

PREFERENCE OF NURSERY SCHOOL CHILDREN FOR  
THREE CONSISTENCIES OF CLAY

By

SARLA KATYAL

Bachelor of Science

Oklahoma State University

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Thesis Approved:

*Josephine Hoffer*  
\_\_\_\_\_  
Thesis Adviser

*Hazel L. Ingersoll*  
\_\_\_\_\_

*Robert W. Stein*  
\_\_\_\_\_  
Dean of the Graduate School

409928

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## CHAPTER I

### INTRODUCTION

#### Statement of the Problem

This pilot investigation was concerned with preschool children's preference for three consistencies of natural clay. The need for such a study was evidenced by the dearth of material available to guide teachers and parents in the use of clay as an educational tool for learning.

Clay is often used in the nursery school to provide opportunity for children to develop motor co-ordination through manipulation, as well as to provide a means through which tension may be released. Clay is also a medium which teachers use to stimulate social interaction and language development. There is some evidence to support the use of clay as a "messy medium" for young children. Since the nursery school clay is not used for the sole purpose of creating an end product teachers of young children often are concerned with what consistency to make clay so that the young child will be motivated to use it.

#### Purpose of the Investigation

The purpose of this investigation was to determine the consistency of clay which children prefer under ordinary circumstances in a self-selected activity period.

### Clarification of Terms

Throughout this writing natural clay means the product which is made from earth or soil and does not refer to commercial products such as plasticene or clay dough.

Self-selected activity period in this writing means a period in the daily program during which the children are allowed to select from a variety of activities.

### Scope of the Investigation

The scope of this investigation was limited to the child's preference for three consistencies of clay, (hard, medium, and very soft), and was not concerned with the psychological and sociological influences which clay as a tool for learning may have upon the child.

Basic to this investigation were two assumptions: (1) children enjoy their play with clay, (2) clay is a valuable tool for learning.

## CHAPTER II

### BACKGROUND FOR THE INVESTIGATION

#### Clay as a Tool for Learning

Clay is the most abundant play material found in nature and is generally liked by children of all ages. It can be very easily manipulated and provides fascinating experiences to children in expressing their ideas. The young child is an exploratory creature. He is constantly testing, touching, pulling, pushing, digging into the earth, the sand and the snow. The child's desire to play with material is direct and spontaneous, his senses react immediately and enjoyably to the feel of earth and clay.

A review of the related literature and the previous studies concerning children's play activities with clay revealed this medium to be an important tool for learning.

Alstyne (1) found clay to be the second most important play material for nursery school children. She also found that children of different age levels showed a marked difference in the use of the clay. Whereas the two and three year-old children use it for manipulative purposes such as rolling, pounding, squeezing, or flattening, the four and five year-old children may spend over half their time in constructing or making end products.

Hartley (4) stated that children derive great enjoyment in the



use of clay; that nursery school children examine clay by looking at it, smelling it, poking it, hitting it, by putting it into their mouth, and by trying to chew or swallow it. This same educator wrote that by accident children may mold it into flat shape and examine it or comment, "look what I made." Hartley felt that through the use of clay the child is given a chance to create his conception of the world in a real, visible and tangible form. Consequently, all these activities constitute a great emotional release.

Dixon (8) wrote that clay helps children in communicating their ideas which are not expressed by them verbally; also, that clay provides the need for social adjustment and an outlet for the child's interest in messing. Dixon further stated that clay is something to be used for experimentation and exploration by children.

Nelson (13) commented that as a child works with clay, his fingers will grow stronger. His sense of touch responds to texture, to wetness, to dryness, movement and resistance. The child's ideas at first are only suggestive as they grow out of the manipulation of the clay, but soon begin to take definite shape. These shapes are thought about, felt and planned.

According to Pappas (14) the desire to work with a plastic medium such as clay is as strong in most children as the need to draw and paint. Clay provides a valuable experience for a child to fearlessly push, pull, or squeeze a soft lump of clay into a personally satisfying result. In a psychological sense, clay becomes for many children a more direct outlet for emotions than drawing or painting because of the tactile association with the material. A simple experience with clay may be one of the most satisfying methods of

self-expression that a child can find. The principles of free expression through experience and experimentation are basic to creative art work in any media. A simple experience with clay may be a most satisfying one.

Baruch (3) discussed the use of two kinds of clay: "oily clay" and "watery clay" through which children express their feelings:

The watery clay is potter's clay. With water added, it becomes as "goosey" and "guishy" and "sticky" as mud on a rainy day. With the water dried out, it turns into states, it becomes "hard as a rock or as elephant's teeth". Both the oily clay and the watery clay are useful. Small children ordinarily prefer the latter (p. 195).

Baruch also describes how children use clay to express their anger and dislikes in relation to their every day routine dealings with others:

Clay may be bombs "to kill the whole world dead with, especially at a certain address". Clay may be snakes "for to bite you with". Clay may be "dirty worms to crawl over you and make you itch". Clay may become a "man to stamp on" or a "mother to squeeze the bejuices out of it". It may be fashioned into ugly caricatures with big lips or noses, with warts on cheeks or chin. It may become an effigy to "stick full of splinters". Or it may, like eighteen-year old Victor's leering gargoyle, be a self portrait. Says Victor, "It's the killer inside me. It used to jut out over the bed at night and frighten me to death. But it doesn't come around any more now that I've gotten it out into a shape that I can see and touch" (p. 198).

Nelson (13) stated that clay in itself is an important tool for learning and does not need the addition of learning tools such as dull knives, rollers, or cookie cutters for they seem to hamper rather than aid creativity. The same writer recommended that the teacher should keep the clay just wet enough for the desired consistency, and provide sufficient quantity so that children's manipulation of it need not be limited. Nelson also suggested that the first practical step in helping young children to use clay is to plan for its care, preparation, storage and use. If a simple organized convenient routine is established, then it will be easy to place full emphasis on the clay's value as a creative material.

## Methods for Studying Children's Uses of Play Materials

The human observer has served as a measuring device in the behavioral sciences since the beginning of time. Kavin (12) has commented:

Observation of the individual and his environment, in various kinds of situations, is the most common and obvious method of learning about children. It is both the method most commonly used by all teachers and also the basic method of science. Observations may be made in natural or in controlled, laboratory situations. ... observational methods present many problems ... it is difficult to compensate for their subjective nature; ... it is difficult to determine optional methods of recording observations. ... Problems of much greater complexity are presented in the tasks of classifying, analyzing, and interpreting what was observed and recorded. ...

In spite of all these problems, observation is likely to remain the most commonly used method of teachers in their efforts to study and understand children (pp. 304-5).

Heyns and Lippitt (10) have stated that the human observer as a measuring instrument has been most useful and necessary when other techniques of measurement would disrupt the process of social interaction and when the actor himself is inadequate as a direct source of information. For example, in the study of preschool children, the child's immaturity would preclude recourse to methods dependent on introspection and verbal reports of feelings, ideas, or experiences and the logical method in such a study would be the direct observation either in controlled or in uncontrolled environments.

An attempt towards the formulation of certain principles of method for observing and analyzing the play activity of young children was made by Bott (5) through a series of exploratory observations of the free play activities of fifteen nursery school children at the St. George's School for child study in Toronto, over a period of about

one year. Bott devised a standard record sheet for classifying all observed reactions to the play situation into three categories as follows:

- (1) Relation with material, which was recorded in four columns.
  - (a) The clock time at which a child took a given material.
  - (b) The name of the material.
  - (c) What the child did with it.
  - (d) The total time to the nearest whole minute that the child was occupied with a given material.
- (2) Relation with adults; five categories were selected for trial with abbreviation to facilitate their use.
- (3) Relation with other children; seven categories selected for trial abbreviation were used to facilitate quick recording.

Bridges (6) reported another method to study childrens' use of material which is a simple observation record of the time spent in using different materials.

Analysis of the foregoing studies suggest the following points for consideration in designing and executing this investigation:

- (1) That clay is an interesting and important learning tool for children of preschool age.
- (2) That the consistency of clay which children prefer to use is not revealed in the literature.
- (3) That observation is a satisfactory method for measuring children's interest in the use of play materials.

## CHAPTER III

### METHOD AND PROCEDURE

The method used in this investigation was that of direct observation. The observations of the subjects were recorded on a checklist designed by the investigator to record the children's choice of the three consistencies of clay.

#### Subjects

The subjects for this investigation were the children in the university preschool laboratories at the Oklahoma State University. Their ages ranged from three years and one month to five years and eight months. The children were in two groups with twelve in each group. The younger children were three years and one month to four years two months in age and referred to as group number I. The children whose ages were four years and three months to five years and eight months were referred to as group number II. Twenty-four children were provided opportunity to participate but only sixteen chose to play with clay during the time observations were recorded, therefore, the subjects for this investigation were sixteen in number.

#### Procedure

Observations which provided the data for this investigation were made during the indoor self-selected activity period during the regular

nursery school program. In addition to clay, the following activities with crayons, blocks, books, cutting and pasting, puzzles and easel painting were provided for the children.

Three different consistencies of clay (1) very firm, (2) medium, and (3) very soft were prepared in advance by the investigator. All the three consistencies were placed on one table. Chairs were provided at the table and four children could play with the clay at one time. Aprons were provided so that the children could play with the clay without soiling their clothing. At the beginning of each observation period, the children were told by the observer or the teacher about the provision of the three different consistencies of clay as follows. "Here are three kinds of clay, hard, soft, and guishy. You can play with any of these you like." There was no preferential stress given to play with any one consistency either by the observer or the teacher. The subject had free access to any one of these clay consistencies. The observer was seated near the table to record the time spent, the child's preference, and any remarks which he made concerning the clay while he was at the clay table. A stop watch was used in recording the time. These observations extended over a period of one hour on each Tuesday and Thursday of the week for continuous six weeks, after establishment of the correct checklist by the investigator.

The observer assisted the children in putting on the aprons, with the washing of their hands, and in cleaning up after they were through playing with the clay. The teacher and the student teacher guided the children in the use of other activities. In the younger group, however, the teacher encouraged the children to use the clay indirectly by sitting near the clay table.

### Description of the Clay

The clay was prepared from commercially prepared powdered natural clay, commonly called clay flour. A different amount of water was added to the clay flour to get the three different consistencies.

The water used for each kind of clay was approximately the same each time, but due to atmospheric conditions the measurement of water did not produce the same consistency of clay each time. Therefore, for this investigation description of consistency was deemed more accurate than the requirement of a certain amount of water in ratio to a certain amount of clay flour.

Hard clay was prepared by adding just enough water to the powdered clay flour and working with hands to a uniform consistency. This clay was hard so that one could not mold it easily into any shape. Clay of this consistency did not stick to the hands of the children and usually required one-fourth cup of water for each cup of clay flour.

Medium clay was prepared by adding enough water to the powdered clay and working it to a uniform consistency which could be molded into shape that could be retained. This clay did not adhere to the children's hands and approximately required one-half cup of water for each cup of clay flour.

Soft clay was prepared by adding enough water to the clay powder to form soft mud-like consistency which could not be molded into any shape and which would easily stick to the hands and clothing of the children. To prepare this consistency approximately one cup of water was added to each cup of the clay flour.

### Description of the Checklist

Heyns and Lippitt (10) stated: that observer load is a factor affecting reliability of observation. They say; "Other things being equal, the more the observer has to do, the lower the reliability" (10, p. 397).

Arrington (2) stressed the same point in her review article on time sampling. According to Arrington, the most important factors affecting accuracy of observation in uncontrolled life situations are the amount of behavior observed, the degree of precision with which the observed behavior is defined, and the simplicity or complexity of the method of recording. She summarised her point of view by saying:

"Other things being equal, the fewer the behavior items or categories included in the record, the more precise the definition of these items, and the simpler the recording process, the more reliable will be the observations (2, p.92).

The degree of reliability attained during a study depends also upon the amount of training of the observer in that field.

Various types of record sheets were tried in order to determine the most suitable checklist for the collection of the data. The trial check list included the following items:

- (1) Choice of the consistencies of clay; to be indicated by the preference given by each child to that particular consistency.
- (2) Interest Span; recording the time a child spends with each consistency.
- (3) Rejection; which may be shown by physical, verbal or facial expression.
- (4) Acceptance; indicated by the interest each child takes in a particular consistency of clay and the extent to which he gets absorbed in playing with it.
- (5) Social contact; recording inter-action with teacher and inter-action with children.
- (6) Behavior; including aggression and cooperation.



However, this list of categories was found to be too lengthy and could not be checked by one observer accurately. Some categories were then omitted for this study.

The first revision of the checklist used for this study contained the following items:

- (1) Choice
- (2) Interest Span
- (3) Rejection of clay
- (4) Acceptance of clay

The revised checklist was subjected to a test situation in which the observer recorded children's responses while they played with clay during the self-selected activity period, after which the observer combined items three and four on the following bases:

- (1) Less items to check increase the reliability of the observer's recordings.
- (2) That when the children used the clay, and the remarks were recorded that this would indicate acceptance and rejection.

Therefore, the final checklist (Appendix A) for this investigation included the following items:

- (1) Choice of clay
  - (a) Hard clay
  - (b) Medium clay
  - (c) Soft clay
- (2) Time span
- (3) Remarks

The final checklist was administered by one observer, who is the writer of this investigation.

## Reliability of Observations

The reliability factor was neglected during this exploratory investigation and the data were collected by one observer.

Conflicts in schedules of persons assigned to observe with the investigator prevented the establishment of reliability by additional observers. However, one observation by two observers was conducted in which the observers had complete agreement in the time span and preference for the clay.

### Summary

The foregoing studies revealed the following points for consideration in designing the procedure discussed in the next chapter for the present investigation.

- (a) That observation is a satisfactory method for measuring children's interest span in the use of play materials.
- (b) That the observer's task must be simplified as much as possible by limiting the number of items to be observed.
- (c) Code symbols and record blanks may be used for long-hand descriptions where ever possible.

## CHAPTER IV

### ANALYSIS OF THE DATA

This exploratory investigation was made on two groups of preschool children to ascertain the preference they had for natural clay in three consistencies. Direct observations which were recorded by one observer during a free play period were the source for these data.

These data were tabulated and were presented in tables to reveal the following:

- (1) The preference that children had for the three consistencies of clay.
- (2) Length of time the child spent with the clay of his choice.
- (3) The verbal response the child made during the time observations were recorded.

Table I presents a description of the subjects studied in this investigation.

TABLE I  
AGES OF THE TWO GROUPS OF NURSERY SCHOOL CHILDREN

SUBJECTS	FIRST GROUP		SECOND GROUP		TOTAL
Girls	3 Yrs. 4 Mo. to	4 Yrs. 2 Mo.	4 Yrs. 3 Mo. to	5 Yrs. 8 Mo.	11
	4	2	3	2	
Boys	3 Yrs. 3 Mo. to	4 Yrs. 1 Mo.	4 Yrs. 5 Mo. to	5 Yrs. 8 Mo.	13
	4	2	3	4	
<b>TOTAL</b>	3 Yrs. 3 Mo. to 5 Yrs. 8 Mo.				<b>24</b>

Table II revealed that fifteen children or 93.75 percent of the sixteen children who took part in this investigation preferred the soft messy clay. Only one child liked the medium clay, while no child chose to work with hard clay.

Analysis of Table I and Table II revealed that whereas all the eight children between the three to four year age group participated, only half of the children in the age groups 4.1 to 5 years and above 5 years took part in the investigation. Thus there seemed with this group of children to be a greater tendency among the younger children to prefer the messy, natural clay more often than older children.

TABLE II

NUMBER AND AGE OF CHILDREN WHO PREFERRED  
THE THREE CONSISTENCIES OF CLAY

Total Children - 16  
Observation Time - Twelve - 1 Hour Periods

KIND OF CLAY	NUMBER AND AGES OF CHILDREN		
	3 - 4 Years	4.1 - 5 Years	Above 5 Years
Hard	-----	-----	-----
Medium	1	-----	-----
Soft	7	5	3

Table III presented further evidence of the children's preference for the soft, messy clay. The range of time for the interest span for children to be occupied with the use of soft, messy clay was from two minutes to forty minutes. The average number of minutes for each play time was nine minutes. There were nine children whose interest span for use of the soft, messy clay exceeded the average play time of nine

TABLE III

PREFERENCE AND RANGE OF INTEREST SPAN OF THE  
NURSERY SCHOOL CHILDREN TO THE  
THREE CONSISTENCIES OF CLAY

Total Children - 16  
Observation Time -- Twelve - 1 Hour Periods

* NAME	AGE	NUMBER OF PARTICIPATIONS	PREFERENCE	RANGE
Mary	3 Yrs. 4 Mo.	3	Soft Clay	3 min. to 7 min.
Jean	3 Yrs. 4 Mo.	3	Soft Clay	5 min. to 10 min.
Tom	3 Yrs. 6 Mo.	2	Soft Clay	3 min. to 5 min.
Pete	3 Yrs. 6 Mo.	2	Medium Clay	7 min.
June	3 Yrs. 8 Mo.	2	Soft Clay	3 min. to 10 min.
Peggy	3 Yrs. 10 Mo.	5	Soft Clay	2 min. to 7 min.
Henry	3 Yrs. 11 Mo.	2	Soft Clay	3 min. to 5 min.
Elizabeth	4 Yrs. 0 Mo.	3	Soft Clay	3 min. to 40 min.
Sarah	4 Yrs. 2 Mo.	2	Soft Clay	10 min. to 18 min.
Nora	4 Yrs. 3 Mo.	5	Soft Clay	3 min. to 12 min.
Helen	4 Yrs. 7 Mo.	3	Soft Clay	3 min. to 6 min.
Jessie	4 Yrs. 11 Mo.	6	Soft Clay	3 min. to 20 min.
Harry	4 Yrs. 11 Mo.	2	Soft Clay	2 min. to 15 min.
Wanda	5 Yrs. 1 Mo.	3	Soft Clay	3 min. to 20 min.
Rose	5 yrs. 1 Mo.	2	Soft Clay	3 min. to 10 min.
John	5 Yrs. 8 Mo.	1	Soft Clay	5 min.

Average number of minutes for each child's participation -- 9 minutes

\* Fictitious names are used for children.

minutes. Five of the sixteen childrens' interest span lasted fifteen minutes or more. An interesting observation in relation to the sex of the child and the use of soft, messy clay was that of the thirteen boys in the two groups studied, only five came to play with natural clay. Out of these five boys, only one had an interest span of fifteen minutes while the interest of all the other four boys lasted for less than the average play time of nine minutes.

All the eleven girls of the two groups studied took part in this investigation and eight of these girls had an interest span of more than nine minutes - the average play time. The length of interest span of four of these girls was more than fifteen minutes which is the highest interest span among the boys.

In Table IV will be found the verbal responses which the children made during the time that observations were recorded. The three year olds felt of the hard clay and made comments, while the five year olds seemed to be able to recognize the consistency without tactile contact. All ages of children observed in this pilot investigation seemed to derive satisfaction in the use of soft, messy clay as evidenced by their comments which are recorded in Table IV.

#### Interesting Observations

In addition to finding the consistency of clay with which the children preferred to play, the following observations were made during this exploratory investigation:

- (1) The sex differences were obvious by the fact that mostly the girls preferred to play with clay and not the boys.
- (2) More or less, the same children liked to play with clay each time.

TABLE IV

THE NUMBER OF CHILDREN AND THEIR COMMON  
VERBAL RESPONSES TO THE THREE  
CONSISTENCIES OF CLAY

Total Children - 16  
Observation Time -- Twelve - 1 Hour Periods

KIND OF CLAY	RESPONSE	NUMBER OF CHILDREN RESPONDING			TOTAL
		3-4 Yrs.	4.1-5 Yrs.	Above 5 Yrs.	
Hard	It is too hard.	3	4	-----	7
	I cannot press it.	1	-----	-----	1
	I do not want to play with it.	1	1	-----	2
	It is no good.	2	-----	-----	2
	Total Children				12
Medium	Oh, it is no good.	-----	1	-----	1
	Total Children				1
Soft	It is fun to play with this guishy clay.	3	4	2	9
	I want or (like) to (play with) guishy clay.	1	1	-----	2
	It is too "guishy."	1	1	1	3
	It is too "guishy", we do not like to play with it.	-----	1	-----	1
	My mama wants me not to get my clothes dirty.				
	Anyhow I am still going to play with guishy clay.	-----	-----	-----	1
	Total Children				16

- (3) The younger group spent more time in playing with clay than the older group. This observation was based upon a comparison of the children in group I with the children in group II.
- (4) Children wanted adult stimulation, through direct or indirect approval of the teacher when playing with the clay. Observations which are recorded as children's comments in Data Sheets Appendix B, show evidence of the child leaving the clay table and approaching the teacher with a comment such as, "Look at my hands. You can not see them." When the teacher gave approval by such remarks as: "Yes, it is fun to play with guishy clay," the child smiled and returned to the clay table to continue play. Often the children called to the teacher from the clay table and remarked, "Look, teacher you can't see my fingers." A smile from the teacher seemed to mean approval for the child who then continued his messing with the clay.
- (5) The response to play with the clay seemed to be dependent on social grouping. Children who seemed to prefer each other in other activities, usually came to the clay table together and left the clay at the same time . Often one child in a group would say "Let's play with the "guishy clay" and the two or three children who were engaged in an other activity together would leave it and come to the clay table. (Data Sheets, Appendix B).
- (6) The younger group seemed to derive greater pleasure in messing with the guishy clay than the older group, as revealed by the analysis of their interest span and recorded in Table III.



- (7) There was some evidence that the children had a fear of soiling their clothing with the "guishy clay." One child said, "My mama wants me not to get my clothes dirty."

## CHAPTER V

### SUMMARY AND RECOMMENDATIONS

This pilot investigation was concerned with preschool children's preference for three consistencies of natural clay. The need for such a study was evidenced by the lack of material available to guide teachers and parents in the use of clay as an educational tool for learning. The purpose of this investigation was to determine the consistency of clay which children prefer under ordinary circumstances in the nursery school. Clay in this investigation was a product made from the earth or soil, and did not refer to plasticene and other similar commercial products.

The subjects for this investigation were two groups of nursery school children in the university preschool laboratories at the Oklahoma State University and their ages ranged from three years three months to five years eight months. The method used was that of direct observation and all the data were collected by one observer. Twelve one hour periods were spent in the recording of children's preference for clay. The observations which provide the data for this investigation extended over a period of six weeks with a frequency of twice a week.

#### Findings Based on Observations

Sixteen of the twenty-four subjects or sixty-seven percent of the total children participated in this investigation. Almost ninety-four

percent of the children who participated preferred the soft messy clay. Only one child chose the medium consistency of clay, while no child chose to work with hard clay. The younger children in this investigation chose to play with clay during this investigation more than the older children.

In this investigation girls preferred to play with clay more often than the boys although the verbal responses of all the children indicated that both sexes seemed to derive satisfaction in the use of soft messy clay.

#### Weaknesses of this Investigation

Certain weaknesses of this investigation are recognized: (1) the small number of subjects, (2) the limited number of time samples, and (3) lack of sufficient observations by two observers to establish reliability. Notwithstanding these limitations this investigation has revealed some interesting observations for further testing.

#### Recommendations

Conclusions based on this sample are not warranted, but recommendations are justifiable. Further study concerning the consistency of clay in relation to children's preference should be made.

The writer further recommends that teachers experiment with the medium of messy clay in their own teaching situations by providing it often for children in self-selected activity periods.

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APPENDIXES

APPENDIX A

CHECK LIST FOR RECORDING DATA

No. of Children \_\_\_\_\_

Date \_\_\_\_\_

Group \_\_\_\_\_ Time \_\_\_\_\_

Name	Soft Clay		Medium Clay		Hard Clay		Remarks
	Choice	Time	Choice	Time	Choice	Time	



## APPENDIX B

GROUP I  
DATA SHEET

Name of the child Mary

Maximum time 6 one hour periods

Age 3 yrs. 4 mo.

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	Touches	--	I don't want to play with this.
Medium	--	--	--
Soft	3	15 min.	It is fun to play with this guishy clay.  Touches the hard clay and says, "It is too hard. Where is soft one, I like guishy clay."

The range of this child's interest span was from 3 min. to 7 min.

GROUP I  
DATA SHEET

Name of the child Jean

Maximum time 6 one hour periods

Age 3 yrs. 4 mo.

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	--	--	It is hard.
Medium	--	--	--
Soft	3	20 min.	It is fun to play with clay. I like it.

The range of this child's interest span was from 5 min. to 15 min.

GROUP I  
DATA SHEET

Name of the child Tom

Maximum time 6 one hour periods

Age 3 yrs. 6 mo.

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	1	2 min.	It is no good, it is too hard.
Medium	Touches	--	--
Soft	2	8 min.	Plays with guishy clay for some time, washes the hands saying, "it is too guishy.". Starts playing with hard clay for some time and then wanted to play with guishy clay again.

The range of this child's interest span was from 5 min. to 7 min.

GROUP I  
DATA SHEET

Name of the child Pete

Maximum time 6 one hour periods

Age 3 yrs. 6 mo.

Type of Clay	No. of Participations	Total time spent in participation	Remarks
Hard	Touches	--	It is no good
Medium	1	7 min.	Pats and pounds, makes shapes by rolling it.
Soft	2	6 min.	Squeezes, pats and pounds says, "Bang, bang".

The range of this child's interest span was from 5 min. to 7 min.

GROUP I  
DATA SHEET

Name of the child June

Maximum time 6 one hour periods

Age 3 yrs. 8 mo.

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	1	6 min.	Teacher, "It is to hard and I can not press it."
Medium	Touches	-- .	
Soft	2	13 min.	"It is guishy" and splashes it with both hands. "It is fun to play with it."

The range of this child's interest span was from 3 min. to 10 min.

GROUP I  
DATA SHEET

Name of the child Peggy

Maximum time 6 one hour periods

Age 3 yrs. 10 mo.

Type of Clay	No. of Participations	Total time spent in Participations	Remarks
Hard	Touches	--	--
Medium	Touches	--	--
Soft	5	20 min.	Touches all the clay, but plays with soft clay without saying anything.

The range of this child's interest span was from 2 min. to 7 min.

GROUP I  
DATA SHEET

Name of the child Henry

Maximum time 6 one hour periods

Age 3 yrs. 11 mo.

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	Touches	--	--
Medium	Touches	--	--
Soft	2	8 min.	Let us play with this guishy clay. No one can see our hands.

The range of this child's interest span was from 3 min. to 5 min.



GROUP I  
DATA SHEET

Name of the child Elizabeth

Maximum time 6 one hour periods

Age 4 yrs. 0 mo.

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	1	1 min.	It is too hard.
Medium	1	1 min.	---
Soft	3	43 min.	<p>"It is really fun to play with guishy clay. I can play more with this clay. I am still playing with this. You did not play with this clay as much as I am. Nobody can see my hands, no sir. I am playing the piano with clay." Squeezes, pats and says "slap, slap".</p>

The range of this child's interest span was from 3 min. to 40 min.

GROUP I  
DATA SHEET

Name of child Sarah

Maximum time 6 one hour periods

Age 4 yrs. 2 mo.

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	Touches	--	It is hard.
Medium	Touches	--	--
Soft	2	28 min.	I want to play with <u>guishy</u> clay. No one can find my fingers.

The range of this child's interest span was from 10 min. to 18 min.

GROUP II  
DATA SHEET

Name of the child Nora

Maximum time 6 one hour periods

Age 4.3 yrs. old

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	--	--	It is too hard.
Medium	1	5 min.	--
Soft	5	36 min.	I. "It is fun to play with gooshy clay." II. "It is too guishy, we do not like to play with it." III. Teacher, "It is fun to play with guishy clay." IV. Teacher, "Look at my hands, you can not see them." V. "Is not it a fun to play with guishy clay, Sherry?"

The range of this child's interest span was from 3 min. to 12 min.

GROUP II  
DATA SHEET

Name of the child Helen

Maximum time 6 one hour periods

Age 4 yrs. 7 mo.

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	Touches	--	It is too hard.
Medium	Touches	--	Oh, it is no good.
Soft	3	12 min.	Plays with soft clay for sometime and says, "it is too sticky." Touches the hard clay and says, "It is too hard." and then touches the medium clay and says, "Oh, it is no good." and kept playing with soft clay.

The range of this child's interest span was from 3 min. to 6 min.

## GROUP II

## DATA SHEET

Name of the child JessieMaximum time 6 one hour periodsAge 4 yrs. 11 mo.

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	Touches	--	--
Medium	--	--	--
Soft	6	40 min.	I. It is fun to play with gooshy clay. II. Who made this guishy clay. It is too guishy. III. No one can see my hands.

The range of this child's interest span was from 3 min. to 20 min.

GROUP II

DATA SHEET

Name of the child Harry

Maximum time 6 one hour periods

Age 4 yrs. 11 mo.

Type of Clay	No. of Participarion	Total time spent in Participation	Remarks
Hard	--	--	I do not like to play with it.
Medium	--	--	--
Soft	2	17 min.	"Here is guishy clay, let us play with it." Pounds and splashes.

The range of this child's interest span was from 2 min. to 15 min.

GROUP II  
DATA SHEET

Name of the child Wanda

Age 5 yrs. 1 mo.

Maximum time 6 one hour periods

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	--	--	--
Medium	--	--	--
Soft	3	26 min.	<p>I. It is fun to play with gooshy clay.</p> <p>II. It is too guishy.</p> <p>III. My mama wants me not to get my clothes dirty. Anyhow I am still going to play with that guishy clay. With apron it will not get dirty. Is not that right?</p>

The range of this child's interest span was from 3 min. to 20 min.

GROUP II  
DATA SHEET

Name of the child Rose

Maximum time 6 one hour periods

Age 5 yrs. 1 mo.

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	Touches	--	--
Medium	Touches	--	--
Soft	2	13 min.	"Teacher, see I am playing with the guishy clay." "It is fun to play with it," Pounds, splashes and says, "now no one can see my fingers."

The range of this child's interest span was from 3 min. to 10 min.



GROUP II

DATA SHEET

Name of the child John

Maximum time 6 one hour periods

Age 5 yrs. 8 mo.

Type of Clay	No. of Participations	Total time spent in Participation	Remarks
Hard	--	--	--
Medium	--	--	--
Soft	1	5 min.	Plays with it without saying anything.

VITA

Sarla Katyal

Candidate for the Degree of

Master of Science

Thesis: PREFERENCE OF NURSERY SCHOOL CHILDREN FOR THREE CONSISTENCIES  
OF CLAY

Major: Family Relations and Child Development

Biographical:

Personal Data: Born in Punjab (India), October 12, 1929.

Education: Attended Government High School, Lyallpur (Punjab) India, and passed the Matriculation examination in 1944. Passed the Intermediate examination of the Punjab (India) University in 1947. Attended Government College, Rohtak (Punjab), India from 1947 to 1949; received the Bachelor of Science degree from the Oklahoma State University with a major in Family Relations and Child Development in May, 1958; completed the requirements for the Master of Science degree in August, 1958.