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ABSTRACT

Recent research indicates that boys read as well as girls if given high-interest material but read more poorly if given low-interest material. This study investigated possible factors contributing to the facilitating effect of interest of boys. Two experiments were performed to learn whether high-interest topics are associated with traditionally masculine themes for boys and feminine themes for girls. Another experiment examined whether the effect of interest could be due to greater familiarity with vocabulary on high-interest material. Finally, the long-term instructional benefits of a high-interest reading program were investigated. Results of the first two experiments indicated that boys' interests in topics were strongly correlated with independent ratings of masculinity, while girls' interests were only moderately correlated with femininity. Furthermore, sex-typing accounted for much of the stability of boys' interests across grade level and none of the stability of girls' interests. The third experiment tended to suggest that interest level had no facilitating effect when vocabulary content was controlled across interest level. The data suggest potential benefits of high-interest classroom instruction. (Author/TS)

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FINAL REPORT

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EFFECT OF INTEREST IN MATERIAL ON
SEX DIFFERENCES IN READING COMPREHENSION

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JUNE 25, 1975

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ABSTRACT

Recent research indicates that boys read as well as girls if given high-interest material but read more poorly if given low-interest material. The current research investigated possible factors contributing to the facilitating effect of interest of boys. Two experiments were performed to learn whether high-interest topics are associated with traditionally masculine themes for boys and feminine themes for girls. Through its association with masculine themes high-interest material might overcome boys' perception of reading as sex-inappropriate. Another experiment examined whether the effect of interest could be due to greater familiarity with vocabulary on high-interest material. Finally, in a pilot study, the long-term instructional benefits of a high-interest reading program were investigated.

Results of the first two experiments indicated that boys' interests in topics were strongly correlated with independent ratings of masculinity while girls interests were only moderately correlated with femininity. Furthermore, sex-typing accounted for much of the stability of boys' interests across-grade level and none of the stability of girls' interests. The third experiment tended to suggest that interest level had no facilitating effect when vocabulary content was controlled across interest level. Methodological issues, however, deserve attention before confident inferences can be drawn. Finally, data from the pilot reading program study, while preliminary, are suggestive of potential benefits of high-interest classroom instruction.

PREFACE

The research reported here was conducted with the support and cooperation of the Champaign, Illinois, Urbana, Illinois and St. Joseph, Illinois public schools. Richard Markell collaborated on the research reported in Chapter 2 and Louise Singleton collaborated on the research reported in Chapter 4. Sally Shores is the fifth grade teacher who helped to pilot the high-interest reading program.

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interest from one group to create or select reading material for another. This procedure, while having advantages over the former non-independent assessment, contributes error to the analysis since interests of many children in the latter group may differ from normative data based on the first group.

A recent study by Asher and Markell (1974) sought to overcome these problems by assessing interests individually for each child and independently of the reading comprehension task. In order to assess interests a set of 25 color slides were made representing a range of topics. Fifth grade children rated each picture on a 1-7 scale. The low end of the scale indicated lack of interest and the high end indicated strong interest.

Based on these data each child's three highest and three lowest interest areas were identified. To assess comprehension each child was given, one week later, a set of six paragraphs three of which corresponded to the three highest interest picture ratings and three to lowest interest ratings. The paragraphs were presented in cloze format with every fifth word deleted. The child's task was to read each paragraph and attempt to correctly supply the missing words. The cloze procedure was used since it correlates highly with standardized achievement tests (Bormuth, 1967, 1968; Rankin and Culhane, 1969). Furthermore, the clearly specifiable rules for creating a cloze passage eliminate the subjectivity and arbitrariness inherent in many other approaches to item construction.

Both the assessment of children's interests and of their reading comprehension were done in the classroom. A different person administered each so that the connection between the two test sessions would go unnoticed by the children. The results of the experiment indicated that both boys and girls preferred to read more about the high-interest material. Thus, the picture assessment technique appears to be valid since it predicts what children will enjoy reading. The results on reading comprehension indicated significant sex and interest effects. Girls read better than boys and children comprehended more of high- than low-interest material. Most important, there was an interaction of sex of student and interest level. The effect of interest was more pronounced for boys than girls. Boys read significantly better on high than low-interest material while the effect was negligible and non-significant on the high-interest material.

These results are important insofar as they suggest that the motivating effect of interest can overcome what might have appeared to be a cognitive deficit. The interaction of sex of student and interest level of the material indicates that previous generalizations about boys poorer reading abilities may be based on performance obtained under low-interest assessment conditions.

Project Objectives

The major objective of the current project was to learn more about the processes that contribute to boys' better comprehension of high-interest material. There is evidence that boys view reading as a "feminine" or sex-inappropriate activity (Kagan, 1964; Stein and Smithells, 1969). There is also evidence that boys hold more negative attitudes to reading (Neale, Gill, and Tismer, 1970). One explanation of the effect of high-interest material is that by association with traditionally "masculine" themes the material overcomes boys' anti-reading bias. The studies reported in Chapter 2 address this issue.

Another possibility is that children comprehend more of high-interest material because they are more familiar with the vocabulary. For example, a child who is interested in sports might know more sports-related terminology than a child who is not interested in sports. If there is a differential familiarity effect associated with high-interest material, the effect could be pronounced for boys. It has been suggested (e.g., Furness, 1963) that boys read less widely than girls. This could result in boys showing a larger difference in performance between high- and low-interest material. The experiment reported in Chapter 3 examines this familiarity with vocabulary explanation.

A second objective of the current project was to make a preliminary assessment of the impact of a high-interest classroom reading program on boys' and girls' reading performance. It is conceivable that the effect of interest is transitory and does not transfer to a year long reading program. Chapter 4 presents preliminary research relevant to this issue.

CHAPTER TWO

THE RELATIONSHIP OF SEX-TYPING TO CHILDREN'S INTERESTS

This research, conducted in collaboration with Richard Markell, examined the extent to which children's interests correlate with traditional sex-role standards. If boys' high-interest reading performance is motivated by association of reading material with "masculine" topics, then there should be a high correlation between masculine sex-typing of topics and boys' interests in those topics.

Previous studies of children's interests suggest a relationship between interests and sex-role standards (Amatora, 1960; Bledsoe & Brown, 1965; Jersild & Tasch, 1949; Tyler, 1964). For example, boys tend to be interested in areas such as sports and mechanics while girls express interest in artistic activity, homemaking, and quiet play. Based on findings such as these, Tyler (1964) and others have inferred that interests are highly sex-typed. This inference can be best tested by obtaining ratings of the sex-typing of a range of topics and then correlating these ratings with children's interest in these topics. The sex-typing ratings should ideally be made not by the experimenter but by independent raters who are unaware of the sex-typing and interest hypothesis. Previous studies have typically not used independent judges nor have they sampled throughout a wide range of interests.

In the present research data were gathered on boys' and girls' interests in each of the pictures used by Asher and Markell (1974). In addition, independent ratings of the "masculinity" and "femininity" of these topics were obtained from children and adults. With these ratings an evaluation was made of the extent to which interests and sex-typing are correlated for boys and girls. Two studies were conducted. The first examined the relationship of interest and sex-typing among fifth-grade children. The second study, a partial replication and extension, included fifth- and third-grade children and provided an estimate of the extent to which sex-typing accounts for the stability of interests across grade level.

Experiment 1

Method

Subjects. The subjects for this study were 141 fifth-grade students, 71 girls and 70 boys, from the Champaign, Illinois Public Schools.

Materials. Twenty-five photographic slides used by Asher and Markell (1974) were used for the interest and sex-typing assessment.

Each picture corresponded to a single topic. The picture topics are listed below:

- | | | |
|-----------------------|------------------|----------------------|
| 1. Forest | 9. Butterflies | 17. Map |
| 2. Jet Airplane | 10. Marionettes | 18. Painting |
| 3. Priest | 11. Monkey | 19. Circus |
| 4. Dog | 12. Flowers | 20. Race Cars |
| 5. Astronaut | 13. Bullfighting | 21. Canoe |
| 6. Bride | 14. Skiing | 22. Model Trains |
| 7. Calf | 15. Food | 23. Mother and Child |
| 8. Basketball Players | 16. Living Room | 24. Insects |
| | | 25. Cat |

Procedure. Interest ratings were obtained by presenting the twenty-five slides to children in their classrooms. After instruction in the use of rating scales, each child rated the slides on twenty-five 1 to 7 scales labeled "not interesting" at one end and "very interesting" at the other. After rating each slide each child was asked to indicate his or her sex on the rating form.

Child and adult judges were used to obtain sex typing ratings of each of the twenty-five pictures. Thirty fifth-graders, 14 males and 16 females, from the Urbana, Illinois Public Schools and 36 college students, 22 males and 14 females, from the University of Illinois served as judges. Their ratings were obtained in classrooms. Half of each classroom group rated the pictures on a 7-point "not masculine" to "masculine" scale and half on a 7-point "not feminine" to "feminine" scale. Separate masculinity and femininity scales were used rather than a single bipolar masculinity-femininity scale since there is evidence that the masculinity-femininity construct may not be bipolar (Vroegh, Jenkin, Black, & Handrich, 1967). Each judge received written instructions for the use of either the "masculine" or "feminine" rating scale. Written, rather than verbal, instructions were used to minimize awareness that other raters had a different rating scale. After rating all twenty-five photographs each judge was asked to indicate his or her sex on the form.

Results

Initial analyses were conducted to examine whether pictures were rated similarly on the sex-typing scales by the different groups of judges. College-age males and females showed extremely high agreement on both scales, while fifth-grade boys and girls showed somewhat less, but still strong, agreement (Table 2-1). When the ratings given by all fifth-graders were correlated with the ratings given by all adults the values obtained were .89 on the masculinity scale and .87 on the femininity scale. Similarly, the correlations of ratings made by male judges with ratings made by female judges were .98 on the masculinity scale and .93 on the femininity scale. Since substantial agreement was

Table 2-1

Correlations Between Groups of Judges on Femininity
(Above Diagonal) and Masculinity (Below Diagonal) Scales

	<u>Boys</u>	<u>Girls</u>	<u>Men</u>	<u>Women</u>
Boys		.66	.72	.69
Girls	.84		.85	.82
Men	.74	.92		.95
Women	.83	.91	.95	

Note. All correlations are significant ($p < .01$, $df = 23$).

found among all groups of judges, the ratings were averaged across all judges to yield a single masculinity and a single femininity score for each picture.

Table 2-2 presents the average masculinity and femininity scores for each picture. These scores ranged from 1.66 to 6.65 on the masculinity scale and from 1.79 to 6.56 on the femininity scale. Furthermore, the scores were distributed throughout the range of each scale, indicating that the pictures sampled more than just the extremes of masculinity and femininity.

The masculinity and femininity scores for each picture were then correlated to determine whether pictures rated as "masculine" by one group tended to be rated as "not feminine" by the other group of judges. The correlation of the two ratings across the set of twenty-five slides was $r(23) = 0.92$, $p < .01$. From these data it seems that judges were responding to masculinity and femininity as opposite ends of a bipolar construct.

Data on the relationship of interests to sex-typing are presented in Table 2-3. The correlation between boys' interest ratings and masculine sex-typing was strongly positive, $r(23) = .74$, $p < .01$, while a moderate negative correlation, $r(23) = -.54$, $p < .01$, was found between boys' interests and feminine sex-typing. Girls' interests and feminine sex-typing were positively correlated, $r(23) = .42$, $p < .05$, while a smaller negative correlation, $r(23) = -.24$, ns, was found between interest and cross-sex-typing.

To determine whether the relationship between interests and sex-typing was significantly stronger for boys than girls, comparisons between correlations were made using Fishers' z_r transformation. No significant differences were found between boys' and girls' correlations of interest with same sex-typing (.74 vs. .42, $df = 22$) or between boys' and girls' correlations of interest with cross sex-typing (-.54 vs. -.24, $df = 22$).

A final analysis was performed to learn whether boys and girls were interested in different topics. The correlation of boys' and girls' interest in the pictures was not significant, $r(23) = .17$. This indicates that boys' and girls' interest ratings were essentially unrelated across the sample of twenty-five pictures. One possibility is that boys and girls have more similar interests on items that are not highly sex-typed. The 25 items were ranked according to masculine sex-typing and grouped into low-, medium-, and high-masculine categories. The medium category contains the least sex-typed items since these items were not rated as either particularly masculine or not masculine. The correlations between boys' and girls' interests on the high-masculine and low-masculine items were $r(7) = .31$, ns, and $r(6) = .42$, ns, respectively. In contrast the correlation on the medium-masculine items was $r(6) = .71$, $p < .05$. Thus it appears that boys' and girls' interests were

Table 2-2

Average Masculinity, Femininity, and Interest
Ratings for the Twenty-five Picture Topics

Topic	Sex-typing		Interest	
	Masculinity	Femininity	Girls	Boys
Forest	3.78	3.79	4.41	4.59
Jet airplane	5.09	2.30	3.59	5.18
Priest	4.93	2.60	4.92	3.81
Dog	5.09	3.45	4.72	5.41
Astronaut	5.97	2.59	4.08	6.24
Bride	1.66	6.44	4.62	2.34
Calf	4.25	4.06	5.14	4.91
Basketball players	6.47	2.21	4.31	5.85
Butterflies	3.15	4.74	4.87	3.97
Marionettes	3.56	3.94	4.79	4.21
Monkey	4.50	2.72	4.48	5.32
Flowers	2.75	5.45	4.18	4.01
Bullfighting	6.12	2.18	4.62	5.46
Skiing	5.09	3.94	5.10	5.87
Food	4.56	4.00	5.42	5.87
Living room	3.28	4.70	4.65	4.10
Map	4.19	2.86	2.76	3.88
Painting	4.25	3.53	4.87	4.54
Circus	4.31	4.08	5.75	5.34
Race cars	6.65	1.79	3.59	6.41
Canoe	5.91	2.97	4.62	6.09
Model trains	5.47	2.32	3.58	3.90
Mother and child	1.69	6.56	4.61	4.03
Insect	4.31	3.50	3.32	3.69
Cat	3.16	5.15	5.61	5.12

Table 2-3

Correlations Between Interest and Sex-typing

	Masculine sex-typing	Feminine sex-typing
Boys' interests	.74**	-.54**
Girls' interests	-.24	.42*

*p < .05, 23 df

**p < .01, 23 df

highly correlated on items that were not strongly sex-typed.

To summarize the results of this experiment, there was considerable agreement among judges concerning masculine and feminine sex-role standards, and masculinity and femininity were perceived as two ends of a bipolar construct. For both sexes, a relationship was found between children's interests and sex-typing, with interest positively correlated with same sex-typing and negatively correlated with cross sex-typing. Finally, boys' and girls' interests were independent of one another across the entire sample of picture topics, but showed evidence of being correlated on items that were not highly sex-typed.

Experiment 2

A second study was conducted to assess the generalizability of the findings of Experiment 1 to another, more rural, fifth-grade sample and to examine the relationship between interest and sex-typing at an earlier grade level, third grade. By testing third- and fifth-grade samples, furthermore, it was possible to correlate children's interest in the pictures at one grade level with interests at another grade level. This provides cross-sectional evidence about the extent to which interests are stable for each sex across grade level, and the extent to which stability of interests across grade level is a function of sex-typing.

Method

Subjects. The subjects for this research were 53 third-grade children, 21 girls, 32 boys, and 44 fifth-grade children, 19 girls and 25 boys. All were from a single school in St. Joseph, Illinois, a rural community ten miles east of Champaign-Urbana, Illinois.

Procedure. Children, in their classrooms, rated the twenty-five pictures on the 1 to 7 interest scales. Correlations were then computed, relating these interest ratings to the masculinity and femininity ratings obtained in Experiment 1.

Results

The average interest ratings of the third- and fifth-graders are presented in Table 2-4. The correlations between fifth-graders' interests and sex-typing are presented in Table 2-5. A pattern similar to the previous study is found. Boys' interests were positively correlated with masculinity, $r(23) = .78$, $p < .01$, and negatively correlated with femininity, $r(23) = 0.66$, $p < .01$. Girls' interests were correlated positively with femininity, $r(23) = .34$, $p < .05$, and nonsignificantly with masculinity, $r(23) = 0.09$. In this sample, the magnitudes of boys' and girls' correlations differed significantly. Boys showed stronger correlations of interest with same-sex-typing (.78 vs. .34) and with opposite-sex-typing (-.66 vs. -.09). Both contrasts were significant at the .05 level ($df = 22$).

Table 2-4

Average Interest Ratings of Third- and Fifth-grade Girls
and Boys for the Twenty-five Picture Topics

Topic	Third-grade		Fifth-grade	
	Girls	Boys	Girls	Boys
Aerest	4.94	4.81	4.47	5.36
Jet airplane	4.19	5.95	3.26	5.60
Priest	5.06	5.62	4.58	4.08
Dog	5.38	5.14	5.47	6.56
Astronaut	5.59	6.67	5.68	6.12
Bride	5.84	2.52	4.89	2.24
Calf	5.16	5.29	5.05	5.38
Basketball players	3.88	6.48	5.17	6.29
Butterflies	5.72	5.29	4.72	4.52
Marionettes	5.66	5.14	4.79	3.40
Monkey	4.38	5.10	3.89	5.12
Flowers	5.53	4.29	4.26	3.88
Bullfighting	4.78	6.19	4.74	5.96
Skiing	5.75	6.38	5.53	5.92
Food	6.13	5.24	6.21	6.64
Living room	5.25	3.86	3.42	4.52
Map	4.16	5.05	3.68	4.64
Painting	5.09	4.67	5.53	6.24
Circus	6.34	6.29	6.58	5.84
Race cars	5.16	6.86	4.58	6.60
Canoe	5.00	5.52	4.89	5.84
Model trains	3.91	6.38	3.11	6.08
Mother and child	6.31	2.43	5.95	2.44
Insect	4.53	5.57	3.79	4.76
Cat	6.47	6.10	6.32	6.08

Table 2-5

Correlations Between Interest and
Sex-typing for Fifth-grade Subjects

	Masculine sex-typing	Feminine sex-typing
Boys' interests	.78**	-.66**
Girls' interests	-.09	.34*

* $p < .05$, $df = 23$

** $p < .01$, $df = 23$

Table 2-6 presents the correlations for third-grade children. Once again, the correlations indicate that sex-typing and interests were highly related. For both sexes there was a strong positive correlation between interest and same-sex-typing and a moderate negative correlation between interest and cross-sex-typing. The correlations appear to be somewhat stronger for boys than girls, but the differences are not significant.

The stability of interests across grade level was examined by correlating the interest ratings of picture topics given by the third-graders with those given by fifth-graders. The correlations between third- and fifth-grade boys' interest ratings of the same pictures was .78. The corresponding correlation for girls was .76. Thus, interests were highly stable across grade level for both boys and girls. To examine the extent to which sex-typing accounted for the stability of boys' and girls' interests, partial correlations were computed, removing the effect of the sex-typing of the pictures. The resulting correlation indicates the degree of cross-grade stability unaccounted for by sex-typing. The correlation of third- and fifth-grade boys' interests with the effect of masculine sex-typing removed was .37. Thus, approximately 50% of the overlap $[(.78^2 - .37^2) \times 100]$ between third- and fifth-grade boys was due to the influence of masculine sex-typing. The correlation of third- and fifth-grade girls' interests with the effect of feminine sex-typing removed was .78, which implies that none of the stability for third- and fifth-grade girls was due to feminine sex-typing.

Experiment 1 found that boys' and girls' interests were unrelated across the entire sample of twenty-five pictures. This finding is replicated here with both age groups. Third-grade boys' and third-grade girls' interest ratings yielded a correlation of $r(23) = -.29$, $p < .10$. The correlation between fifth-grade boys' and fifth-grade girls' interest ratings was $r(23) = .18$, ns. Again correlations between boys' and girls' interests were computed separately for low-, medium-, and high-masculinity topics. For third-graders the correlations were $r(6) = -.04$, ns, for the low-masculine pictures, $r(7) = -.07$, ns, for the high group, and $r(6) = .52$, $p < .20$, for the middle group. For fifth-grade children the correlations between boys' and girls' interest ratings for the high-masculine pictures and the low-masculine pictures were $r(7) = .38$, ns, and $r(6) = .01$, ns, respectively. Results for the middle-masculine items showed a significant correlation between boys' and girls' interests, $r(6) = .77$, $p < .05$. Thus it appears here, as in Experiment 1, that boys' and girls' interests tended to be most similar on items which were not particularly sex-typed.

In summary, both third- and fifth-grade children were interested in topics that were sex-appropriate, with the relationship between sex-typing and interest particularly strong for boys. The stability of interests across grade level was high for both sexes with sex-typing accounting for much of the stability in boys' interests and none of the stability of girls' interests. Finally, boys' and girls' interests were not significantly correlated across the entire sample of pictures, but again showed

Table 2-6
 Correlations Between Interest and
 Sex-typing for Third-grade Subjects

	Masculine sex-typing	Feminine sex-typing
Boys' interests	.84**	-.78**
Girls' interests	-.52**	.70**

** p < .01, df = 23.

evidence of being positively correlated across the least sex-typed items.

Discussion

Children's interests were clearly related to the sex-typing of topics. Boys showed a strong tendency to be interested in traditionally masculine themes and uninterested in traditionally feminine themes. Girls' interests were also positively related to same sex-typing, and somewhat negatively related to opposite sex-typing. It appears that the degree of relationship between interest and sex-typing was stronger for boys than girls. Although the magnitude of the difference between the correlations for boys and girls generally was statistically nonsignificant, there is reason to believe that the difference is reliable. Pilot studies which we have conducted at second- through fifth-grade levels repeatedly indicate that the correlation is stronger for boys than girls.¹ Furthermore, the finding is compatible with other studies using quite a variety of measures (Brown, 1956; Nadelman, 1974; Stein, Pohly, & Mueller, 1971). For example, Stein et al. found that boys' performance on a game, more than girls' performance, was affected by whether the game was labeled as appropriate for boys, for girls, or for both.

Additional evidence of a sex difference in the development of children's interests was the extent to which sex-typing accounted for the cross-age stability of interests. Both boys and girls had highly stable interests across third- and fifth-grade samples. For boys, masculine sex-role standards contributed substantially to the stability of interests. For girls, however, feminine standards accounted for none of the stability of interests across grade level. This sex difference is also encountered in our second-through fifth-grade pilot data, suggesting that it is a reliable phenomenon.² The fact that half of the stability of boys' interests was accounted for by sex-typing is not surprising. However, it is somewhat surprising that none of the stability of girls' interests could be explained by sex-typing. Apparently girls are responding consistently across age to some other dimensions of the

¹For boys, the correlation between interest and same sex-typing averaged across the four grade levels was .74, while for girls the average correlation was .48. The average correlation between interest and cross sex-typing for boys was -.60, and for girls was -.40.

²Stability over a two-year grade span was calculated for second- to fourth-grade and third- to fifth-grade pilot samples. Masculinity accounted for an average 34% of the stability of boys' interests and femininity accounted for only 9% of the stability of girls' interests.

pictures. The identification of these dimensions is a task for future research.

Further evidence of the role of sex-typing on children's interests comes from the analyses of boy-girl similarity of interests. Boys' and girls' interests were found to be unrelated across the entire sample of twenty-five pictures. However, the use of sex-typing as a moderator variable was found to influence the strength of relationship between boys' and girls' interests. Boys' and girls' interests were positively correlated on the least sex-typed items while the correlations were far from significant on the more sex-typed items. This result should be interpreted cautiously because of the small sample of pictures available in the low-, middle-, and high-masculinity categories. Still, the finding implies that the degree of similarity between boys' and girls' interests is influenced by the sex-typing of topics. The finding merits replication with a larger sample of items.

The present research also provided data on the way people use masculinity and femininity constructs. There was considerable consensus among child and adult judges of both sexes about sex-typing standards. There was also strong evidence that masculinity-femininity was used as a bipolar construct when rating picture items. Pictures rated as high-masculine were rated as low-feminine and vice versa. The latter result is in contrast to some earlier evidence. Vroegh et al. (1967) had nursery-school teachers rate their high- and low-masculine and high- and low-feminine pre-schoolers on a variety of dimensions. The patterns of results indicated that masculinity and femininity were not opposite ends of a continuum. More recently Bem (1974) had college students rate themselves on a series of masculine and feminine personality characteristics. People's perceptions of themselves on the masculine dimension were unrelated to their self-perceptions on the feminine dimension.

The results of Vroegh et al. and Bem suggest that individual people known to the rater may be perceived in a complex manner whereby they can be seen as both masculine and feminine. In the present study children rated not particular individuals, but pictures of activities, roles, animals, and things. Most of the stimuli tend to be associated with one rather than both sex-roles. For example, the bride was rated as highly feminine and as the least masculine picture. However, if people were to rate a particular bride who was personally known to them, they might ascribe both masculine and feminine qualities to her. Hence the choice of using one bipolar scale versus two separate masculinity and femininity scales may be a function of the type of stimuli being rated.

The methodology employed in the present research could be used to study the impact of specific interventions on sex-typing. Observations of preschool children at play suggests that their interests are strongly sex-typed (Shure, 1963) and efforts such

as Sesame Street and the Ms. record "Free to Be You and Me" are currently being made to influence the sex-role standards of this age group. Interventions such as these, if successful, should decrease the relationship between the traditional sex-typing of topics and children's interests in those topics. With minor changes the picture rating technique could be adapted for use with younger children.

Finally, the findings of these studies are congruent with the hypothesis that high-interest material makes reading a more sex-appropriate activity for boys. Boys' high-interest topics were indeed associated with high-masculine sex-typing. This implies that the activity of reading high-interest material may be seen by boys as a masculine activity. The next step in this line of research would be to assess children's sex-typing of reading after they have read high-versus low-interest material. Of concern is whether a high-interest reading program would influence not only boys' reading performance but also their conception of reading as a sex-appropriate activity.

CHAPTER THREE
READING COMPREHENSION OF HIGH- AND
LOW-INTEREST VOCABULARY CONTROLLED PASSAGES

It is possible that subjects achieve greater comprehension due to familiarity with topic-related vocabulary contained in high-interest paragraphs. Readers might be more familiar with interest relevant-vocabulary. Since interest enhancing effects are typically assumed to be motivational, it is important theoretically and pragmatically to determine whether the effect obtained by Asher and Markell (1974) can be explained in terms of differential familiarity with vocabulary or motivational influences.

These alternative explanations were assessed in the present study by varying the interest level of passages while holding constant the vocabulary. Six passage formats were developed (Appendix I). Each was presented to the child in cloze format with 10 deletions per paragraph. To hold constant the vocabulary each paragraph was worded so generally that it was possible to alter the topic without modifying the vocabulary. This was achieved by inserting the topic word in the title and in each of three locations in the passage. In addition, a paragraph of material was presented ahead of the cloze format paragraph. This initial paragraph, from the Britannica Junior Encyclopaedia (1972), was topically related. The initial paragraph hopefully served to strengthen the degree to which the later passage was perceived as topically related. Appendix II shows how the same controlled vocabulary format appeared with two different topics. Each child received three high-interest and three low-interest topics and were randomly assigned to formats.

To summarize, all children received the same six passage formats with the same vocabulary. What varied was the interest level associated with each passage format. If the effect of interest is not dependent on differentially familiar vocabulary, then children should comprehend more of high- than low-interest vocabulary. If children perform similarly on high- and low-interest conditions the results would imply that the effect of interest is dependent upon familiar vocabulary.

Method

Subjects. Seventy-three fifth-grade children, forty-four boys and twenty-nine girls were tested. The children were from an elementary school in Urbana, Illinois.

Procedure

Interest Assessment. The slide rating technique was used to assess interests. Children were shown 19 slides and asked to rate each slide on a 1-7 scale.³ The meaning of the scale was explained to insure that children understood that any number above the entire range could be circled. The specific instructions follow:

The experimenter told the children, "I'd like to find out about what kids are interested in. I'm going to show you 19 slides. For each slide I'd like you to mark, on the sheets we'll give you, how interesting the picture is to you. Who knows what 'interesting' means?" After a few children had responded, Experimenter 1 summarized their comments by saying, "So, something is interesting when you like it and would like to find out more about it." Experiment 1 then distributed to each subject a form with twenty-five 1-7 rating scales, and drew a 1-7 scale on the blackboard. At the low end of each scale were the words "not at all interesting" and, at the high end, "very interesting." The nature and use of the rating scale were explained:

If a picture is very interesting to you -- if you like it very much and want to know more about it -- mark a number at this end of the scale. [The experimenter pointed to Numbers 5, 6, and 7 of the scale on the blackboard.] You can mark it with a circle, an X, a check, or whatever you want. If a picture is not at all interesting to you -- if you don't like it and wouldn't care to find out more about it -- mark a number at the low end of the scale. [The experimenter pointed to the Numbers 1, 2, and 3 of the scale.] If the picture is of medium interest to you -- if you like it but don't like it a lot -- mark a number here. [The experimenter pointed to Numbers 3, 4, and 5.] Let's try an example for practice. If I showed a picture of a pile of dollar bills, what number would you choose? [The experimenter called on several students.] If I showed a picture of a piece of dirt, what number would you choose? [The experimenter again called on several students.] So you can see that different people are interested in different things. If anyone has any questions, raise your hand and I'll try to answer them. [Experimenter 1 then presented the slides announcing the number of each one as it was projected.] Here's Picture Number 1...Here's Picture Number 2..., etc.

The slides were presented at the rate of approximately one every 10 seconds. When all slides had been rated, the subjects were asked to write their names on their rating sheet.

³Six of the original 25 topics did not fit with certain formats so these were eliminated from the series of studies.

Reading Comprehension Activity. One week following the interest assessment, all children were given six passages to read. To ensure that the children did not perceive the connection between the interest assessment and the reading comprehension activity, this task was administered by a different experimenter. Interest was manipulated for each child by randomly assigning the child's three highest-rated and three lowest-rated topics to the six formats. Children were instructed to read each of the six passages and to fill in the missing words. They were told to read the first part of the passage even though it contained no deletions. This was done to strengthen the impression that the material was related to either the child's high- or low-interest area. The specific instructions were:

"I am going to show you a reading game (the experimenter handed out a sample passage). This one is for practice. Do you see that there are some words missing from the second paragraph? The idea of the game is to read the entire page. When you get to the second paragraph put the word in each space that you think is missing. There are ten spaces so there are ten words missing. Only one word goes in each space. Take a couple of minutes to read the page. (The experimenter paused.) O.K. Now I'll read the entire page with all of the words in it. You can follow along. (The experimenter read the material then collected sample and handed out test paragraphs.)

You now have seven envelopes. Six have passages in them. Start with the first envelope and try to fill in all of the missing words. When you are done with a paragraph put it back in the envelope and put it aside on your desk then you can go on to the second envelope, then the third, fourth, fifth and sixth. Once you put a paragraph in the envelope you can't go back to it. Do you have any questions?

O.K. Read each page carefully and try to fill in the missing words. I can't help you read any of the words but if you need to know how to spell any words raise your hand and I will help. Spelling doesn't count in this game. I'll give you a hint if you are having trouble with part of a paragraph. Don't get stuck. Go on to the next part of the page or a new envelope. You have 45 minutes for the six envelopes. That should be plenty of time. Any questions? Be sure to read the first paragraph in each envelope. It may help you fill in the missing words.

When you are done with the six paragraphs, open the seventh envelope. It contains some questions about how much you want to read more about each of the topics. If you would like to read more about it circle one of the high numbers. If you wouldn't like to read more about it, circle one of the low numbers. You can circle one of the numbers in the middle if that's how you feel. Got the idea? Any questions? O.K. You can begin."

Cloze scoring method. Children reserved cloze scores based on the number of correct words supplied for each passage. Only the exact word was accepted as a correct response (Bormuth, 1965). Responses were considered to be correct despite spelling errors if the supplied word was clearly recognizable as the deleted word.

Results

Reading Achievement Test. Reading achievement test data were available from a school administered California Test of Basic Skills. The test had been administered one month earlier, in March, and data were available for 72 of the 73 children. The average reading comprehension grade-equivalent score for girls was 6.82 and for boys was 5.90. This difference approaches but does not reach statistical significance, $t(71) = 1.56, p < .10$. Reading comprehension achievement test scores were also correlated with the total number of deletions correctly supplied on the cloze test. The relationship between the standardized test scores and the cloze scores was significant, $r(70) = .63, p < .01$. This is consistent with previous evidence that the cloze procedure is a valid measure of reading comprehension.

Preference Ratings. If the vocabulary-controlled passages are perceived as topic related by the children, then they should prefer to read more about those passages associated with high-interest material. The data on this issue is presented in Table 3-1. Given three high-interest topics and three low-interest topics, the reading preference scores could range from 3-21 for each level of interest.

A 2 x 2 (Interest Level x Sex) analysis of variance was performed on these data. Boys and girls preferred the high-interest material to the low-interest material $F(1, 71) = 40.99, p < .01$. Furthermore, boys' and girls' interest in the material was quite similar, $F(1, 71) = 1.00$. Finally, the interaction between interest level and sex was non-significant, $F(1, 71) = .24$. Thus the data indicate that both sexes preferred the topics associated with the high-interest material and the material was not biased in interest for either boys or girls.

Cloze Scores. Table 3-2 presents the reading comprehension data. Each child received high- and low-interest cloze scores based on the number of his or her correct responses. Given three high- and three low-interest passages and 10 deletions per passage, the scores could range from 0-30 for each level of interest. The data indicate that boys read worse than girls and that performance on high- and low-interest material was quite similar. A 2 x 2 (Level of Interest x Sex) analysis of variance performed on these data yield a near-significant sex difference, $F(1, 71) = 3.78, p < .06$, and no significant effect of interest, $F(1, 71) = .49$ or interaction of sex by interest $F(1, 71) = .01$. Thus neither boys or girls comprehended more of the high-interest material.

Table 3-1
Average Reading Preference Scores

		Sex of Student	
		Boys	Girls
Interest Level	High	13.70	13.17
	Low	9.75	8.55

Table 3-2
Cloze Reading Scores

Interest Level	Sex of Student			
	Boys		Girls	
	M	SD	M	SD
High	9.25	5.24	11.55	5.20
Low	9.25	5.14	11.21	4.32

A subsequent analysis was performed to learn whether the effect of interest was different for high- and low-achieving children. The sample was divided into two groups based on their performance on the school administered achievement test. A 2 x 2 (Level of Interest x Achievement Level) analysis of variance indicated that the high-achieving children did better on the cloze test than low-achieving children $F(1, 70) = 28.66, p < .01$. However, the effect of interest and the interaction of achievement level by interest were non-significant. Thus, for neither high- or low-achievement children was interest a determinant of their performance on vocabulary-controlled passages.

Discussion

The data seem to suggest that, given the same vocabulary across interest levels, children do no better on high than low-interest material. The inference could thus be drawn that the facilitating effect of high-interest material found in earlier research (Asher and Markell (1974) is due to children's greater familiarity with the high-interest material.

There are two alternative explanations that deserve consideration. One possibility is that the particular sample tested would not have shown an effect of interest even with the original vocabulary uncontrolled passages. There is no way of evaluating this explanation given the design employed. A subsequent study could be done in which half of the children receive the original passages used by Asher and Markell and half use the vocabulary controlled passages. If an interest effect were found on the former and not the latter, explanations based on the sample could be eliminated.

A second alternative explanation is that the manipulation of interest was not sufficiently strong. The vocabulary controlled passages, after all, contained little about basketball or monkeys or any of the other topics. Despite the occasional insertion of topic and the presence of preceding relevant material the controlled-vocabulary material may have seemed only remotely related to the child's high- or low-interest area.

After children read all six passages they indicated how much they would like to read more about each of the passages they had just read. Although children significantly preferred the high-interest material, it is interesting that the strength of the effect was weaker than in the Asher and Markell study. In that study the high interest means were twice as large as the low interest means and the F ratio for interest was 206. In the present study the mean difference was smaller due to a slightly elevated low-interest rating and a slightly lower high-interest rating. The F ratio was 41.

Finally, the children when asked how much they would like to read more about each topic were probably responding in part to the non-cloze part of the material that contained actual topic relevant material. It is possible then that in the process of controlling vocabulary the passages lost their richness and did not sufficiently relate to the child's high- or low-interest areas. If this explanation is correct, then another approach to separating the motivation and familiarity of vocabulary explanations is needed. It may be that the process of controlling vocabulary reduced all passages toward a common denominator of modest appeal.

One possibility is to use the original encyclopedia passages but test children under two different conditions. In one condition children would receive high- and low-interest passages with the usual instructions. In another condition children could be given special incentives for doing well on the passages. If children's performance on the low-interest material is constrained due to limited familiarity with the vocabulary, then special incentives should do little to close the gap between high- and low-interest performance. If, however, poorer performance on low-interest is due to lower motivation then the special incentives should reduce the difference between high-interest and low-interest performance. Research along these lines is currently being planned.

CHAPTER FOUR

CHILDREN'S PERFORMANCE IN A HIGH-INTEREST CLASSROOM READING PROGRAM -- A PILOT STUDY

A pilot study was conducted to learn whether high-interest reading material has long-term benefits for children's comprehension. Since the previous work had been at fifth-grade level, this grade level was selected for assessing long-term effects. Louise Singleton, a graduate assistant, collaborated on the project. The fifth grade teacher who carried out the program was Sally Shores.

Method

Sample

The children were in Washington Elementary School, Champaign, Illinois. The school is heterogeneous with respect to race and social class. There were 24 children in the experimental classroom. Another fifth-grade classroom and a combined fourth-fifth-grade classroom provided 36 fifth-grade children for comparison purposes. Children in one of these classrooms had a basal reading series program and the teachers did little by way of an individualized high-interest reading program. The children in the other classroom read assigned literature, individual library selections and occasional basal reading material.

High-Interest Reading Program

The high-interest reading program began in October, 1974, and continued throughout the school year. The program had a number of components:

(a) Book selection. Each child selected books to read from home, the classroom, the school library or the public library.

(b) Silent reading. The teacher divided the class into four reading groups with six children in each group. Groups were composed so that each contained boys and girls and good and poor readers. The teacher met once a week with each group for 30 minutes of silent reading. During this time the children and the teacher read silently then personally selected books.

The intent of having the teacher read with the children was to provide a model for the children of sitting quietly and reading a book. The group sat on a rug in the classroom during this activity.

(c) Discussion. Later in the week the teacher met with each subgroup for "book talks." During this time the children discussed the books which they were currently reading. The purpose of these talks was to reinforce children for reading by having them share

their ideas and enthusiasm, broaden children's interests by exposing them to new topics and promote better discussion skills. The group discussion lasted about 30 minutes with each child sharing information about his or her most recent book. The group sat in a circle on the rug. The teacher served as a facilitator of discussion and also discussed her recent reading.

Other Reading Activities

The reading program was used for four days a week one hour each day. When children weren't "in group" they read at their seat. The only exception was on Monday when children used basal readers and reading skill workbooks for an hour. A teacher aide and a reading specialist were also periodically available for tutoring individual children. Aides were also available in the comparison classrooms and it was thought best not to eliminate this form of individualized help.

Data Collection

Four types of information are available:

(a) Standardized achievement test data. All children as part of the regular school testing program, took the Scholastic Testing Service achievement test in September 1974, before the high-interest reading program began. These pretest data indicate that children in the experimental class were reading at the fifth year, fourth month. The comparison children were reading at the fifth year, seventh month. Post-test data will be available for the children from the next administration of the test in September, 1975. Since this was a pilot study it was thought best not to duplicate school testing efforts even though the school administered test will be a follow-up measure rather than an immediate post-test.

(b) Cloze testing. Cloze passages were developed for fall and spring assessments of reaching comprehension. These passages proved not to be sensitive to changes over time for either experimental or comparison children so they provide little useful data on program effects. Accordingly, the achievement test data will be the major information source regarding comprehension gain.

(c) Interest assessment. In order to learn whether children's interests were changing over time, children in experimental and comparison classrooms were asked to, on two occasions, rate the 25 slides for interest. The first assessment was made in September before the program began and the second assessment was made in March while the program was still in progress. Analyses were performed on the degree to which children's interests were correlated with sex-role standards. The judges' ratings of masculinity and femininity used in the research reported in Chapter Two were used

here. Of interest is whether the effect of the high-interest program is to strengthen, weaken or leave unchanged the degree to which children's interests are sex-typed.

The results of this analysis appear in Table 4-1. It can be seen that at Time 1 boys in both experimental and comparison classrooms had highly sex-typed interests while girls' interests were not significantly related to sex-typing. At Time 2 an interesting pattern appears. Children in the comparison rooms show a similar pattern. However, in the high-interest program room, both boys and girls have highly sex-typed interests. It appears that the effect of the program was to increase the degree to which girls held sex-typed interest while leaving unchanged boys highly sex-typed interests.

(d) Records of books read. The teacher in the experimental classroom kept a list of books read by the children. From these lists counts can be made of books read and content analyses can be made of the type of books children read. The frequency data have thus far been compiled and the results indicate that the average child read 30 books. The range in books read was from 14 to 71.

The data also indicate that the 24 children read 392 different titles and that a large number of books (271) were read by only one child. This latter figure indicates the degree to which the reading program was individualized.

Another indication of individualization was that the most popular book was read by only 13 children and only 14 books were read by more than 5 children. Further analyses will be performed on the reading list information.

Discussion

Although all of the data are not yet available, a couple of tentative conclusions can be drawn. Judging from teacher and student reaction, the program was a success. The teacher, Sally Shores, plans to continue the program on her own next year. The students read widely and seemed to enjoy their reading. Observations of the discussion groups, although impressionistic, indicated that communication skills were improving over the school year. The present study was a pilot effort. Future research should attempt to assess more carefully possible changes in children's attitude to reading and children's ability to engage in small group discussion.

A somewhat negative finding is the data on sex-typing of interests. In line with the findings reported in Chapter Two, at the beginning of the year boys had highly sex-typed interests and girls interests were minimally sex-typed. After the program had operated five months girls in the experimental class also held sex-typed interests while girls interests in the comparison classes did not reflect this type of change. One possibility is that children of both sexes were reading

Table 4-1

Correlation Between Interest and Sex-typing

	Time 1			
	Experimental Children		Comparison Children	
	Masculine Sex-typing	Feminine Sex-typing	Masculine Sex-typing	Feminine Sex-typing
Boys' Interests	.78**	-.71**	.70*	-.60**
Girls' Interests	-.6	.22	-.06	-.09

	Time 2			
	Experimental Children		Comparison Children	
	Masculine Sex-typing	Feminine Sex-typing	Masculine Sex-typing	Feminine Sex-typing
Boys' Interests	.77**	-.72**	.78**	.70**
Girls' Interests	-.54*	.56**	.10	-.02

** p .01

primarily in sex-typed areas and that the program strengthened rather than weakened the degree to which children's interests are sex-typed. Future investigations of high-interest programs might include measures of the sex-typing of interests.

If high-interest programs strengthen sex-typing, certain modifications could be made. For example, certain reading choices might be made from a range of teacher-selected options. These options could be designed so that the child is selecting from non-sex-typed material. Another possibility is for the teacher to increase the visibility of books and their readers when they are non-sex-typed or opposite-sex-typed.

Another possible area for program modification is in the group discussion component of the program. It may be that many children due to limited experience with small group classroom activities lack discussion skills. Training children in skills such as talking, listening, speaking to the point of the previous person, and asking questions could have a facilitative effect on the discussion. Especially early in the year the children's discussions seemed stilted, more like a series of book reports than a conversation.

Another issue is the provision of adequate reading material. Given the wide range of reading interests and abilities a tremendous number of books are needed. Teachers who don't have a strong school library and have limited funds for purchasing paperbacks might wish to solicit donations, make the rounds of used book stores, and take advantage of the public library. A fresh shipment of books from the library every month would contribute much to the intellectual life of the classroom.

Finally, future research in this area should consider independently manipulating various features of the program. A number of components distinguish this program from most classrooms: The teacher models reading, children read in high-interest areas, and children discuss what they have been reading with others. Experimental studies which investigate the independent and additive contributions of these elements would be useful.

CHAPTER FIVE

SUMMARY

The research presented here was addressed to two general questions, 1) Is the facilitating effect of high-interest material on comprehension due to increased motivation or greater familiarity with vocabulary? 2) Can a high-interest program be of long-term instructional benefit?

The studies reported in Chapters Two and Three examined the first question. The finding that boys' interests are highly sex-typed suggests that high-interest material may facilitate their performance by overcoming their view that reading is feminine and their general anti-reading bias. As noted in Chapter Two, this issue could be examined further by assessing children's sex-typing of reading content after they have read high- or low-interest material.

The data reported in Chapter Three might lead to a different conclusion. Children were found to do no better on high- than low-interest material once vocabulary was controlled across topic areas. These data imply that the facilitating effect of interest, when it occurs, is due to children's greater familiarity with the vocabulary on high-interest material. A limitation, however, is that children did not make as strong a distinction in their preference for the high- and low-interest material as in previous research. The process of controlling vocabulary undoubtedly deprives passages of much of their richness. Accordingly an alternative method of assessing the motivation versus familiarity of vocabulary issue was suggested in Chapter Three. Children's high- and low-interest performance could be assessed under standard and special incentive conditions. If vocabulary is a constraining factor, then special incentives should do little to facilitate performance.

The study in Chapter Four addressed the question regarding the long-term effects of a high-interest program. Data available are preliminary and the study is best regarded as a pilot investigation. However, the findings to date are encouraging judging from teacher and student reaction and from preliminary content analysis of the material read by the class. Achievement data to be collected in the Fall of 1975 will provide a fuller picture of the effects of the program. In the meantime, there is reason to believe that future evaluation in this area is warranted.

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APPENDIX I

VOCABULARY-CONTROLLED FORMATS

FORMAT 1

Most of the good libraries and bookstores in the _____
have material on (key word). _____ is because there are
_____ people who would enjoy _____ about (key
word). In fact, _____ publishing houses print books
_____ this subject and they would _____ do this
unless they _____ the books could be _____. The
more people who _____ interested in (key word) the more
likely that sales of books on this topic will be high.

Deleted words:

- | | |
|------------|------------|
| 1. country | 6. on |
| 2. This | 7. not |
| 3. many | 8. thought |
| 4. reading | 9. sold |
| 5. many | 10. are |

FORMAT 2

How many people do you think talk about (key word)? _____
people enjoy talking about _____ that are important to the
_____. In general, it _____ that people talk about
_____ that they recently have _____ seen. For
example, if _____ person has just visited _____
place where there are _____ of (key word) it is more likely
that this subject will come up in conversation. Have you seen any
(key word) lately?

Deleted words:

- | | |
|-----------|----------|
| 1. Most | 6. been |
| 2. things | 7. just |
| 3. them | 8. a |
| 4. likely | 9. a |
| 5. things | 10. lots |

FORMAT 3

"~~Last~~ week I saw a show about (key word). I _____
delighted. Since I don't _____ to watch a lot
_____ television I rarely see _____ show about
(key word). The _____ lasted for a full _____
and from watching it _____ learned a lot of _____
about (key word). It made _____ think that I should
_____ television more often. However, I like to do a
lot of things so I probably won't have the opportunity to do so."

Deleted words:

- | | |
|---------|----------------|
| 1. was | 6. hour |
| 2. get | 7. I |
| 3. of | 8. information |
| 4. a | 9. me |
| 5. show | 10. |

FORMAT 4

Recently there has been a great deal of interest _____
(key word). Photographs of (key word), _____ becoming
more popular. _____ can be seen in _____ a
few photographic presentations. _____ find this subject
interesting _____ a variety of reasons. _____
general appeal makes the _____ easy to sell. Most
_____, however, is the fact _____ (key word) is
the fact _____ (key word) is so limitless in interpreta-
tion. They can be pictured in many different ways depending on how
the photographer wants to do it.

Deleted words:

- | | |
|------------------|--------------|
| 1. in | 6. for |
| 2. especially | 7. Their |
| 3. they | 8. pictures |
| 4. quite | 9. important |
| 5. Photographers | 10. that |

FORMAT 5

Two students in a nearby school are both quite _____
to find out more _____ (key word). They got _____
advertisement in the mail _____ other day for a _____
_____ magazine that will contain _____ terrific
stories about (key word). _____ got very excited. One
_____ the reasons they are _____ is because they
have _____ lot in common. (key word) is only one of the
interests that they share but it is one of the most important.

Deleted words

- | | |
|------------|------------|
| 1. anxious | 6. many |
| 2. about | 7. they |
| 3. an | 8. of |
| 4. the | 9. friends |
| 5. a | 10. a |

FORMAT 6

How would you like to work with (key word). One _____
the ways to make _____ that you like your _____ is
to work with _____ or things that you _____. For
example, if _____ are the kind of _____ who likes
(key word) it _____ be wonderful if you _____
work with (key word). This, _____ course, is not always
possible. There may not be that many jobs that have to do with things
you like. As a result, many people have hobbies in areas that they
wish were there jobs.

Deleted words:

- | | |
|---------------|-----------|
| 1. of | 6. you |
| 2. sure | 7. person |
| 3. occupation | 8. would |
| 4. people | 9. could |
| 5. like | 10. of |

APPENDIX II

TWO TOPICS WITH THE SAME FORMAT

FLOWERS

The nectar of flowers is used by the bees in the manufacture of honey. But the principal value of flowers to man is for beauty and the fruits which follow them. Great business enterprises deal with seeds, the breeding of young plants in nurseries, and the sale of trees, shrubs, and flowering plants as well as cut flowers. Florists are able to produce blooming plants all year round by planting in greenhouses and through artificial forcing.

How would you like to work with flowers? One _____ the ways to make _____ that you like your _____ is to work with _____ or things that you _____. For example, if _____ are the kind of _____ who likes flowers it _____ be wonderful if you _____ work with flowers. This, _____ course, is not always possible. There may not be that many jobs that have to do with things you like. As a result, many people have hobbies in areas that they wish were their jobs.

CATS

The cat has been domesticated for 4,500 years or perhaps longer. It is such a long period of time that it is not known just which wildcat is the original ancestor of the domestic cat. There were probably two or three of the small wildcats of Europe, North Africa, and Asia which were domesticated. From these we have many varieties, or breeds, of domesticated cats today. The two most easily recognized groups are the short-haired cats and the long-haired cats.

How would you like to work with cats? One _____ the ways to make _____ that you like your _____ is to work with _____ or things that you _____. For example, if _____ are the kind of _____ who likes cats it _____ be wonderful if you _____ work with cats. This, _____ course, is not always possible. There may not be that many jobs that have to do with things you like. As a result, many people have hobbies in areas that they wish were their jobs.