

The University of North Carolina
at Greensboro

JACKSON LIBRARY



ca

no. 1514

UNIVERSITY ARCHIVES

REIS, LAURA ANN. Development of Sex Differences in Listening.
(1976)

Directed by: Dr. Jacquelyn Gaebelain. Pp. 51

Various research with adults has shown that males are rated as more intelligent, more interesting, and more highly respected than females by both men and women. There is also evidence to indicate a developmental trend to these evaluations. In the present study it was hypothesized that younger boys and girls (age 5) would attain more information from a female model than from a male model, while older boys and girls (age 11) would attain more information from a male model. Mixed results were expected for 8 year olds such that boys would learn more from a male model and girls would learn more from a female model. Seventy-two children, 12 males and 12 females from grades K, 3, and 6, were shown a video-taped talk on puppet-making by either a male or female speaker, followed by a probed recall. Results indicate a developmental trend, but not as predicted. Sixth graders recalled more than Kindergarten subjects, while rating speaker effectiveness significantly lower than third grade and kindergarten subjects. Sixth graders also rated their interest in the topic after the presentation significantly lower than kindergarten subjects after hearing the female speaker. There were no differences in interest level after hearing the male speaker. Third grade males rated the information content lower than both kindergarten males and third grade females. Some interesting

correlations between recall scores, interest ratings, and effectiveness ratings are discussed along with implications of the results for the educational system. CES

IN LISTENING

by

Laura Ann Spitz

A Thesis Submitted to
the Faculty of the Graduate School of
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Master of Arts

Greensboro
1976

Approved by

Thesis Advisor

DEVELOPMENT OF SEX DIFFERENCES

IN LISTENING

by

Laura Ann Reis

A Thesis Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Master of Arts

Greensboro
1976

Approved by

Jacquelyn Sacklin
Thesis Adviser

APPROVAL PAGE

This thesis has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro.

Thesis Adviser

Jaquelyn Sachleben

Committee members

Mary Fulkner Cois
Jon Harg Houser

June 29, 1976
Date of Acceptance by Committee

ACKNOWLEDGEMENTS

I wish to thank Dr. Jacquelyn Gaebelin for all her help and guidance in putting this idea into a research design, and Dr. Mary Geis and Dr. Gary Hoover for their consultation.

Mr. Oakley Mabe, principal of Colfax Elementary School, deserves particular thanks, along with the teachers and students in the kindergarten, third, and sixth grades at Colfax.

Last of all I thank Karen and Larry Clark who made the video tape used in the experiment.

TABLE OF CONTENTS

	Page
APPROVAL PAGE	ii
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	v
CHAPTER	
I. INTRODUCTION	1
Statement of the Problem	7
Hypotheses	7
II. METHOD	10
Subjects	10
Apparatus	10
Materials	10
Determination of the topic	10
Selection of the speakers	11
Scaling	11
Procedure	11
Recruitment	11
Experimental design	11
III. RESULTS	14
IV. DISCUSSION	20
BIBLIOGRAPHY	41
APPENDIX	
A. Instructions	43
B. Questions	44
C. Script	47
D. Scaling Lesson	50

UNC-G LIBRARY

LIST OF TABLES

		Page
TABLE 1	Cell Means.	33
TABLE 2	Multivariate Analysis of Variance on the Five Dependent Variables: Recall Score, Ratings of Speaker Effectiveness, Ratings of Information Content of the Presentation, Ratings of Previous Knowledge of the Topic, and Reported Interest Level in the Topic after the Presentation.	34
TABLE 3	2 x 2 x 3 ANOVA for the Dependent Measure Recall Score.	35
TABLE 4	2 x 2 x 3 ANOVA for the Dependent Measure Effectiveness of Speaker.	36
TABLE 5	2 x 2 x 3 ANOVA for the Dependent Measure Information Content of the Presentation.	37
TABLE 6	2 x 2 x 3 ANOVA for the Dependent Measure Previous Knowledge of the Topic . . .	38
TABLE 7	2 x 2 x 3 ANOVA for the Dependent Measure Interest Level in the Topic After the Presentation.	39
TABLE 8	Corrleation of Raw Data.	40

UNC-G LIBRARY

CHAPTER I
INTRODUCTION

Recent research (Gruber, 1976) has shown that equal attention is not given to males and females when they speak publicly. This finding has been considered a result of the overall inequality of the sexes as perceived by males and females. In American society women are viewed as inferior to men in many areas. Men are seen as more intelligent, competent, and logical than women (Goldberg, 1968). In a study conducted by Goldberg (1968) he found that women hold men more competent and interesting in all fields, including feminine fields. Greenberger and Sorensen (1970) reported that among a junior high school faculty the sex of the individual played a large role in determining choices for consultation, respecting, and liking. Men and women faculty members greatly overchose men for respect. These choices were made in spite of the observation that women faculty members were not seen as any less competent teachers than male faculty members. Such a distinction in choice may be attributable to differences or perceived differences in communication skills.

Pheterson, Keisler, and Goldberg (1971) probed this area further in a study involving the judging of paintings. Each painting was accompanied by a short history of the painter.

The variables manipulated were sex of the judge, sex of the painter, and current status of the painting--either an entry or a winner. Results indicated that women judged the entry paintings by males to be significantly better than identical paintings by females. However, women did not distinguish between sex on those paintings already labeled as winners, although the evaluations tended in favor of the female winners. The authors suggested that these results reflected the differing expectations which women have about men and women. That is, a woman will most likely be less competent and her accomplishments fewer than a man, in spite of equal creativity and emotionality. Such a conclusion implies that the judges were not really judging the artists or paintings at all, but were simply expressing attitudes based on stereotypes held prior to this study.

There is much evidence that individuals hold stereotypes of men and women and that these stereotypes will influence their judgements (Kaplan and Goldman, 1973; Hawley, 1971; Rosencrantz, Vogel, Bee, Broverman, and Broverman, 1968). Kaplan and Goldman (1973) had male and female subjects fill out a series of attitudinal items about the role of women in society. Half the male and female subjects were instructed to respond as they believed the average male would respond; the remaining subjects were instructed to respond as they felt the average female would respond. Results indicated that there were no overall differences attributable to the sex of

the respondent, but that there was a highly significant difference due to the sex stereotype. Furthermore, it was shown that male and female respondents perceive male and female sex roles differently. Female respondents perceived a much larger difference between the stereotyped views of the average man and average woman than did male respondents. This would indicate that women respond to men in a more traditional way because this is the way women think men expect them to act. This study tends to disprove this assumption by showing that males are more willing than women think they are to accept a less traditional role for women.

The far-reaching effects of this common misperception on the part of women is explored in two studies by Hawley (1971, 1972). Married and unmarried women in various types of careers (i.e., homemaker, feminine career, and androgynous career) were asked to complete a questionnaire as they felt significant men in their lives would fill it out. Results indicated that the careers women choose and their perceptions of men's views of the feminine ideal are related. Married women tended to respond more with feelings of sexual equality in career choice, while unmarried women chose more feminine jobs. Unmarried women also felt that men make more distinctions between "male" intelligence and "female" intelligence, than did married women. This too could influence their career choice.

The fact that stereotypes exist among adults has been well documented. Although stereotypes per se have not been sufficiently researched with children, there is some evidence that the sex of the adult working with the child makes a difference in the child's performance. Banikiotes, Montgomery, and Banikiotes (1972) studied the effects of the sex of the adult voice on the auditory reinforcement of infant vocalizations. The infants studied were males and females approximately three months of age. Results indicated that although the experimental procedures resulted in a significantly greater number of vocalizations from each baseline to each conditioning stage, there were no differences found between conditions of male and female auditory reinforcement. Thus we have evidence that infants, at least at the young age of three months, do not respond differently to the male and female voice.

Burton, Allinsmith, and Maccoby (1966) investigated the effects of the sex of the experimenter on resistance to temptation in 4 year old boys and girls. Results showed a cross-sex effect for both boys and girls such that there is more cheating with a same-sex experimenter and more conformity with an opposite-sexed adult. This result would seem to indicate that at the age of 4 both boys and girls tend to have more respect for adults of the opposite sex from themselves. It could also be said that boys at least have not yet fallen victim to the stereotype of male superiority.

Grusec and Brinker (1972) found that 5 and 7 year old boys remembered more of a male than a female model's behavior,

while girls of the same ages remembered more of the female model than the male model, although the latter finding was true for only half of the experiment. Two movies were shown to 5 and 7 year old boys and girls. Each movie starred a male and a female model, one on each side of the screen, performing various isolated behaviors. After seeing the movie the child was brought into a room containing all the props used in the movies and was encouraged to reproduce as many of the model's behaviors as possible. The girls in both age groups learned more about the female model in the second movie, but they learned equally as much about the male and female models in the first movie. This result was explained by stating that girls are less strongly identified with the female sex role than boys are with the male sex role. However, another explanation could be that the 5 and 7 year old girls are beginning to accept the traditional stereotypes of male importance, while not yet rejecting their belief that mothers (females) are best and most important.

One of the reasons why children do not accept the traditional stereotypes of males and females at a very young age could be that their major caretaker until the age of 9 or 10 is their mother. Even upon entering school they are usually exposed to female teachers at the lower levels. As they reach the age of 9 or 10, they may have begun to realize that although their female teacher deserves respect, she is ruled over by a male principal. However, until this age girls

especially are given special attention by the significant females in their lives so that they take longer than boys to turn their respect to men.

Biber, Miller, and Dyer (1972) studied 4 year old boys and girls in nursery school and found that girls received more instructional contact than boys in four different programs, with girls receiving more positive reinforcement for instruction than boys. This finding indicates the greater amount of contact that female teachers have with young girls as opposed to young boys. This distinction could cause the boys to become more quickly disillusioned with the female as a model and a person to be respected.

Bugental, Kaswan, Love, and Fox (1970) conducted a developmental study of children's perceptions of evaluative messages in the verbal, vocal, and visual channels, and found that children from ages 5-18 rated female actors as both more positive and more negative than male actors in all 3 channels. This finding could be seen as support for the traditional stereotypes. The younger children could have given these ratings because the happiness or displeasure of their mothers and teachers still has a very strong effect on them, while the older children may have been responding to the role of women as "emotional" and men as "steady" and "unemotional". It is also possible that the women may have been better actors than the men.

Statement of the Problem

The literature has shown that men and women are evaluated differently, given unequal respect, and seen as differentially positive or negative by both adults and children. Research with children seems to point to a developmental trend in the amount of significance given to males and females. However, no study has yet been conducted to examine the attention children pay to male versus female models at different developmental stages. The present study proposed to do just that. It was hypothesized that younger boys and girls (age 5) would obtain more information from a female model than from a male model, while older boys and girls (age 11) would obtain more information from a male model. Mixed results were expected for 8 year olds such that boys would learn more from a male model and girls would learn more from a female model.

Hypotheses

In the present study male and female 5, 8, and 11 year old children observed either a male or female adult model speak on a topic of interest to both boys and girls of these ages. Subjects were asked to rate the effectiveness of the speaker, information content of the speech, and to recall the content of the speech.

The major hypotheses tested were:

- (1) Recall of information presented by female speakers will be greater than recall of information presented by male

speakers for 5 year old boys.

(2) Recall of information presented by female speakers will be greater than recall of information presented by male speakers for 5 year old girls.

(3) Recall of information presented by male speakers will be greater than recall of information presented by female speakers for 8 year old boys.

(4) Recall of information presented by female speakers will be greater than recall of information presented by male speakers for 8 year old girls.

(5) Recall of information presented by male speakers will be greater than recall of information presented by female speakers for 11 year old boys.

(6) Recall of information presented by male speakers will be greater than recall of information presented by female speakers for 11 year old girls.

(7) Female speakers will be rated as more effective and their talks more informative than that of male speakers by five year old boys and girls.

(8) Male and female speakers will be rated as equally effective and their talks equally informative by 8 year old boys and girls.

(9) Male speakers will be rated more effective and their talks more informative than female speakers by 11 year old boys and girls.

UNIVERSITY OF MICHIGAN LIBRARY

(10) There will be a developmental trend in amount recalled such that 8 year olds recall more than 5 year olds, and 11 year olds recall more than 8 year olds.

Subjects

Seventy-two elementary school children from Colfax Elementary School in North Carolina took part in the study. Twenty-four children from kindergarten, grade 3, and grade 6 were instructed by their teachers to go to an unused classroom for a special show on puppet-making. All children were of average intelligence or above as judged by their teachers and came from semi-rural, middle-class families. One week before the experiment the experimenter went into each class and gave a lesson on scaling of answers (see Appendix D).

Apparatus

Presentations were video-taped in a room using a SONY Hi8 video camera in a puppet-robot arm. A SONY Hi8 video recorder-color videorecorder model 47000 with SONY videotape 7-12. The talks were presented on a SONY television monitor model CVM-180VA.

Materials

Determination of the Topic. Puppet-making was chosen for its appeal to all age groups. The teachers of the children under study agreed that all ages have expressed interest in this project. For this topic instructions in the step-by-step

UNIVERSITY OF MICHIGAN

CHAPTER II

METHOD

Subjects

Seventy-two elementary school children from Colfax Elementary School in North Carolina took part in the study. Twenty-four children from kindergarten, grade 3, and grade 6 were instructed by their teachers to go to an unused classroom for a special show on puppet-making. All children were of average intelligence or above as judged by their teachers and came from semi-rural, middle-class families. One week before the experiment the experimenter went into each class and gave a lesson on scaling of answers(see Appendix D).

Apparatus

Presentations were video-taped in a room using a SONY black and white studio-camera model ACV-4000A and a SONY tape-recorder-Color Videorecorder model AV 8650 with SONY videotape V-32. The talks were presented on a SONY television monitor model CVM-180VA.

Materials

Determination of the topic. Puppet-making was chosen for its appeal to all age groups. The teachers of the children under study agreed that all ages have expressed interest in this project. For this topic instructions in the step-by-step

construction of a puppet were obtained from the Sunday comics of the Greensboro Record. No props were used during the talk.

Selection of the speakers. Two adult speakers, one male and one female, presented the speech. The speakers were selected on the basis of their speaking voices and appearance. Both speakers were equally attractive, well-dressed, and had no speech problems. They volunteered their services for the study.

Scaling. During the lesson on scaling presented in each classroom and during the actual testing procedure, a series of faces, ranging from a large frown (1) up to a large smile (7) was provided as an aid in the scaling procedure.

Procedure

Recruitment. The principal of Colfax Elementary School volunteered the children in his school for use as subjects in this study. The cooperation of the individual teachers was obtained easily when it was explained that the children would miss no more than 20 minutes of class time.

Experimental design. The design of the study was a 3x2x2 factorial design with three variables--grade, sex of subject, and sex of speaker. Half of the male and female subjects from each grade saw and heard a female speaker and the other half saw and heard a male speaker. Each subject within the constraints of grade and sex was randomly assigned to a male or female speaker. Subjects from each grade were seen

alternately as it fit into the daily schedule of the school, so that subjects from each grade were tested on each day of testing. The dependent variables were ratings of the effectiveness of the speaker, ratings of the information content of the speech, interest in the topic, previous experience with puppets, and content recall of the presentations.

Subjects in all three grades were greeted by the female experimenter individually and were seated in an unused classroom with adequate light and ventilation. Subjects participated individually so that the only people present in the room were the subject and the experimenter. While the subject was being seated he/she was asked his/her name, age, and some questions about school or family to put him/her at ease. He/she was then told the instructions for the experiment (Appendix A). The subject was then shown a video-tape on puppet-making presented by either a male or a female speaker, which lasted approximately 3 minutes. After the presentation the video-tape unit was turned off so the screen was blank and the subject was verbally asked a series of questions (Appendix B). The questions included a rating on the effectiveness of the speaker, the information content of the message, and a probed recall of the steps and materials needed to make a puppet. The probed recall consisted of a list of a series of materials and necessary steps presented in a scrambled order along with distractor items. Each item was read to the subject who responded "yes" or "no" depending on whether or

not he/she felt that that item was presented in the speech. Subjects were then thanked for their participation in the experiment and sent back to the classroom with the name of the next child to be tested, and a request to send him or her to the experimental room.

Multivariate analysis of variance (sex of speaker x sex of subject x grade in school) was performed on the five dependent variables (recall score, effectiveness of the speaker, information content of the presentation, previous knowledge of the topic, and interest level in the topic after the presentation). The means for each dependent variable are presented in Table 1. These multivariate analyses of variance results are summarized in Table 2, and reveal that there was a significant main effect of grade (approx. $F(10, 114) = 5.88, p < .0001$). The canonical correlations showed that this significant main effect was due particularly to subjects' ratings of the speakers' effectiveness ($r = .84$), and to a lesser extent the subjects' reported interest in the topic ($r = .55$).

In order to ascertain where the differences in grade were occurring, a series of five univariate analyses of variance were performed. The effects of grade were looked at in relation to each dependent measure in turn. Tables 3-7 show that grade was a significant main effect for the recall score ($F(2, 60) = 3.09, p < .05$), the subjects' rating of speaker effectiveness ($F(2, 60) = 26.66, p < .0001$), and subjects' interest in the topic after viewing the presentation ($F(2, 60)$

CHAPTER III

RESULTS

A 2 x 2 x 3 multivariate analysis of variance (sex of speaker x sex of subject x grade in school) was performed on the five dependent variables (recall score, effectiveness of the speaker, information content of the presentation, previous knowledge of the topic, and interest level in the topic after the presentation). The means for each dependent variable are presented in Table 1. These multivariate analyses of variance results are summarized in Table 2, and reveal that there was a significant main effect of grade (approx. $F(10, 114) = 5.88, p < .0001$). The canonical correlation shows that this significant main effect was due particularly to subjects' ratings of the speakers' effectiveness ($r = .84$), and to a lesser extent the subjects' reported interest in the topic ($r = .55$).

In order to ascertain where the differences in grade were occurring, a series of five univariate analyses of variance were performed. The effects of grade were looked at in relation to each dependent measure in turn. Tables 3-7 show that grade was a significant main effect for the recall score ($F(2, 60) = 3.09, p < .05$), the subjects' rating of speaker effectiveness ($F(2, 60) = 26.66, p < .0001$), and subjects' interest in the topic after viewing the presentation ($F(2, 60)$

= 12.24, $p < .0001$). Scheffé post hoc analyses were conducted to discover the precise point of influence that grade was having for each of these variables.

The first post hoc analysis was performed on the recall score as it was related to grade. Results show a significant difference between sixth graders and the kindergarten subjects. Specifically, sixth graders recalled significantly more ($p < .01$) than the kindergarten subjects.

The second post hoc analysis was performed on the subjects' rating of speaker effectiveness as it related to grade. Results of this analysis show that sixth graders rated the speakers' effectiveness significantly lower ($p < .01$) than did either kindergarteners or third graders.

The third post hoc analysis was performed on the subjects' reported interest level in the topic after the presentation as this related to grade. The results of this analysis indicate that the sixth graders were significantly less interested ($p < .01$) in the topic than either the kindergarten or third grade subjects after the presentation.

Though not multivariately significant, the sex of the speaker had a significant effect ($F(1, 60) = 4.38, p < .05$) on the interest level of the subjects after the presentation. Scheffé post hoc analyses were performed to discover where specifically the sex of the speaker was having its effect. The results of these analyses reveal that the female speaker generated significantly less interest in the topic ($p < .05$) than did the male speaker for subjects across all grade levels.

The analysis of variance performed on the interest level of the subjects in the topic following the presentation also revealed a significant grade x sex of speaker interaction ($F(2, 60) = 3.25, p < .05$). A series of Scheffé post hoc analyses were performed in order to determine the specific effects of the interaction. Results of these post hoc analyses reveal that there were significant differences between the interest level of the sixth grade subjects as opposed to the kindergarten and third grade subjects, but only when the speaker was a female. More specifically, sixth grade subjects were significantly less interested in the topic when it was presented by a female speaker than both the kindergarten and third grade subjects ($p < .01$). There were no significant differences in interest levels when the speaker was a male. Looking at the data by grade, Scheffé post hoc tests reveal differences in interest level for sixth grade subjects in relation to sex of speaker which were highly significant ($p < .01$), such that the female speaker generated significantly less interest in the topic.

Although not multivariately significant, an analysis of variance was performed on the subjects' rating of the information content of the presentation and revealed a significant sex of subject x grade interaction ($F(2, 60) = 3.32, p < .05$). Scheffé post hoc analyses performed on this interaction show that there was a significant difference between third grade males and kindergarten males on the

ratings of information content. More specifically, third grade males rated the information content of the presentation significantly lower than did kindergarten males ($p < .05$). When the data are looked at by grade, post hoc tests reveal that third grade males also rated the information content of the presentation significantly lower than did third grade females ($p < .01$).

Correlation coefficients on the interrelationships between the five dependent variables reveal negligible correlations between all dependent variables except for the correlation between ratings of speaker effectiveness and reported interest level ($r = .43$). However, examination of the means suggested some interesting within cell relationships between the dependent variables. In order to look at these relationships more systematically, a series of Pearson product-moment correlations were performed using the raw data scores of the recall scores, information content ratings, and reported interest levels in the topic after presentation. The correlations are presented in Table 8. Only those correlations of $r = \pm .49$ or greater are discussed. The first correlations were performed using the data on sixth grade males who heard the male speaker. The correlation between the recall score and the reported interest levels for this group was $r = -.53$, indicating that as the interest level decreased, the recall score increased. The correlation between the recall score and interest level for sixth grade females who heard the male

speaker, on the other hand, was $r = +.59$, indicating that as the girls' interest level increased so too did their recall score. The correlation between the recall score and ratings on information content of the presentation was $r = +.57$ for sixth grade females listening to the male speaker. This result indicates that as ratings of information content increased for these girls, their recall scores also increased.

The relationship between these same variables was looked at next for the third grade subjects. The correlation between the recall score and the ratings of information content was $r = -.69$ for third grade males who listened to the male speaker, indicating that as the ratings of information content increased, recall scores decreased. The reverse relationship was revealed for third grade females who listened to the female speaker ($r = +.65$). This result indicates that as the third grade girls increased their recall scores, they also increased their ratings of information content, after listening to the female speaker.

Finally, the relationship between these same variables was looked at for the kindergarten subjects. The correlation between the recall scores and reported interest level was $r = +.54$ for kindergarten males listening to the male speaker, and $r = +.49$ for kindergarten females listening to the female speaker. These correlations indicate that as the recall scores increased the reported interest level increased for kindergarten males and females who heard the same-sexed speaker

give the presentation. The correlation between the recall score, and ratings of information content was $r = +.62$ for kindergarten females who listened to the female speaker. This result indicates that as the recall score increased the ratings of information content also increased.

Recent research (Gruher, 1974) has discovered that male speakers are rated as more effective and more informative by both male and female college students. The current study attempted to trace the origins of these differences to a specific age range. It was hypothesized that younger boys and girls (kindergarten) would attain more information from a female model than from a male model, while older boys and girls (grade 6) would attain more information from a male model. Mixed results were expected for third graders such that boys would learn more from a male model and girls would learn more from a female model. The results of this study did not entirely support several of the major hypotheses; however, there was a definite trend in the differences between the ratings of the speakers by males and females at the various grade levels.

The hypothesis predicting a developmental trend in recall with sixth graders (11 year olds) was supported. The hypothesis predicting a developmental trend with third graders (8 year olds) was partially supported. The hypothesis predicting a developmental trend with kindergarteners (5 year olds) received partial support. That is, differences in recall scores did appear. However,

CHAPTER IV

DISCUSSION

The purpose of this study was to discover the developmental aspects of the differential attention given to male and female speakers. Recent research (Gruber, 1976) has discovered that male speakers are rated as more effective and more informative by both male and female college students. The current study attempted to trace the origins of these differences to a specific age range. It was hypothesized that younger boys and girls (kindergarten) would attain more information from a female model than from a male model, while older boys and girls (grade 6) would attain more information from a male model. Mixed results were expected for third graders such that boys would learn more from a male model and girls would learn more from a female model. The results of this study did not entirely support several of the major hypotheses; however, there was a definite trend in the differences between the ratings of the speakers by males and females of the various grade levels.

The hypothesis predicting a developmental trend in recall with sixth graders (11 year olds) recalling more than third graders (8 year olds), and third graders recalling more than kindergarteners (5 year olds) received partial support. That is, differences in recall scores did appear. However,

only the difference between kindergarten and sixth grade was significant, with sixth graders recalling more than kindergarteners.

There was also a developmental trend for the ratings of speaker effectiveness and reported interest level in the topic after the presentation. Sixth graders rated the speaker effectiveness and their interest level in the topic significantly lower than either kindergarten or third grade subjects. This result can be explained by sixth graders possibly becoming more critical as they approach adolescence due to their greater amount of experience with adults. They begin to lose interest in puppet-making because it is too childish for them, and they have had more experience with adults so their ratings of speaker effectiveness are lower. There is also the possibility that the younger children were giving high ratings of interest and effectiveness due to the demand characteristics of the situation, whereas the sixth graders were less responsive to the demand characteristics and were asserting their independence. Children up to the ages of eight or nine are allowed to express their dependency. Dependence on adults would make these children more responsive to demand characteristics, because they would not want to lose the attention of the adult (in this case the experimenter). By the age of ten there is a strong pressure put on children, especially boys, to become more independent and depend less on the attention of adults. This could cause them to be less

responsive to demand characteristics (Mussen, Conger, & Kagan, 1969). However, neither of these explanations is adequate in explaining the finding that only the female speaker was rated as generating less interest for sixth graders. Interest ratings of the sixth graders after hearing the male speaker were not significantly different from the ratings of the kindergarten and third grade subjects, whereas interest ratings of the sixth graders after hearing the female speaker were significantly lower than the third grade and kindergarten subjects. This suggests that the hypothesized occurrence of a sex bias has begun to appear by the sixth grade. That is, sixth graders have reached the point in their development where they resemble adult judges, who find that almost anything the male says is interesting, whereas anything the female says is not so interesting. These results support the hypotheses that both male and female sixth graders would view the male speaker as more interesting. The hypothesized effects for recall and speaker effectiveness ratings were not supported, in that there were no differences in recall and effectiveness ratings for male and female speakers. These recall results can possibly be explained for the sixth graders by the fact that they have undergone six years of teaching by a female teacher and have learned from experience that even if they do not find the topic particularly interesting, they would be best off if they remembered what was said. The lack of differences in ratings of speaker effectiveness between male and

female speakers by sixth graders could be evidence that the sixth graders' development of sex bias is inconsistent and not yet complete.

Some differences in ratings were found for the younger children, although not those results which were predicted. Third grade males were found to have significantly lower overall ratings of the information content of the presentation than both kindergarten males and third grade females regardless of the sex of the speaker. This result was not found in the multivariate analysis, but only in the univariate analysis of variance. However, it is possible that the effect was weakened in the multivariate analysis because of the combinations of the dependent variables used in an analysis of this sort. The role of the sex of the experimenter could be contributing to these results. Burton, Allinsmith, and Maccoby (1966) found that four year olds showed a crossed-sex effect on conformity, with males conforming more when exposed to a female experimenter. This effect could persist through kindergarten causing the kindergarten males to rate the information content high simply because they were exposed to a female experimenter. By the third grade the males could have taken a swing in the the opposite direction, rating the information content lower because of exposure to the female experimenter. However, if this was the case, one would expect the effect to permeate all ratings and not confine itself to information content. A more plausible explanation is that third grade

males are more knowledgeable of puppet-making and thereby rate the information content of the lecture on this topic as less informative. Though there were no significant differences in ratings of previous knowledge of the topic, there was only a negligible correlation between ratings of previous knowledge of the topic and ratings of information content, making this explanation viable. A third possible explanation for these results is that the female third graders were responding more to the demand characteristics of the situation and the sex of the experimenter, thereby raising their scores significantly above the third grade males'. The third grade males could have rated the information content lower than did the kindergarten males because third graders are more critical than kindergarteners or perhaps because the kindergarten males were also responding to the female experimenter.

In summary, it was found that sixth graders recalled significantly more than kindergarten subjects. Sixth graders also rated the speaker's effectiveness significantly lower and were less interested in the topic after the presentation than either kindergarteners or third graders. However, the lower interest level of the sixth graders only occurred when the speaker was a female. The male speaker generated equal interest levels across grade levels. Third grade males rated the information content of the presentation significantly lower than either third grade females or kindergarten males.

There was a tendency for subjects to rate speaker effectiveness and reported interest level in the same manner. This result is to be expected because speakers viewed as generally effective generate more interest in their topic. The whole question of effectiveness is usually dealt with by some reference to how much reaction (interest) the speaker got from the audience. Therefore, the correlation between speaker effectiveness and reported interest level does not come as a surprise.

Although all of the major hypotheses of this study were not directly supported by the multivariate or univariate analyses of variance, some support was gained from a series of correlations performed on the raw data. In female sixth graders who heard the male speaker there was a positive correlation between their interest level and their recall score so that as their interest level increased, so did their recall scores. This finding is to be expected, since people tend to remember that which interests them. There was also a positive correlation between sixth grade females' ratings of information content of the presentation and their recall scores after hearing the male speaker. These two results are consistent with each other, so that as the females rated the male speaker as more informative and more interesting, their recall scores increased. This same finding held true for third grade females after hearing the female speaker. That is, as their ratings of information content increased,

their recall scores increased. A consistent pattern in the predicted direction was established, since kindergarten females also showed this positive relationship between recall score and ratings of interest level and information content after hearing the female speaker. Thus, the hypotheses concerning the females in all three grade levels were supported by these correlations. That is, the kindergarten and third grade females responded in a positive direction for the female speaker, while the sixth grade females responded in a positive direction for the male speaker. It would appear from these correlations that females pay attention to or identify with female speakers through the third grade, and that the change to identification with, or increased respect for male speakers takes place somewhere between the third and sixth grades.

For male subjects the effects are not so consistent with the theory. Sixth grade males who heard the male speaker showed a negative correlation between their recall scores and their reported interest levels, so that as their recall scores decreased, their interest levels increased. It is possible that sixth grade males paid more attention to the male speaker and found him more interesting merely because he was a male, while not necessarily remembering more of what he said. In this manner they would be responding to the sex role bias of perceiving the male as more interesting than the female. The relationship between recall score and ratings of information content for the third grade males and females who heard the

male speaker also had a negative correlation. That is, as their recall scores increased, their ratings of information content decreased, and vice versa. It is possible that third graders were so busy paying attention to the male speaker and trying to remember what he had to say, that they misjudged the information content of the talk. It is also possible that they rated the male as being more informative because he was a male, in spite of the fact that they could not remember all that he had said in the talk. Kindergarten males showed a positive relationship between their recall scores and their reported interest levels, after hearing the male speaker. That is, as their recall scores increased so did their ratings of interest level. In combining the results of all the male subjects a developmental pattern again emerges. Kindergarten males, while rating the male and female speakers equally on information content and interest level, experienced higher recall after hearing the male speaker. Third grade males increased their recall scores after hearing the male speaker, while decreasing their interest levels. Sixth grade males, on the other hand, increased their interest ratings after listening to the male speaker, while their recall scores decreased or remained the same. These results would indicate that as early as kindergarten, the male child finds the male speaker more informative, while third graders are not so firm in their choice of the male speaker over the female speaker, perhaps because of their continuing exposure to female teachers

and the respect these particular subjects had for their female teachers. The sixth grade males showed a pronounced preference for the male speaker as indicated by their interest levels. Thus, by the sixth grade male subjects find a male speaker both more informative and generating more interest in a topic than a female speaker.

Some implications of these results could produce changes in the education of teachers. At present it is common practice among educators to place female teachers in the lower grades to provide nurturance (Janis, Mahl, Kagan, and Holt, 1969). A logical interpretation of this is to say that kindergarten children, both male and female, need a female teacher to provide for their emotional and intellectual needs. However, the results of this study, though not as strong as expected, would indicate that the optimal situation in a kindergarten class would be to have both a male and female teacher, since males at this age already tend to find males more interesting and learn more from them than from females. Janis, et al (1969) suggest that children in the elementary schools should be exposed to male teachers. They feel that this might lead to less resistance by boys to the school situation, that boys would be more concerned with acceptance by the teacher, and be more likely to identify with him. With male teachers children might also be more likely to associate the act of acquiring knowledge with masculinity. In the present study female five year olds, on the other hand, did not make much of a distinction between male and female adults in recall,

information content, or interest level . This is also true for third grade males and females, who make little distinction in their ratings between male and female adults. Sixth graders, on the other hand, make such a large distinction in preferring males over females, that educators might be wise in determining that teachers of sixth graders and above should be male. Although the amount learned did not differ between male and female speakers, the interest level generated by the male speaker was considerably higher than that of the female speaker. Since many teachers have as one of their major goals to inspire their students with an interest in learning, it is clear from these results that one way this could be done would be to have male teachers in the sixth grade. However, a more viable alternative would be to work on eliminating sex role stereotypes at an early age. There is some evidence that this alternative is possible. Best, Smith, Graves, and Williams (1975) succeeded in altering the racial biases of preschool children using operant learning procedures via a teaching machine. The program lasted six days and follow-up measure one year later showed continued reductions in racial bias, although there was a tendency for the biases to be reestablished. Sex biases and stereotypes are more pervasive in our society than racial biases, but there is also some hope for changing these stereotypes. Kalunian, Lopatich, and Cymerman (1975) provide a program for changing sex-role stereotypes through career development. This

program consists of three activities: 1) Have children divide a list of 20 occupations into male and female occupations, then discuss the choices; 2) Divide the girls and boys into separate groups and have them draw up a list of things that one sex can do which the other cannot, then discuss their choices and their reasoning behind them; and 3) Have the children draw the perfect person engaged in some occupation, then discuss all aspects of the drawings. Counselors are also urged to encourage the children to pursue all goals, regardless of their male-female orientation. Another possibility in changing the sex-role stereotypes of young children is to remove all sexual biases from the classroom. This includes reading matter, toys and games, and in particular, the teacher. Williams, Bennett, and Best (1975) devised a technique known as the Sex Stereotype Measure and administered it to kindergarten, second, and fourth graders. Their principal findings were: (a) Knowledge of sex stereotypes appear to develop in a similar manner among both boys and girls. (b) Kindergarten children show an appreciable degree of knowledge of adult sex stereotypes. (c) This knowledge increases to the second grade level but shows no further increase during the next two years. (d) At the second and fourth grade levels, the expression of sex stereotypes appears to be facilitated by a male examiner. The implication of these findings is that the child's earliest learning regarding sex stereotypes occur during the preschool period. and that these are further

increased by experiences occurring during the first year or two of school. This would indicate that the first two years of school should be the primary targets for the reduction of sex-role stereotypes. Using a combination of teacher example, operant learning techniques, education through discussion, and use of bias-free materials may well prove effective in reducing the sex-role stereotypes.

Before these changes in education are made, much more research into this area is necessary. The present study, while making some contributions, did not result in the strong effects that were expected. Stronger stereotype effects may have been found had a male examiner been used (Williams, Bennett, & Best, 1975). In order to improve future research and provide support for the findings of the current study, it is recommended that several changes be made in the design. First, instead of using a topic relatively unrelated to school success and constant across all grade levels, it is recommended that an academic topic be used, which is geared toward each grade level individually. For example, a new concept in mathematics or science, which is pertinent to the present level of each grade, could be introduced to half the students in each grade by a male teacher and to half the students by a female teacher. It would be necessary to block the children into groups in this case, which could be done on the basis of the children's grades for the previous term. Measures could then be taken on interest levels, information content,

teacher effectiveness, and accuracy in the use of the concept, in order to discover differences between the male and female teachers. A second recommendation is to include a generalization measure of interest. That is, instead of merely rating the interest level verbally, the children could be given a chance after the lesson to do further work with the new concept or the same teacher or to do something unrelated. This would provide educators with concrete evidence of the differences or lack of differences between male and female teachers at various grade levels. Use of several different male and female teachers would add to the significance of the results. The effect is a real one--differences do exist between male and female ratings of other males and females--and it is up to researchers to discover the precise onset and implications for the educational profession.

TABLE 1
Cell Means

Speaker	Subject	Grade	A	B	C	D	E
Male	Male	K	28.67	6.83	6.67	4.00	6.17
Male	Male	3	29.67	6.67	5.67	2.84	6.83
Male	Male	6	31.67	5.67	6.50	3.17	5.50
Male	Female	K	27.33	6.50	6.00	3.33	6.67
Male	Female	3	30.50	6.67	6.67	2.50	6.67
Male	Female	6	26.83	5.00	6.00	2.67	6.33
Female	Male	K	25.33	6.50	6.50	3.83	6.00
Female	Male	3	27.83	6.33	5.33	3.17	6.50
Female	Male	6	31.50	5.00	5.17	3.50	3.83
Female	Female	K	28.17	6.83	5.83	4.67	6.50
Female	Female	3	27.83	6.83	6.67	3.00	7.00
Female	Female	6	29.50	4.83	5.83	2.50	4.83

A = Recall score (maximum = 46)

B = Effectiveness of speaker (maximum = 7)

C = Information content (maximum = 7)

D = Previous knowledge of the topic (maximum = 7)

E = Interest level in the topic before the presentation
(maximum = 7)

TABLE 2

Multivariate Analysis of Variance on the Five Dependent Variables: Recall Score, Ratings of Speaker Effectiveness, Ratings of Information Content of the Presentation, Ratings of Previous Knowledge of the Topic, and Reported Interest Level in the Topic after the Presentation.

Source	Approximate		df
	F	†	
Sex of Speaker	1.17		5,56
Sex of Subject	1.02		5,56
Grade	5.88**		10,114
Sex of Speaker x Sex of Subject	.77		5,56
Sex of Speaker x Grade	1.05		10,114
Sex of Subject x Grade	1.68		10,114
Sex of Speaker x Sex of Subject x Grade	.37		10,114

** = p .01

† Based on Pillai's Trace

TABLE 3
 2 x 2 x 3 ANOVA for the Dependent Measure
 Recall Score

Source	df	MS	F
Sex of Speaker	1	10.13	.82
Sex of Subject	1	10.13	.82
Grade	2	38.39	3.09**
Sex of Speaker x Sex of Subject	1	19.01	1.53
Sex of Speaker x Grade	2	19.50	1.57
Sex of Subject x Grade	2	32.16	2.59
Sex of Speaker x Sex of Subject x Grade	2	10.50	.81
Error	60	12.10	

** = $p < .01$

TABLE 4

2 x 2 x 3 ANOVA for the Dependent Measure
Effectiveness of Speaker

Source	df	MS	F
Sex of Speaker	1	.50	.72
Sex of Subject	1	.06	.08
Grade	2	18.51	26.66**
Sex of Speaker x Sex of Subject	1	1.39	2.00
Sex of Speaker x Grade	2	.29	.42
Sex of Subject x Grade	2	.68	.98
Sex of Speaker x Sex of Subject x Grade	2	.01	.02
Error	60	.69	

** = p .01

TABLE 5

2 x 2 x 3 ANOVA for the Dependent Measure
Information Content of the Presentation

Source	df	MS	F
Sex of Speaker	1	2.35	1.53
Sex of Subject	1	.68	.44
Grade	2	.85	.55
Sex of Speaker x Sex of Subject	1	1.13	.73
Sex of Speaker x Grade	2	.68	.44
Sex of Subject x Grade	2	5.09	3.32*
Sex of Speaker x Sex of Subject x Grade	2	.54	.35
Error	60	1.54	

* = p .05

TABLE 6

2 x 2 x 3 ANOVA for the Dependent Measure Previous
Knowledge of the Topic

Source	df	MS	F
Sex of Speaker	1	2.35	.66
Sex of Subject	1	1.68	.48
Grade	2	8.72	2.47
Sex of Speaker x Sex of Subject	1	.68	.19
Sex of Speaker x Grade	2	.39	.11
Sex of Subject x Grade	2	1.05	.30
Sex of Speaker x Sex of Subject x Grade	2	1.55	.44
Error	60	3.53	

TABLE 7

2 x 2 x 3 ANOVA for the Dependent Measure Interest
Level in the Topic after the Presentation

Source	df	MS	F
Sex of Speaker	1	6.13	4.38*
Sex of Subject	1	5.01	3.59
Grade	2	17.09	12.24**
Sex of Speaker x Sex of Subject	1	.35	.25
Sex of Speaker x Grade	2	4.54	3.25*
Sex of Subject x Grade	2	.84	.61
Sex of Speaker x Sex of Subject x Grade	2	.18	.13
Error	60	1.39	

* = p .05

** = p .01

TABLE 8
Correlation of Raw Data

Correlation	Sex of Speaker	Sex of Subject	Grade	r=
Recall score with interest level	Male	Male	6	-.53
	Female	Male	6	+.36
	Male	Female	6	+.59
	Female	Female	6	-.19
	Male	Male	3	-.05
	Female	Male	3	+.10
	Male	Female	3	+.06
	Female	Female	3	0.00
	Male	Male	K	+.54
	Female	Male	K	+.11
	Male	Female	K	+.13
	Female	Female	K	+.49
Recall score with information content	Male	Male	6	+.32
	Female	Male	6	-.41
	Male	Female	6	+.57
	Female	Female	6	+.28
	Male	Male	3	-.69
	Female	Male	3	-.45
	Male	Female	3	+.06
	Female	Female	3	0.00
	Male	Female	K	+.43
	Female	Male	K	0.00
	Male	Female	K	-.11
	Female	Female	K	+.62

BIBLIOGRAPHY

- Banikiotes, F.G., Montgomery, A.A., & Banikiotes, F.G. Male and female auditory reinforcement of infant vocalizations. Developmental Psychology, 1972, 6, 476-81.
- Best, D., Smith, S., Graves, D., & Williams, J. The modification of racial bias in preschool children. Journal of Experimental Psychology, 1975, 20, 193-205.
- Biber, H., Miller, L.B., & Dyer, J.L. Feminization in preschool. Developmental Psychology, 1972, 7, 86.
- Broverman, I.K., Vogel, S.R., Broverman, D.M., Clarkson, F.E., & Rosencrantz, P.S. Sex-role stereotypes: A current appraisal. Journal of Social Issues, 1972, 28, 59-78.
- Bugenthal, D.E., Kaswan, J.W., Love, L.R., & Fox, M.M. Child vs. adult perception of evaluative messages in verbal, vocal, and visual channels. Developmental Psychology, 1970, 2, 367-75.
- Burton, R.V., Allinsmith, W., & Maccoby, E.E. Resistance to temptation in relation to sex of child, sex of experimenter, and withdrawal of attention. Journal of Personality and Social Psychology, 1966, 3, 253-58.
- Goldberg, P.A. Are women prejudiced against women? Transaction, April 1968, 28-30.
- Greenberger, E. & Sorensen, A. Interpersonal choices among a junior high school faculty. Sociology of Education, 1970, 44, 198-216.
- Gruber, K. When women talk, who's listening: The effects of sex of the speaker on listening comprehension. Unpublished Masters Thesis, 1976.
- Grusec, J.E. & Brinker, D.B. Reinforcement for imitation as a social learning determinant with implications for sex-role development. Journal of Pers. and Social Psych., 1972, 21, 149-58.
- Hawley, P. What women think men think: Does it affect their career choice? Journal of Counseling Psychology, 1971, 18, 193-99.

- Hawley, P. Perceptions of male models of femininity related to career choice. Journal of Counseling Psychology, 1972, 19, 308-13.
- Janis, I., Mahl, G., Kagan, J., & Holt, R. Personality: Dynamics, Development, and Assessment. Harcourt, Brace, & World, Inc. 1969. pp. 524-25.
- Kalunian, P., Lopatich, G., & Cymerman, S. Changing sex role stereotypes through career development. Psychology in the Schools, 1975, 12, 230-33.
- Kaplan, R., & Goldman, R.D. Stereotypes of college students toward the average man's and woman's attitudes toward women. Journal of Counseling Psychology, 1973, 20, 459-62.
- Mussen, P., Conger, J., & Kagan, J. Child Development and Personality. New York: 1969. pp622-35.
- Pheterson, G.I., Kiesler, S.B., & Goldberg, P.A. Evaluation of the performance of women as a function of their sex, achievement, and personal history. Journal of Personality and Social Psychology, 1971, 19, 114-18.
- Rosencrantz, P.S., Vogel, S.R., Bee, H., Broverman, I.K., and Broverman, D.M. Sex-role stereotypes and self-concepts in college students. Journal of Consulting and Clinical Psychology, 1968, 32, 287-95.
- Williams, J., Bennett, S., & Bert, D. Awareness and expression of sex stereotypes in young children. Developmental Psychology, 1975, 11, 635-42.

Appendix A

Instructions

"I'm going to show you a short show on this television here. I want you to listen to it very carefully. Do you have any questions before we start? (Answer any questions they may have.) O.K. Now I'm going to start the show and remember to watch and listen very carefully."

(video tape shown)

"Now I'm going to ask you some questions about what you heard the _____ (man or lady) say on the T.V. I want you to rate your answers to the next few questions on a scale of 1 to 7 with 1 being the worst and 7 being the best. So if you think the speaker did a very good job rate him 7, not quite that good a 6, medium good a 4, down to very bad, which would be a 1. Do you understand?" (Repeat if necessary.)
(Continue in the same manner for questions 3, 4, and 5.)

Appendix B

Questions

1. Now I'm going to read you a list of things and I want you to tell me whether or not they were mentioned on the T.V. show as being important in making puppets.

(Would you need... when making sock puppets?)

(Did the man (lady) say ... for the sock puppets?)

2. Do you think the speaker did a good job?

1	2	3	4	5	6	7
not very						very
good						good

3. Do you think the _____ (man or lady) on T.V. taught you a whole lot about making puppets or just a little bit?

1	2	3	4	5	6	7
little						whole
bit						lot

4. How much did you know about making puppets before you saw the T.V. show?

1	2	3	4	5	6	7
little						whole
bit						lot

5. How interested are you in learning how to make puppets?

1	2	3	4	5	6	7
not very						very
interested						interested

Appendix B

Questionnaire Checklist

- 1. Two of the puppets had the heel of the sock on top.
- 2. Bucket
- 3. Glue
- 4. Scissors
- 5. Two of the puppets have fur.
- 6. Dog Face was one of the puppets.
- 7. Gummed labels
- 8. A sock for each puppet.
- 9. Slithery Snake was one of the puppets.
- 10. These puppets don't need eyes.
- 11. Funny Nose was one of the puppets.
- 12. When making a snake, put the heel of the sock on top.
- 13. The socks used should be Daddy's new ones.
- 14. Moose was one of the puppets.
- 15. Push your thumb in the heel so he has a mouth.
- 16. Fur fabric
- 17. Newspaper
- 18. Sponge
- 19. Use a sponge cut like an apple for the nose.
- 20. Flour
- 21. Needle and thread
- 22. 2 rubber bands
- 23. Use a sponge cut like a pear for his nose.
- 24. Scarf

- _____ 25. Tie a scarf around the head to make an old lady.
- _____ 26. Ping pong balls
- _____ 27. Yarn
- _____ 28. Magic marker or crayon
- _____ 29. Little dresses
- _____ 30. Fat Nose was one of the puppets.
- _____ 31. Sponges are used for the ears.
- _____ 32. Water
- _____ 33. Paper mache'
- _____ 34. Ping pong balls can be used for the eyes.
- _____ 35. Tin foil
- _____ 36. Put gummed labels on for eyes.
- _____ 37. Yarn is used for hair.
- _____ 38. Put rubber bands around two fingers to make ears.
- _____ 39. Two hands are needed to make each puppet move.
- _____ 40. Slimy Snake was one of the puppets.
- _____ 41. Scrunched paper
- _____ 42. Push paper inside the rubber bands.
- _____ 43. Give Funny Nose fur hair.
- _____ 44. Put your arm on the table and make the snake wiggle.
- _____ 45. We can only make boy puppets.
- _____ 46. 4 rubber bands.

Appendix C

Script

Hi! I'm going to talk to you about making puppets. There are several different kinds of puppets that we could talk about, like marionettes or paper maché, but these use materials that are too messy. For example, some puppets need flour and water to make paste. Some need tin foil rolled up for eyes and noses, newspapers in case you spill things, yarn for hair, needle and thread to make little dresses, and even a bucket to mix the paste in. Now these things, as I said, can get a little messy, and the puppets need a few days to dry so you can't play with them right away. The puppets I want to tell you about are not messy and you can play with them as soon as you finish making them. They are called sock puppets because the body is made from a sock. Now it is easy to find a sock at your house, but be careful that you don't use one of Daddy's new socks.

The first puppet I'm going to talk about is very simple. You just put a sock over your hand and pull it up as high as it will go. The heel of the sock should go on the bottom for this puppet. After you have the sock on you should mark where you want the eyes to be. For eyes you can use either gummed labels that look like eyes or you can color black circles on 2 ping pong balls with a magic marker or crayon. Then glue them on where you think the eyes should go. Now your puppet is all finished except for needing a name. Since he looks

like a snake let's call him Slithery Snake. To make him move like a snake you can put your arm on the table and make him wiggle.

The second puppet I'm going to tell you about is a little bit harder to make. First you put the sock over your hand and arm. This time the heel goes on top. Next you poke two fingers up just behind the heel. These fingers should be your first finger and your little finger. After you have your fingers sticking up you take some rubber bands and wind one around each finger that is sticking up. Then you take your fingers away and stuff the rubber band ears with paper. Now you take more scrunched up paper and stuff the rest of the sock in front of the ears with it. Last of all put gummed labels where you think his eyes look best. This puppet's ears aren't big enough to make him look like a Dog Face puppet so let's call him a moose.

The third and last puppet I'm going to tell you about has hair and a big fat nose. For this puppet put your hand and arm inside the sock. Now push your thumb in the heel so that it pokes out under the foot of the sock. This makes a mouth. Take your other hand and push in the front of the sock to make a hole. Use a scissors to cut a sponge into a pear shape and glue it into the hole so it looke like an apple nose. Now take a piece of fur fabric and glue it on his head for hair. Next take gummed labels or ping pong balls and give him eyes. If you want it to look like a girl you can tie a

scarf over the head and turn him into an old lady. Since this puppet has such a fat nose we'll call him Funny Nose.

That's all the puppets that I'm going to talk about now. Now you're ready to answer some questions on making puppets.

Approximately one week prior to the beginning of the experiment each class from which children were used received the following lesson or a class variation of it adapted to the age of the children.

"We all know that we like some things and don't like other things. What we're going to do today is decide how much we like or don't like something and give it a number. We're going to use the numbers 1, 2, 3, 4, 5, 6, and 7. To help you remember how we use the numbers I've made up a chart with faces to show us what each number means. One has a big frown, two's frown is smaller, three has a little frown, four has a straight line because he doesn't care one way or the other, five has a little smile, six has a bigger smile, and seven has a great big smile. So one would mean that we don't like it very much, two that we don't like it, three that we don't care, four that we like it a little, five that we like it pretty much, and seven that we love it. Does everyone understand? (allow and answer any questions) Now let's try rating some things by giving them numbers. Do you like chocolate ice cream? (show it on chart) How would you rate chocolate ice cream, three? (ask for other ideas children). Now who doesn't like chocolate ice cream? (ask

APPENDIX D

Scaling Lesson

Approximately one week prior to the beginning of the experiment each class from which children were used received the following lesson or a close variation of it adapted to the age of the children.

"We all know that we like some things and don't like other things. What we're going to do today is decide how much we like or don't like something and give it a number. We're going to use the numbers 1,2,3,4,5,6, and 7. To help you remember how we use the numbers I've made up a chart with faces to show us what each number means. One has a big frown, two's frown is smaller, three just has a little frown, four has a straight line because he doesn't care one way or the other, five has a little smile, six has a bigger smile, and seven has a great big smile. So one would mean that we hate it, two would mean that we dislike it very much, three that we don't like it, four that we don't care, five that we like it a little, six that we like it pretty much, and seven that we love it. Does everyone understand? (allow and answer any questions). Now let's try rating some things by giving them numbers. Who in here likes chocolate ice cream? (hands go up) O.K. What would you rate chocolate ice cream, then? (call on individual children). Now who doesn't like chocolate ice cream? (call

on individuals and after they say a number ask them what that number means--continue in this manner for any type of item-- e.g. school, science, math, summer, going home, homework, colors, lunch time, spinach, candy, etc.--until everyone has answered at least once and applied and explained the numbers correctly.)"

As a check on the children's interest in the chosen topic, puppet-making was also rated along with everything else. All grades showed some variation in interest ratings for this subject, but the concensus of every class was that puppet-making received high ratings.

After the rating lesson each class was told that some of them would be taking part in an experiment on making puppets, and told that they had only to watch a T.V. show and answer some questions about it. The fact that only some of the children from each class would be used and not everyone would participate was stressed so that those children with lower than average abilities would not feel discriminated against. The children were then thanked and were reminded that some would be sent for the following week. The entire lesson usually took no more than 15 minutes.