	5.53	1.33	2.13	1.47	6.67	3.43
Mean	5.33	1.45	2.12	1.71	6.59	3.44

TABLE 4
 MEANS FOR ELEMENTARY TEACHERS ON TYPES OF SPEECH AND EACH OF THE FOUR FACTORS

Level of Training	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
INTERESTINGNESS (F I)						
Freshman	7.25	7.41	7.60	7.27	8.69	7.64
Senior	8.09	7.00	7.00	7.31	9.72	7.82
Professional	7.02	6.95	7.54	6.52	8.66	7.34
Mean	7.45	7.12	7.38	7.03	9.02	7.60
PLEASANTNESS (F II)						
Freshman	8.69	5.17	5.67	4.18	10.15	6.77
Senior	8.16	4.13	5.90	4.20	9.72	5.81
Professional	7.17	4.17	4.54	3.63	9.96	5.89
Mean	8.01	4.49	5.37	4.00	9.94	6.36

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TABLE 4--Continued

Level of Training	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
HONESTY (F III)						
Freshman	7.41	6.83	6.75	6.13	7.01	6.83
Senior	7.34	6.64	6.39	6.26	6.64	6.65
Professional	6.87	6.92	6.69	6.52	6.99	6.80
Mean	7.21	6.80	6.61	6.30	6.88	6.76
DIFFICULTY (F IV)						
Freshman	5.13	1.27	1.80	1.53	6.73	3.29
Senior	5.80	1.47	2.53	1.80	5.87	3.49
Professional	5.27	1.27	1.87	1.53	6.67	3.32
Mean	5.40	1.34	2.07	1.62	6.42	3.37

TABLE 5

MEANS FOR SPEECH PATHOLOGISTS ON TYPES OF SPEECH AND EACH OF THE FOUR FACTORS

Level of Training	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
INTERESTINGNESS (F I)						
Freshman	6.78	7.29	7.42	7.20	9.48	7.63
Senior	9.33	6.84	7.16	7.07	8.85	7.85
Professional	6.29	6.81	7.78	7.21	7.02	7.02
Mean	7.47	6.98	7.45	7.16	8.45	7.50
PLEASANTNESS (F II)						
Freshman	7.17	4.59	5.91	4.46	9.91	6.41
Senior	9.36	5.45	6.47	3.93	6.72	6.39
Professional	8.83	5.24	5.82	3.98	9.16	6.01
Mean	8.35	5.09	6.07	4.12	8.59	6.69

TABLE 5--Continued

Level of Training	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
HONESTY (F III)						
Freshman	8.18	7.52	7.11	7.29	7.79	7.58
Senior	6.60	6.64	6.62	5.54	6.72	6.42
Professional	6.85	6.73	6.57	6.19	6.20	6.51
Mean	7.21	6.96	6.77	6.34	6.90	6.84
DIFFICULTY (F IV)						
Freshman	5.33	1.75	2.42	2.12	6.38	3.60
Senior	6.50	2.00	3.63	2.50	6.50	4.23
Professional	5.50	2.40	3.40	1.30	6.00	3.72
Mean	5.78	2.05	3.15	1.97	6.29	3.83

TABLE 6

MEANS FOR NURSES ON TYPES OF SPEECH AND EACH OF THE FOUR FACTORS

Level of Training	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
INTERESTINGNESS (F I)						
Freshman	3.75	7.07	7.83	7.68	8.85	7.04
Senior	8.09	8.39	9.32	8.87	9.67	8.87
Professional	7.47	8.46	6.78	8.00	8.58	7.86
Mean	6.44	7.97	7.98	8.18	9.03	7.92
PLEASANTNESS (F II)						
Freshman	7.94	5.21	5.36	4.10	9.81	6.48
Senior	8.39	4.88	7.21	4.36	8.20	6.61
Professional	8.10	4.95	5.62	4.44	10.32	6.69
Mean	8.04	3.01	6.06	4.30	10.10	6.49

TABLE 6--Continued

Level of Training	Normal Speech 1	Cleft Palate Speech	Misarticulated Speech	Stuttered Speech	Normal Speech 2	Mean
HONESTY (F III)						
Freshman	7.70	7.04	7.63	7.21	7.71	7.46
Senior	8.21	8.46	8.39	8.08	8.20	8.27
Professional	7.84	7.25	6.91	6.18	7.12	7.20
Mean	7.92	7.58	7.64	7.39	7.68	7.64
DIFFICULTY (F IV)						
Freshman	5.53	1.33	2.13	1.47	6.67	3.43
Senior	6.31	1.23	2.15	1.08	6.62	3.48
Professional	4.40	1.60	2.40	2.00	6.40	3.56
Mean	5.41	1.39	2.23	1.52	6.56	3.45

Factors I (Interestingness) and III (Honesty) support the retention of the null hypotheses.

Factor II (Pleasantness) and Factor IV (Difficulty) consistently discriminated among the types of children's speech and in some instances among professions and within professions. The results of the analyses of variance among professions and types of speech are reported in Tables 7 and 8 for Factors II and IV respectively for professionals, Tables 9 and 10 for seniors, and Tables 11 and 12 for freshmen. The results of the analyses of variance comparing levels of training within a profession and types of speech are presented in Tables 13 and 14 (Factors II and IV respectively) for elementary teachers, Tables 15 and 16 for speech pathologists, and Tables 17 and 18 for nurses.

On Factors II and IV the difference among speech types was consistently significant. This finding is not directly involved in the three hypotheses, but does support the validity of the semantic differential for distinguishing among various types of speech. Those instances of significance among professions and within professions give some further support for the validity of the semantic differential for evaluating differences among professions and levels of training.

TABLE 7

PROFESSIONALS: ANALYSIS OF VARIANCE OF PROFESSIONALS (P)
AND TYPES OF CHILDREN'S SPEECH (S) ON
FACTOR II (PLEASANTNESS)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	34	183.57			
Professionals (P)	2	16.85	8.42	1.61	NS
Error (P)	32	166.72	5.21		
<u>Within-Subjects</u>	140	1137.51			
Types of Speech (S)	4	868.46	217.14	110.25	.001
PxS	8	18.46	2.30	1.17	NS
Error (W)	128	252.08	1.96		
Total	174	1321.04			

TABLE 8

PROFESSIONALS: ANALYSIS OF VARIANCE OF PROFESSIONALS (P)
AND TYPES OF CHILDREN'S SPEECH (S) ON
FACTOR IV (DIFFICULTY)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	34	75.12			
Professionals (P)	2	4.78	2.39	1.08	NS
Error (P)	32	70.34	2.19		
<u>Within-Subjects</u>	140	840.00			
Types of Speech (S)	4	663.46		123.60	.001
PxS	8	27.51	3.43	2.56	.025
Error (W)	128	171.75	1.34		
Total	174	915.12			

TABLE 9

SENIORS: ANALYSIS OF VARIANCE OF SENIORS (S') AND TYPES OF CHILDREN'S SPEECH (S) ON FACTOR II (PLEASANTNESS)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	35	129.50			
Seniors (S')	2	17.08	8.54	2.50	NS
Error (S')	33	122.42	3.40		
<u>Within-Subjects</u>	144	1261.66			
Types of Speech (S)	4	885.99	221.49	81.53	.001
S'xS	8	15.84	1.98	.72	NS
Error (W)	132	358.58	2.71		
Total	172	1391.17			

TABLE 10

SENIORS: ANALYSIS OF VARIANCE OF SENIORS (S') AND TYPES OF CHILDREN'S SPEECH (S) ON FACTOR IV (DIFFICULTY)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	35	71.80			
Seniors (S')	2	21.26	10.63	6.94	.005
Error (S')	33	50.53	1.53		
<u>Within-Subjects</u>	144	938.00			
Types of Speech (S)	4	798.85	199.71	223.63	.001
S'xS	8	16.20	2.02	2.26	.05
Error (W)	132	117.88	.89		
Total	179	1009.80			

TABLE 11

FRESHMEN: ANALYSIS OF VARIANCE OF FRESHMEN (F) AND TYPES OF CHILDREN'S SPEECH (S) ON FACTOR II (PLEASANTNESS)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	41	115.44			
Freshmen (F)	2	3.17	1.58	.55	NS
Error (F)	39	112.26	2.87		
<u>Within-Subjects</u>	168	1343.75			
Types of Speech (S)	4	964.48	241.12	100.01	.001
FxS	8	8.76	1.09	.45	NS
Error (W)	156	376.09	2.41		
Total	209	1459.20			

TABLE 12

FRESHMEN: ANALYSIS OF VARIANCE OF FRESHMEN (F) AND TYPES OF CHILDREN'S SPEECH (S) ON FACTOR IV (DIFFICULTY)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	41	48.48			
Freshmen (F)	2	2.80	1.40	1.19	NS
Error (F)	39	45.67	1.17		
<u>Within-Subjects</u>	168	1100.80			
Types of Speech (S)	4	946.59	236.64	243.82	.001
FxS	8	6.86	.85	.88	NS
Error (W)	156	151.40	.97		
Total	209	1149.28			

TABLE 13

ELEMENTARY TEACHERS: ANALYSIS OF VARIANCE OF TRAINING
LEVEL (L) AND TYPE OF CHILDREN'S SPEECH (S)
ON FACTOR II (PLEASANTNESS)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	44	158.71			
Training Level (L)	2	22.12	11.06	3.40	.05
Error (L)	42	136.58	3.25		
<u>Within-Subjects</u>	180	1565.75			
Types of Speech (S)	4	1179.51	294.87	136.05	.001
LxS	8	15.64	1.95	.90	NS
Error (W)	168	364.11	2.16		
Total	224	1724.47			

TABLE 14

ELEMENTARY TEACHERS: ANALYSIS OF VARIANCE OF TRAINING
LEVEL (L) AND TYPE OF CHILDREN'S SPEECH (S)
ON FACTOR IV (DIFFICULTY)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	44	54.96			
Training Level (L)	2	.74	.37	.28	NS
Error (L)	42	54.21	1.29		
<u>Within-Subjects</u>	180	1174.00			
Types of Speech (S)	4	985.35	246.33	220.25	.001
LxS	8	13.11	1.63	1.46	NS
Error (W)	168	187.89	1.11		
Total	224	1228.96			

TABLE 15

SPEECH PATHOLOGISTS: ANALYSIS OF VARIANCE OF TRAINING
LEVEL (L) AND TYPES OF CHILDREN'S SPEECH (S)
ON FACTOR II (PLEASANTNESS)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	29	160.29			
Training Level (L)	2	8.90	4.45	.79	NS
Error (L)	27	151.38	5.60		
<u>Within-Subjects</u>	120	914.58			
Types of Speech (S)	4	675.81	168.95	79.38	.001
LxS	8	14.87	1.85	.87	NS
Error (W)	108	229.85	2.12		
Total	149	1074.88			

TABLE 16

SPEECH PATHOLOGISTS: ANALYSIS OF VARIANCE OF TRAINING
LEVEL (L) AND TYPES OF CHILDREN'S SPEECH (S)
ON FACTOR IV (DIFFICULTY)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	29	76.59			
Training Level (L)	2	12.33	6.16	2.59	NS
Error (L)	27	64.25	2.37		
<u>Within-Subjects</u>	120	644.80			
Types of Speech (S)	4	516.62	129.15	120.41	.001
LxS	8	14.54	1.81	1.69	NS
Error (W)	108	115.83	1.07		
Total	149	721.39			

TABLE 17

NURSES: ANALYSIS OF VARIANCE OF TRAINING LEVEL (L) AND
TYPES OF CHILDREN'S SPEECH (S) ON
FACTOR II (PLEASANTNESS)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	37	112.78			
Training Level (L)	2	9.34	4.67	1.58	NS
Error (L)	35	103.44	2.95		
<u>Within-Subjects</u>	152	1262.59			
Types of Speech (S)	4	854.41	213.60	74.97	.001
LxS	8	21.88	2.73	.96	NS
Error (W)	140	398.84	2.84		
Total	189	1375.38			

TABLE 18

NURSES: ANALYSIS OF VARIANCE OF TRAINING LEVEL (L) AND
TYPES OF CHILDREN'S SPEECH (S) ON
FACTOR IV (DIFFICULTY)

Source	DF	Sum of Squares	Mean Squares	F Ratio	Probability
<u>Between-Subjects</u>	37	48.46			
Training Level (L)	2	.38	.19	.14	NS
Error (L)	35	48.08	1.37		
<u>Within-Subjects</u>	152	1060.00			
Types of Speech (S)	4	903.07	225.76	201.91	.001
LxS	8	26.77	3.34	2.99	.005
Error (W)	140	156.54	1.11		
Total	189	1108.46			

Factor II (Pleasantness) revealed a significant main effect among the levels of elementary teachers (Table 13). The interaction effect was not significant. The significant levels effect indicated a trend for freshmen in Elementary Education to react more positive on the Pleasantness Factor than did the seniors or professionals in Elementary Education (Table 4).

Although the null hypotheses are supported by the data from Factors I and III, and most of the data from Factor II, the data from Factor IV (Difficulty) did not completely support the null hypotheses. Table 19 summarizes the statistical support for rejecting the null hypotheses using Factor IV.

The freshmen in the three fields did not differ significantly on any of the four factors (Tables 3, 11 and 12) including Factor IV; however, the seniors and professionals did differ on Factor IV.

The F-ratio testing for interaction (on Factor IV) among seniors and types of speech was significant at the .05 probability level (Table 10). The test for simple effects comparing senior groups was significant for the stuttered speech only ($F=6.72$; $df=2$ and 33 ; $P=.005$). The bipolar adjectives measuring Factor IV were difficult-easy. The seniors in Speech Pathology were the most positive (least difficult) with a mean of 2.50; the seniors in Elementary

TABLE 19

SUMMARY OF THE STATISTICAL DIFFERENCES FOUND ON FACTOR IV (DIFFICULTY)

Level	Profession			Significance
Freshman	Elementary Teachers	Speech Pathologists	Nurses	NS
Senior	Elementary Teachers	Speech Pathologists	Nurses	P=.025 (Stuttered Speech)
Professional	Elementary Teachers	Speech Pathologists	Nurses	P=.05 (Cleft Palate Speech)
Significance	NS	NS	P=.005 (Stuttered Speech) P=.025 (Normal ₁)	

Education were next with a mean of 1.80; and the seniors in Nursing were least positive (most difficult) with a mean of 1.08 (Table 2).

The F-ratio testing for interaction (on Factor IV) among professions and types of speech was significant at the .025 probability level (Table 8). The test for simple effects comparing professional groups was significant for the cleft palate speech only ($F=3.94$; $df=2$ and 32 ; $P=.05$). The professional speech pathologists were the most positive (least difficult) with a mean of 2.40; the professional nurses were next with a mean of 1.60; and the professional elementary teachers were least positive with a mean of 1.27 (Table 1).

The intra-professional differences among elementary teachers and speech pathologists were not statistically significant on their Factor IV ratings (Tables 14 and 16). There were significant intra-professional differences among the nurses on Factor IV.

The F-ratio testing for interaction (on Factor IV) among levels of nurses training and types of speech was significant at the .001 probability level (Table 18). The test for simple effects was significant for stuttered speech ($F=6.66$; $df=2$ and 35 ; $P=.005$) and for the first examples of normal speech ($F=4.81$; $df=2$ and 35 ; $P=.025$). When rating stuttered speech, the professional nurses were the most

positive (least difficult) with a mean of 2.00; the freshmen nurses were next with a mean of 1.47; and the senior nurses were least positive (most difficult) with a mean of 1.08 (Table 6).

When rating the first examples of normal speech, the senior nurses were the most positive (least difficult) with a mean of 6.31; the freshmen nurses were next with a mean of 5.33; and the professional nurses were least positive (most difficult) with a mean of 4.40 (Table 6). The difference on the first example of normal speech is important in evaluating the order effect of the speech samples since the same speech played last received similar ratings by each level of nurses. The second ratings of normal speech were much more positive than the ratings of the same samples when presented first. However, the amount of change from first to last (the order effect) varies with levels with the seniors changing least, .3; freshmen next, 1.1; and the professionals the most, 2.0 (Table 6). The second sample of the same normals was rated easier after hearing samples of defective speech by all levels, but particularly by the professional nurses.

A further examination of the order effect revealed that 75% of the rating on all factors was more positive when rating normal speech the second time. The normal speech was rated first and last to check the strength of the order

effect. It was not feasible to counterbalance for order. The second rating of Factor III (Honesty) was marked more negative by 61% of all subjects. If the Honesty Factor were excluded, then 87% of the ratings were more positive when rating normal speech the second time. This indicates that most subjects felt the normal speech was more interesting, more pleasant and easier after listening to defective speech than they did prior to hearing defective speech.

Overall, the aforementioned differences offer some evidence for concluding there is a difference in semantic attitude related to particular type of training and experience. In summary, the two differences found in accord with the hypotheses were on Factor IV (Difficulty). In the first of these differences, professional speech pathologists differed significantly from nurses and elementary teachers respectively when rating cleft palate speech. The seniors differed significantly when rating stuttered speech on Factor IV (Difficulty). The seniors in Speech Pathology were most positive (least difficult), the seniors in Elementary Education were next and the seniors in Nursing were least positive. In both of these instances speech pathologists found the speech-defective child easier on the difficult-easy scale. The intra-professional differences among nurses were statistically significant, but were not attributable to the hypotheses of progressive training.

The intra-professional difference among elementary teachers indicated a trend for freshmen to consistently find all the speech samples more pleasant than did the seniors and professionals in Elementary Education. This trend indicates that progressive training and experience of elementary teachers influenced their semantic attitude in a negative fashion.

CHAPTER IV

DISCUSSION

This study investigated the attitude of elementary teachers, as measured by the semantic differential, toward specified speech defects as compared to the attitudes of nurses and speech pathologists toward the same defects. The results demonstrated some significant differences within professions and among professions and levels of training. However, the study did not conclusively show that semantic attitude changes as a function of training and experience within these professions. At the same time, it was evident that this semantic tool was sensitive enough to measure differences in types of speech on Factor II (Pleasantness) and Factor IV (Difficulty).

Factor II (Pleasantness) revealed a significant trend where freshmen in Elementary Education consistently reacted more positive than did the seniors or professionals in Elementary Education. This trend may suggest that the present training and experience of elementary teachers causes them to be less tolerant of defective speech than they were before their professional preparation.

Factor IV (Difficulty) produced two instances of

significant differences among professions (inter-professional) in accord with the hypotheses. The seniors in the three fields differed significantly on Factor IV (Difficulty) when rating stuttered speech in such a manner that it could be reflecting the influence of training and experience. Seniors in Speech Pathology found the stuttered speech easier than did the seniors in Elementary Education who reacted more favorably than did the seniors in Nursing. This significant difference could indicate that the seniors in Speech Pathology, as a result of formal training and clinical experience, may have developed more insight or acceptance for this kind of defective speech and therefore found it easier. Whatever the underlying reasons are, the expression of this attitude covertly would be beneficial to the speech-defective child and desirable in all those who work with him. It would seem that the Elementary Education seniors may have had more formal exposure to "exceptional children" than did the seniors in Nursing. Although the finding does support the hypotheses, it is limited because the other three factors showed no difference. Subsequently, generalizations based on Factor IV alone may be limited.

The second difference among groups of professionals on the Difficulty Factor (IV) suggested that the speech pathologists found cleft palate speech easier than did the

nurses, and the nurses found this speech easier than did the teachers. One could speculate about specific aspects of training and experience in these professions, but the real question is how much of a difference in actual listening behavior is reflected by semantic attitude.

This researcher assumes that an individual's semantic listening behavior (covert) correlates highly with his overt listening responses. This assumption, which has not been documented, implies that a listener with a significantly more positive semantic reaction would overtly behave more favorably toward a child with defective speech. Within the limitation of the semantic tool, there is statistical support for contending that speech pathologists react more favorably to the defective speech of children than do nurses and elementary teachers.

Intra-profession differences were also found on Factor IV. The levels of nursing when rating stuttered speech were significant, but were irrelevant with regard to the hypotheses. When rating stuttered speech, the professional nurses were more positive than were the freshmen nurses who in turn reacted more favorably than did the senior nursing students. When rating the first example of normal speech, the senior nurses were more positive than were the freshmen nurses who in turn were more favorable

than the professional nurses. The difference on the first examples of normal speech was relevant in evaluating the order effect of the speech samples. The second sample of the same normals was rated easier after hearing samples of defective speech by all levels, but particularly by the professionals.

This experiment did not show relevant significant differences among professions and levels of training on two of the four factors. This seems to indicate that all of the semantic factors were not sensitive enough to demonstrate the difference.

Although the measurement of difference on types of speech on Factors II and IV gives support to the validity of the semantic differential, it supports the Fransella²⁸ validation study. Fransella felt there was sufficient commonality between her validation study and Smith's original studies, although there were only two factors in the Fransella study. Males in the Fransella study clearly combined Factors I and III into a single factor and Factors II and IV into a single factor. The analysis for females was like that of the males except:

Narrow-broad shifted from one factor to the other; boring-interesting did not align itself clearly with either factor, the identification

²⁸Fransella, pp. 448-451.

of empty-full with the second factor was not fully satisfactory.²⁹

In the current study Factors I and III and Factors II and IV tended to be related, supporting Fransella's two-factor position. Factors II and IV tended to show the same difference among the types of speech and professions. Factors I and III showed no difference among types of speech and professions. Osgood suggests that factorial structures tend to vary as a function of the type of concept.³⁰ This implies that the factors may have to be re-established in each study in which the semantic differential is used. Varimax rotated factor analysis on the data of this study may reveal that there were only two factors operating in the scale. This would have dramatic effect on scoring the samples. If Factors II and IV had been condensed into one factor for the current study, there may have been more consistent support of the hypothesized differences because of the increased power of the combined scale.

Within the limitations of the semantic differential, this study demonstrated that semantic attitude toward children's speech defects is affected by training and experience. There were no differences between freshmen, but there were differences between seniors and professionals.

²⁹Ibid., p. 450.

³⁰Osgood, Suci, and Tannenbaum, Measurement of Meaning, pp. 176-188.

In the two instances of statistical significance, speech pathologists reacted more favorably than did the elementary teachers and nurses. Intra-profession difference among the speech pathologists would have strengthened the recommendation for mandatory training in Speech Pathology for the elementary teacher. This recommendation was also made by Ewing,³¹ Lloyd³² and McKenzie.³³

This author feels there is a strong need for additional training in special fields for the classroom teacher. There is also a need for further empirical studies to investigate and define this problem with regard to the classroom teacher. Although the current study provides some support for this position, without strong empirical evidence it is unlikely that the teacher training programs will adjust their curriculum to meet this problem. This empirical data is also needed to stimulate school systems to develop meaningful in-service training programs. Public school personnel in special services have frequently commented to this author that the classroom teacher attempts to handle serious problems on her own. One explanation for her behavior may be that the teacher does not understand

³¹Ewing, "Teacher's Ability to Predict Friendship Status," pp. 21-22.

³²Lloyd and Ainsworth, pp. 244-249.

³³McKenzie, pp. 430-431.

the role of the specialists and therefore is protective of her students. In-service training for teachers would be another way of improving not only the teachers' relationships with the special child, but would also help them in utilizing the various specialists. This training should probably include several lectures and demonstrations from a speech pathologist-audiologist, remedial reading specialist, psychologist and school nurse.

Limitations and Suggestions

This investigation was limited by the narrowness (semantic attitude or connotative meaning) of the dimension explored. There could be little difference on this dimension among groups of people, but their interpersonal behavior could differ greatly.

A similar experimental design could be employed in investigating this problem further, but it would probably be more meaningful if a measure of overt rather than covert behavior was used in making comparisons. Interaction analysis could be used, but it would be very time-consuming because each subject would have to be analyzed individually. There would also be a problem in having the speech-defective person interact consistently with all subjects.

This problem could also be studied longitudinally in a school system before and after in-service training

programs. A simple multiple-choice test soliciting appropriate ways of handling specific cases in the classroom may be the most effective way of determining what the teacher knows or needs to know. An alternate form of the test could be used to determine the effectiveness of the in-service training program in helping the teacher to know what resource person to use and when to use him. This approach would be more pragmatic and would be doing something about the actual problem--if it exists as a problem.

Technical limitations of the study were: (1) uncounterbalanced order effects both in the presentation of speech samples and ordering of bipolar adjectives; (2) use of a two-dimensional analysis of variance when a four-dimensional analysis of variance would have been more economical; and (3) assuming the four factors of Smith's scale.

CHAPTER V

SUMMARY AND CONCLUSION

Previous researchers have indicated that the elementary teachers do not try to build healthy attitudes in the classroom for the child with a speech defect. It has been implied that the teachers' attitudes are less than desirable. Most researchers have hypothesized that the answer lies in additional training in Speech Pathology and other special fields.

The subjects of this study consisted of females who were either freshmen, seniors or professionals in Elementary Education, Speech Pathology and Nursing. Test conditions using the semantic differential for speech correction concepts were consistent for each of the nine groups.

The data was statistically analyzed using a two-dimensional analysis of variance. The results indicated that seniors and professionals in Speech Pathology differed significantly from the seniors and professionals in Nursing and Elementary Education. In the two instances where the inter-profession differences occurred, speech pathologists reacted more favorably to the defective speech of children than did the nurses and elementary teachers.

Generalizations based on these differences (differences on only one of the four factors) are limited.

Intra-profession analysis did not show that there were progressive significant differences within the levels (freshmen, seniors and professionals) of each profession. On the contrary, Elementary Education reflected a regressive trend whereby freshmen consistently reacted more positive than did the seniors and professionals.

There were weaknesses in the study, but the data indicated that there are differences among these professions and that speech pathologists react significantly more positive to the defective speech of children than do nurses and elementary teachers. On the basis of this investigation, the researcher feels there is increased support for training teachers to understand and deal with the speech-defective child in the classroom.

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APPENDIX A

SCALES

I No. _____

You will hear samples of children's speech. After careful consideration, rate this speech on all of the scales below. These scales are measures of meaning and there are no "good" or "bad" ratings in the usual sense. Note that there are seven steps on each scale. A check at one end means "extremely." If, for example, you were rating the concept Politics and checked the first scale as follows, it would mean that you felt politics were extremely interesting. The second scale checked as follows would mean that you felt politics were quite tense.

Boring:___:___:___:___:___:___: x :Interesting
Tense:___: x :___:___:___:___:___:Relaxed

A check in the position second from the end on any scale means "quite." A check in the middle position on any scale means that you are neutral or undecided or do not feel that the scale applies to the concepts. A check in the position third from either end means "slightly." Only one position should be checked on each of the nine scales, but please check all nine of them.

- Boring:___:___:___:___:___:___:___:Interesting
Lenient:___:___:___:___:___:___:___:Severe
Honest:___:___:___:___:___:___:___: Dishonest
Difficult:___:___:___:___:___:___:___:Easy
Empty:___:___:___:___:___:___:___:Full
Pleasurable:___:___:___:___:___:___:___: Painful
True:___:___:___:___:___:___:___:False
Narrow:___:___:___:___:___:___:___:Broad
Relaxed:___:___:___:___:___:___:___:Tense

II

No. _____

You will hear samples of children's speech. After careful consideration, rate this speech on all of the scales below. These scales are measures of meaning and there are no "good" or "bad" ratings in the usual sense. Note that there are seven steps on each scale. A check at one end means "extremely." If, for example, you were rating the concept Politics and checked the first scale as follows, it would mean that you felt politics were extremely interesting. The second scale checked as follows would mean that you felt politics were quite tense.

Boring: ___:___:___:___:___:___: x :Interesting
 Tense: ___: x :___:___:___:___:___:Relaxed

A check in the position second from the end on any scale means "quite." A check in the middle position on any scale means that you are neutral or undecided or do not feel that the scale applies to the concepts. A check in the position third from either end means "slightly." Only one position should be checked on each of the nine scales, but please check all nine of them.

Relaxed: ___:___:___:___:___:___:___: Tense
 Broad: ___:___:___:___:___:___:___: Narrow
 True: ___:___:___:___:___:___:___: False
 Painful: ___:___:___:___:___:___:___: Pleasurable
 Empty: ___:___:___:___:___:___:___: Full
 Easy: ___:___:___:___:___:___:___: Difficult
 Honest: ___:___:___:___:___:___:___: Dishonest
 Severe: ___:___:___:___:___:___:___: Lenient
 Boring: ___:___:___:___:___:___:___: Interesting

III

No. _____

You will hear samples of children's speech. After careful consideration, rate this speech on all of the scales below. These scales are measures of meaning and there are no "good" or "bad" ratings in the usual sense. Note that there are seven steps on each scale. A check at one end means "extremely." If, for example, you were rating the concept Politics and checked the first scale as follows, it would mean that you felt politics were extremely interesting. The second scale checked as follows would mean that you felt politics were quite tense.

Boring: ___:___:___:___:___:___: x :Interesting
 Tense: ___: x :___:___:___:___:___:Relaxed

A check in the position second from the end on any scale means "quite." A check in the middle position on any scale means that you are neutral or undecided or do not feel that the scale applies to the concepts. A check in the position third from either end means "slightly." Only one position should be checked on each of the nine scales, but please check all nine of them.

Empty: ___:___:___:___:___:___:___:Full
 Honest: ___:___:___:___:___:___:___: Dishonest
 Narrow: ___:___:___:___:___:___:___: Broad
 Interesting: ___:___:___:___:___:___:___: Boring
 Tense: ___:___:___:___:___:___:___: Relaxed
 True: ___:___:___:___:___:___:___: False
 Lenient: ___:___:___:___:___:___:___: Severe
 Difficult: ___:___:___:___:___:___:___: Easy
 Painful: ___:___:___:___:___:___:___: Pleasurable

APPENDIX B

QUESTIONNAIRE

No. _____

What is your profession (occupation)? _____

Your sex _____

Your age _____

If you are a student, check your year in school.

- Freshman _____
- Sophomore _____
- Junior _____
- Senior _____
- Graduate Student _____

If you are working in a profession, check the number of years of experience you have in that profession.

- 1 Year _____
- 2 Years _____
- 3 Years _____
- 4 Years _____
- 5 Years _____
- 6 Years _____
- 7 Years _____
- 8 Years _____

If more, please state number of years _____.

What type of setting do you work in (hospitals, clinics, elementary schools, secondary schools, private practice, etc.)?

Where and when did you complete your professional training?

	YEAR	MAJOR	INSTITUTION
R.N.	_____	_____	_____
B.A. or B.S.	_____	_____	_____

	YEAR	MAJOR	INSTITUTION
M.A. or M.S.	_____	_____	_____
OTHER	_____	_____	_____

Have you ever had any formal courses in Speech Pathology?

Yes _____

No _____

If you have, list the approximate number of hours and institutions at which you received the training.

	CREDIT HOURS	INSTITUTION
SPEECH PATHOLOGY	_____	_____
	_____	_____
	_____	_____
AUDIOLOGY	_____	_____
	_____	_____
	_____	_____

Thank you for your cooperation.