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Play of the preschool age deaf child

Carmelita Klorer

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WASHINGTON UNIVERSITY
Central Institute for the Deaf

PLAY OF THE PRESCHOOL AGE DEAF CHILD

by

Carmelita Klorer

A dissertation presented to the Board
of Graduate Studies of Washington
University in partial fulfilment
of the requirements for the
degree of Master of Science

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CHAPTER I

INTRODUCTION

Play for the child has physical, mental, social, and educative values. The young child becomes a physically well developed person through his play, exercising his muscles in his various play activities from day to day. He learns to meet new situations, adapt quickly to his environment, cooperate with other children and with adults, express his ideas, and develop his imagination.

The modern attitude toward play is the desire for physical perfection and good health. Play activities are invaluable for the proper physical development of the child. Psychology taught us it is essential for mental as well as physical hygiene. Sociological studies show a relationship between a lack of play opportunities and improper forms of play and juvenile delinquency. The social importance is thus stressed. Educators show that the child learns better and retains longer if education is carried on in the spirit of play. Besides this we have come to believe that the child has the right to play. Adults should afford opportunities to exercise this privilege.¹

Through his play activities the child learns how to adjust to people and situations. He becomes a socially adapted individual. Davis says that happy socialization should be achieved in ideal play. He writes,

The child's play should be on the 'useful side of life' as Adler expresses it. To be in the most comprehensive sense a constructive and a creative activity, away from the chilling admonition of don'ts and musts, a growth of the child's spirit, a

¹Blanchard, P., Child and Society, N.Y., Longmans Green and Co., 1928, pp. 152-154.

development and assurance of his own unique personality, an expressive process in which his boyish enthusiasm and developmental zest is given adequate rein and his personality rights are guaranteed.²

From Froebels³ comes the doctrine of socialization which favors early participation in various group activities. Such activities are a means of acquiring the social aspects of education, whereas, if the child plays alone too much, emphasis is placed on individual expression. Through cooperative activities in play he believes the moral qualities of justice, moderation, self control, thoughtfulness, loyalty, brotherly love, and strict impartiality are cultivated.

The mental development which comes through play is most important.

Play which is pursued with all one's might, tends to help unify the mind and makes for mental alertness. Memory develops best when exercised in connection with the things in which the child is most interested. Play is more interesting to him than anything else... Play develops the ability in the child to make quick and accurate judgments and to respond to commands. Initiative, originality, and resourcefulness may all be fostered through play.⁴

Character development is associated with the mental development of the child through his play which has definite character-forming values. Courtesy, self-discipline through

²Davis, J.E., Play and Mental Health, N.Y., A.S. Barnes and Co., 1938, pp. 188, 194.

³Baldwin, B.T. and Stecher, L.I., Psychology of the Preschool Child, N.Y., D. Appleton and Co., 1925, p. 7.

⁴Committee of Playground and Recreation Association of America, Normal Course in Play, N.Y., A.S. Barnes and Co., 1925, pp. 87-88.

obedience to the rules of the game, loyalty, and appreciation of the values of team-work, courage, justice, unselfishness, generosity, honesty, perseverance and tolerance can all be developed through play.

The individual is more completely revealed in play than in any one other way; and conversely, play has a greater shaping power over the character and nature of man than has any one other activity. A man shows what he really is when he is free to do what he chooses, and if a person can be influenced so that his highest aspirations--which are followed when he is free to pursue his ideals--are a gain, then his character is being shaped profoundly.⁵

Play should also be considered as a social experience in which the child must learn to adjust to his companions,

Each child should be allowed his proper place in the game. If we view play as a slice of zestful living, we must view the players as people who act and succeed and make mistakes, but do not fail, as long as they observe the spirit of the adventure. Since play is a social exploit, the players must unite their individual contributions for the higher common good. Such a viewpoint of play emphasizes individual differences in people and accepts as valid the contribution which meets with playmates' respect even though they are not the aggressive qualities which one naturally associates with play.⁶

If play is of such great value to the normal child--is it not equally important to the deaf child, who is frequently described as retarded educationally and maladjusted socially? Are differences between the deaf child and the hearing child

⁵Gulick, L.H., A Philosophy Of Play, Chicago, Charles Scribner's Sons, 1920, p. XIV.

⁶Davis, op.cit., p. 153.

evident in play activities at preschool age? Does the deaf child seem unhappy in play with hearing children at preschool age?

The problem of this investigation is to determine: 1) whether there are any differences in preference of play materials of deaf and hearing children; 2) whether there is more social interaction when the deaf children play with hearing children than when they play with other deaf children; 3) whether certain play materials provided tend to give more social interaction; 4) whether there are any sex differences in the use of the materials; and 5) whether there are any differences according to chronological age.

It is hoped to answer these questions by observation of the free play of preschool age deaf and hearing children in planned situations, making judgments according to the uses made of the materials, and the amount of social interaction including talking, watching, interfering, and the use of gestures.

CHAPTER II

HISTORY

Interest in the play of children and adults has been noted in philosophical and psychological literature from the time of the early Greek philosophers to the present date. Early writings are concerned with definitions of play and theoretical discussions of its values. Experimental studies of the play of children are relatively recent.

The Greeks were the first exponents of play in education. Plato urged state legislation in regard to games and advocated education by play and games expressing the great influence of play in the maintenance of law.

There is great variation in definitions of play ranging from the simple expenditure of excess energy to preparation for future adult activities. According to Gross,

In child's play opportunity is given to the animal, through the exercise of inborn dispositions, to strengthen and increase his inheritance in the acquisition of adaptations to his complicated environment, an achievement which would be unattainable by mere mechanical instinct alone. The fact that youth is 'par excellence' the period of play is in thorough harmony with this theory...The biological criterion of play is that it shall deal not with the serious exercise of the special instincts, but with practice preparatory to it. Such practice always responds to definite needs, and is accompanied by pleasurable feelings. The psychological criterion corresponds with it; thus, when an act is performed solely because of the pleasure it affords, there is play. Yet, the consciousness of engaging in sham occupation is not a universal criterion of play.⁷

⁷Gross, K., The Play Of Man, N.Y., D. Appleton and Co., 1901, pp. 2-5.

Freeman⁸ considers play an activity which meets no need except that of development, an activity carried on entirely for the sake of the one who plays.

In answer to the question, "What is play?" Stern replies that it is voluntary, self sufficient activity. He adds to his definition by saying,

But if play has no aims outside itself it is also free from all outside compulsion; play is neither demanded nor imposed, but bubbles up spontaneously from the individual's deepest craving for action, and its nature, form and duration are determined by the player himself. Compulsory games cease to be play. Even the rules of the game, which represent a certain compulsion in no way contradict this, for the recognition of these rules, in the submission to their dictates, is a voluntary act on the part of every player.⁹

Lee considers play the work of childhood and according to Blanchard:

While play is decidedly of the present it savors of the future.¹⁰

Appleton¹¹ considered play as an aspect of growth through which the child developed and prepared for more mature functions. The hunger for growth produces the basic drive for play behavior.

⁸Freeman, F.N., How Children Learn, Chicago: Houghton Mifflin Co., 1917, p. 61.

⁹Stern, W., Psychology of Early Childhood, N.Y.: Henry Holt and Co., 1924, p. 296.

¹⁰Blanchard, F., The Child and Society, N.Y.; Longmans, Green and Co., 1928, p. 135.

¹¹Lehman, H.G., and Witty, P.A., Psychology of Play Activities, N.Y.: A.S. Barnes and Co., 1927, p. 21.

Lehman and Witty¹² agree with Stern's definition of play and include as play largely the activities in which the individual engages "just because he wants to." Play is the result of so many variables that any definition or explanation necessarily must be partial and incomplete.

According to Dewey¹³ organic beings are naturally active merely because they are alive.

Early writers have formulated definitions of play, recognized its value in education, and also developed theories of play. Of such theories one of the earliest was the surplus energy theory of Schiller and Spencer.

Schiller was the first exponent of this theory in Germany, when he accounted for play by calling it an endless expenditure of exuberant strength, which is its own excuse for action. But Spencer, in his Principles of Psychology, first attempted a scientific formulation of the theory. "It is characteristic of nerve processes," he says, "that the superfluous integration of ganglion cells should be accompanied by an inherited readiness to discharge. As a result of the advance development of man and the higher animals they have, first, more force than is needed in the struggle for existence; and, second, are able to allow some of their powers larger periods of rest while others are being exercised, and thus results the aimless activity which we call play, and which is agreeable to the individual producing it."¹⁴

Groos¹⁵ has brought forth the practice theory of play

¹²Ibid. p. 7.

¹³Ibid. p. 24.

¹⁴Groos, op.cit., p. 362.

¹⁵Ibid. p. 361.

which is based on the idea that by means of play the young of a given species obtain practice in those forms of activities which in later life are necessary to sustenance. To explain play three views should be considered. The first view recognizes the necessity for discharge of superabundant vigor; the second view regards play as an opportunity for the relaxation and recreation of exhausted powers; the third view explains play as a preparation for the tasks of life.

Seashore¹⁶ has paraphrased the Groos practice theory of play, and believing certain qualifications necessary he says that when children play they have no intention of fitting themselves for life. They play because it satisfies certain cravings and seems to be the natural thing to do. It is only when viewing play retrospectively that the marvels of development wrought through the play instincts are evident.

Hall presents the recapitulation theory and according to it the past of the race is rehearsed in play activities.

Play is the motor habits and spirit of the past of the race, persisting in the present as rudimentary function of and always akin to rudimentary organs. Thus, in play, we rehearse the activity of our ancestry back we know not how far, and repeat their life work in summative and adumbrated ways. The pleasure is always in direct proportion to the directness and force of the current of heredity. The pain of toil dies without forbears; its vestige in our play gives pure delight. The child in his social development must pass through all the stages of social life that the race has experienced.¹⁷

¹⁶Lehman and Witty, op.cit., p. 18

¹⁷Committee of Playground and Recreation Association of America, Normal Course In Play, N.Y.: A.S. Barnes and Co., 1925, p. 92.

More recent is the attempt of Patrick¹⁸ to bring the play of adults and that of children into harmony with the laws of recreation and relaxation. His theory is known as the relaxation theory, which considers play as those activities pursued for their own sake alone. The relaxation theory looks upon play as a way in which those who have exhausted their energy can recuperate whereas the surplus energy theory considers play as an activity whereby those who have excess energy can get rid of it. These two views are not inconsistent since the brain can be rested while muscular energy is being used up. The relaxation theory is primarily a theory of adult play and consequently is of little value in solving the problems of children's play.

Another recent theory is that of Lee¹⁹ who holds that the great achieving instincts, the chief of which are hunting, fighting, creating, rhythm, nurture, curiosity, and team-play, are responsible for growth in play. He says that the child's play is the most serious thing in his life. Growth through play is an example of the general law of growth through action. The function of play in growth is to supplement the impulses which the major instincts give in general terms, by habits and reflexes, making them efficient to specific ends.

Johnson has outlined a theory called the structure-function-experience theory in which he asserts that:

¹⁸Ibid., p. 93.
¹⁹Ibid., p. 94.

The explanation of play phenomena, as the explanation of animal behavior in general, must be sought first of all in organic structure and then in experience. Play activity varies as the structure of the animal varies; and just as variations in structure in the animal world have no bounds, so also the variations due to learning have no bounds.²⁰

In play life the age of the children determines their activities and interests. The play life of children has been divided into various groupings, according to play interests. All authors do not agree on the groupings, however, none of the divisions are more than approximate, in any case, for play interests are dependent not only upon the life age but also upon physiological age, mental development, and the environmental situations by which a child has been influenced.

- 1) Babyhood, considered as the first three years after birth, when play consists mostly in sensory-motor activities...
- 2) Early Childhood, third to the seventh year in which play although more complicated is still unorganized. These are the years when the child delights in swings, aimless running, climbing, and jumping. Make believe and reality are interwoven...
- 3) Later Childhood, from seven to twelve years, initiates organized play in the form of group games and the gradual decadence of make believe play...
- 4) Early Adolescence, covering the years from twelve to seventeen implies an abandonment of all the earlier games and a definite devotion to team games and contests...
- 5) Later Adolescence, from seventeen to twenty-three, sees a further development of the same type of play.²¹

²⁰Committee Of Playground and Recreation Association of America, op.cit., p. 95.

²¹Blanchard, op.cit., pp. 139-140.

Lee gives the periods as 1) babyhood, 2) the dramatic age, 3) the age of self assertion, and 4) the age of loyalty.

He describes these periods in the following manner:--

First, the period of babyhood, from birth to about three years during which the child's life is largely in his relation to his mother. Then comes the dramatic age, from three to six in which the impulse to impersonate colors almost all of his activity. Next appears the age of self-assertion, or Big Injun age, from six to eleven, dominated largely by the fighting instinct and then the age of loyalty from eleven on. The first two ages are the same in boys and girls. In the third there is little difference in character and some in dates. In the age of loyalty the divergence is very marked.²²

Rand, Sweeney, and Vincent²³ group in another way. They term the play of children up to the age of two "individualistic play." It is, however, influenced by the mere presence of a companion. Such play is termed "parallel play." At about three years of age ideas are exchanged. Although separate projects may be undertaken there is a flow of conversation between the child and his companion. From three to four years of age the shifting group is noted. There may be some organization in this play but the child is not adjusted to socialized play and still enjoys solitary play. From this period on organization becomes more marked. The child who can take his place in such organization has taken an important step in growth toward socialization.

²²Lee, J., Play in Education, N.Y., Macmillan Co., 1926, p. 65.

²³Rand, W., Sweeney, M.E., and Vincent, E.L., Growth and Development of the Young Child, Phil., W.B. Saunders Co., 1931, p. 361-365.

Buhler and Reininger²⁴ in a study of young children in play situations note that in the first year of life the children contact only one person at a time. In a group of three children, contact is made between two of the three. They observed that in the second year three children may play in a group. From this age on the groups increase in size as the children get older.

After her study of the play of children during the first eight years Palmer recognizes two periods of development.

During infancy, the first period of development--from birth to four years--a child generally plays alone and in an impulsive, unorganized way; during early childhood, the second period of development--from four to eight years of age--the plays gradually demand more cooperation and organization.²⁵

Tudor-Hart²⁶ finds that four-year-olds play together much more than three-year-olds in games which are more coordinated and more purposeful. Nevertheless, they are still make-believe games, organized and led for the most part by one determined and dominating leader followed by a more or less acquiescent retinue.

Lee agrees with Tudor-Hart that young children's play is in the realm of make-believe. He says,

As everybody knows, the play of small children--say from two and a half years old to six or thereabouts--is largely in the form

²⁴Buhler, C., "The Social Behavior of Children," Handbook of Child Psychology, Worcester, Mass., Clark U. Press, 1931 pp. 396-397

²⁵Palmer, L.A., Play Life In The First Eight Years, N.Y. Ginn and Co., 1916, p. VI.

²⁶Tudor-Hart, B., Play And Toys In Nursery Years, N.Y. Viking Press, 1938, p. 44.

of make-believe. They play doll and horse and soldier; sand at their touch turns into pies and houses; blocks become cows and schooners and railroad trains...Much of the child's life at this age consists of impersonation, directly or through playthings to which the various parts are assigned, and there is no understanding him without knowing what this sort of drama means.²⁷

The sex of a child influences his play as does his age. The two year olds prefer play companions of the same sex. In a large group the sexes may be mixed. Lehman and Witty attempt to explain the sex differences noted in the play of young children.

The fact that sex differences are greatest among children at the younger age levels may be due to the tendency of little children to simulate the activities of elders of their own sex. Small girls tend to play house, to play with dolls, etc., while small boys take part in activities of the following sorts: playing cowboy, bandit, Indian, etc. With increase of maturity imitative games are less frequent and sex differences consequently less pronounced.²⁸

Baldwin and Stecher²⁹ found differentiated types of social attitude responses occurring in the play of young children. At times these activities were merely a mass of unrelated incidents but later social contacts were repeated from day to day. The various social attitudes noted were: 1) treating playmates as objects; 2) assuming an adult attitude; 3) seeking attention; 4) doing as others do; and 5) cooperating with the group.

²⁷Lee, op.cit., p. 107.

²⁸Lehman and Witty, op.cit., p. 104.

²⁹Baldwin, B.T., and Stecher, L.I., Psychology Of The Preschool Child, N.Y.: D. Appleton and Co., 1925, p. 243.

Children react in various ways to play situations. Some children when placed in a group are still egocentric and disregard the others in the group. Other children may be aware of the others but are not influenced by their play. Still others enter into group activities.

Parten⁵⁰ has classified the play behavior of children as unoccupied behavior, solitary play, onlooker behavior, parallel activity, autonomous group play, and organized group play. In unoccupied behavior the child has no purposeful activity in mind. During solitary play the child pursues his own activities without reference to others. Onlooker behavior consists in observing the children in a certain group. The child may talk to the group, ask questions, or make suggestions but does not enter into the play himself. In parallel activity the child plays independently but the activity which he chooses is one which brings him among other children. He plays beside the other children rather than with them. Autonomous group play consists in play with a group of children who recognize a common interest in their toys or games. There is little group organization or concentration of leadership in the hands of one individual. During organized group play the child plays in a centralized group organized for the purpose of making something, striving to attain some goal, dramatizing situations of adult and group life, or playing formal games according to simple rules.

⁵⁰Goodenough, F.L., and Anderson, J.E., Experimental Child Study, N.Y., Century Co., pp. 204-250, 1931.

Toys used by children in play come under various classifications according to the age or purpose for which they were intended. Children at various ages prefer different materials. Rand, Sweeney, and Vincent³¹ give requirements for play equipment for very young children. For children from eighteen months to three years the equipment must be simple, with plenty of out-of-door space provided. The materials should challenge the child to resourceful activity.

Some authors believe that children need certain play materials for their proper growth and development. Girls play with dolls and doll furniture while boys play with cars and engines to enable them to get some of the knowledge, meaning, standards, and skills embodied in the life which they will take up later. There are toys such as hoops, slides, see-saws, tops, and others which require coordination of the senses and muscles. Play materials and tools with which children learn to create useful and beautiful objects should be utilized in play both in school and at home. Last of all, there are aesthetic, artistic, and literary play materials such as pictures and books which should stimulate intellectual or aesthetic play of great value.

Specific experiments on the play of preschool children include those of Bridges, Hulson, VanAlstyne, Updegraff and Herbst, and Cockrell.

In 1927 Bridges published a study of the occupational interests of three-year-old children. Two years later she

³¹Rand, Sweeney, and Vincent, op.cit., pp. 301-302.

repeated the experiment using four-year-old children. She reports,

Boys showed a preference for inset-tracing and cube construction, while the girls preferred the dressing frames. Thus the boys seemed to prefer less definite occupations which could be made as simple or elaborate as they chose and which involved hand and arm movements rather than fine finger manipulations. Girls showed somewhat more diversity in their interests than did the boys.³²

Hulson in her study of the free play of ten four-year-old children reported on the children's interests in play materials as indicated by 1) the number of times each material was chosen and the length of time it was played with, 2) day to day persistence in the use of the materials, 3) the order of choice of materials, and 4) accessories used. She says,

Since play materials give one of the best avenues for social contacts in groups of young children, the extent to which given materials encourage group play might be said to measure their value as socializing materials. In this study the number of children playing with a child using a given material was taken as the social value of that material. According to the results of this study materials are arranged according to their social value as follows: blocks, house corner, sand, see-saw, kiddie car, scissors and paper, crayons and paper, aquarium, dishes, home toys, books, balls, animals, plasticine, doll, and blackboard. This shows that the materials having the greatest social value were blocks, house corner, sand, and see-saw. The rest of the materials listed do not have any great

³²Bridges, K.M.B., "Occupational Interests and Attention of Four-Year-Old Children" Journal of Genetic Psychology, 36: 567-568, 1929.

social value within themselves.³³

In 1932 Van Alstyne published a book on the play of pre-school children in which she reported the social interaction and the uses made of the play materials by two-, three-, four-, and five-year-old children in nursery school and kindergarten free-play situations. Conclusions on this study related to the age differences are as follows:

- 1) The gradual character of the change of interest in play materials from two to five years was revealed. This corresponds to other aspects of growth and also to the gradual waning of interest in play activities in the adolescent years.
- 2) Blocks, clay, and doll corner are outstandingly interesting at all four age levels.
- 3) Considering the ages separately, the materials highest in interest at the two-year level are clay, doll corner, painting, and assorted blocks. On the three year level, the doll corner and clay are also highest on all criteria of interest. On the four-year level blocks, clay, and doll corner tend to satisfy all criteria of interest. On the five-year level blocks, clay, and doll corner are also high in all criteria of interest.

The social value differences which she reported are:

- 1) Over fifty percent of the children of all ages tend to play by themselves when playing with materials.
- 2) The gregarious type of grouping is found in practically only forty percent of the observations.
- 3) About seventy percent of the five-year-old and almost ninety percent of the two-year-old children play with materials

³³Hulson, E.L., "An Analysis of the Free Play of Ten Four-Year-Old Children Through Consecutive Observation," Journal of Juvenile Research, 14: 192-195, 1930.

- without actively cooperating with one another.
- 4) Children tended to be more gregarious than actively social at these ages. They tended to be more silently gregarious at two and three years than at four and five. Conversational value of materials increases with the increase in active cooperation.
 - 5) The materials highest in conversational value seemed to be: dishes, hollow blocks, doll corner, wagon, parallel bars, telephone, blocks, colored cubes, balls, crayons, and clay.
 - 6) Materials highest in the more passive type of cooperation (the "gregarious" type) were: clay, crayons, scissors, painting, beads, puzzles, books, and balls.
 - 7) Materials highest in active cooperation were: wagons, dishes, hollow blocks, assorted blocks, doll corners, colored cubes, dump trucks, and parallel bars.³⁴

Updegraff and Herbst experimented to determine the social behavior of young children as stimulated by certain play material. They used blocks, and clay because in the studies by Hulson and Bridges blocks were rated highest in social value and clay lowest. While criteria of social value differed in each case, Updegraff and Herbst report as a result of their study that,

Behavior of a sociable and cooperative type occurred more frequently during play with clay, while non-sociable and non-cooperative behavior had a higher frequency during play with blocks.³⁵

In 1935 Cockrell published a study dealing with the play

³⁴Van Alstyne, D., Play Behavior and Choice of Play Material of Pre-School Children, Chicago, Univ. of Chicago Press, 93-98, 1932.

³⁵Updegraff, R. and Herbst, E.K., "An Experimental Study of the Social Behavior Stimulated in Young Children by Certain Play Material," Journal of Genetic Psychology, 42: 389, 1933.

of children of preschool age. She used six children and each child was observed with each other child and then alone. Four settings consisted of one type of play material, 1) blocks, 2) books and pictures, 3) housekeeping materials, and 4) clay and crayons. One setting offered only a bare room, a table and two chairs and the final setting was a combination of the four different play materials. Each group and each single child were observed in each play situation.

Cockrell³⁶ permitted the children to play as long as they pleased. The materials ranked according to their "holding power" were: 1) Combined materials, 2) Clay and Crayons, 3) Pictures and Books, 4) Blocks, 5) Housekeeping materials, and 6) Companions. She found that the average interest span was eighty-one seconds. Eighty-three percent of the time was given to the material provided, but seventeen percent of the time was given to extraneous things and the children were aware of everything within reach and sight in the playroom. Self play took only eight and six-tenths percent of the total time. The companion was given seventeen percent of the time, but the greatest amount, seventy-four percent was devoted to parallel play.

In a bare room the children spent forty percent of their time with extraneous things. With companions twenty-seven percent of the time was spent in attending to the companion

³⁶Cockrell, D., "A Study of the Play of Children of Preschool Age by an Unobserved Observer," Genetic Psychology Monograph, 17: 462-465, Dec., 1935.

while eighteen percent of the time in the Combined Materials was spent in attending to the playmate. But with Companions thirty-one percent of the time was spent in self-play while the room providing many toys had only two percent of the time in attention to self.

All of these studies were based on hearing children. No experimental studies on the play of deaf children have been published. One article on the play of deaf children written by O'Neill indicates the value of play for the deaf but her conclusions are based on casual observations and not experiment. She says,

The deaf child needs plenty of play. It makes him happy and develops poise. It makes the sense organs alert and attention close. If the deaf child is shy, as is often the case, he forgets this in play and self consciousness is overcome. He sizes up the situation in a game and grasps every opportunity. As soon as he thinks he must decide, as quickly as he decides, he must act. If he fails, he tries again. In a game the child must wait his turn, must take his share of duties or be put out. Deaf children should be taught to play the game in the right way...Children are so active, so eager to romp about in the world that every child however handicapped, should have some part in every game.³⁷

This survey of the literature on play indicates many divergent viewpoints on criteria of play, theories of play, and values of play. According to the various authors play has been considered as activity purposefully selected, the work of childhood, natural activity because of life itself,

³⁷O'Neill, M.E., "Play for the Deaf Child" American Annals of the Deaf, 75: 203-204, May, 1930.

voluntary self-sufficient activity, adaptation to environment, development of the individual, and a preparation for the future.

While it is true that the child adapts to his environment in play, develops by means of it, and also prepares for the future, these things do not furnish the drive behind his play activities. When playing he is not purposefully fitting himself for the future. Play as observed and recorded in this study may be considered as an activity important for development and a preparation for the future from an adult viewpoint, but from the child's viewpoint it is merely pleasurable, voluntary activity.

Observation of the play of the preschool children gave evidence to support some of these theories. The children had a great deal of surplus energy which they used in their play activities and which could be cited as evidence for the surplus energy theory. The books and dolls, as well as the constructive materials, blocks and clay, permitted activities which may be similar to future adult activities thus indicating that the practice theory is plausible. In the play of the children some of Lee's achieving instincts were noted; namely--creating, curiosity, fighting, and rhythm. According to Lee these instincts are responsible for growth in play. The period of observation was not extensive enough to note any definite growth.

The children observed in this study were all in the age groups which Appleton terms babyhood and early childhood.

During these periods she says the play activities consist in sensory-motor activity, aimless running, jumping, and climbing with make believe and reality interwoven. In the experimental study it was impossible to note these characteristics in the play of the children observed. However, such activities in the free play of the nursery school group were noted by the author.

This broad survey of criteria and theories of play as well as ages, materials, and experiments on play was essential to call attention to any similarities or differences in comparing the deaf and hearing.

CHAPTER III

PROCEDURE

This study was made possible through the maintenance of a Nursery School for hearing children in addition to the Nursery School for the deaf at Central Institute for the Deaf. This joint Nursery School was established in 1934 for the enrichment of experiences of both deaf and hearing children and to give the deaf child contacts with hearing companions.

The hearing children come in from the neighborhood and spend the morning at school. For some outdoor and indoor play periods as well as rhythm periods, both groups play together, thus sharing directed and undirected play periods. Observation of the children at play indicates that the deaf child has much to learn from the hearing child and the hearing child also is benefited by these contacts. The author noted that the hearing children became more sociable and better balanced emotionally after several play periods with the deaf children.

For at least an hour over a half-year period before this experiment was begun, the author had daily contact with the Nursery School children by assisting in the supervision of their play periods. She was able to study their behavior during these periods and the children became accustomed to her presence. For this reason they were not restrained in their play during the planned situations of the experiment. The observations were always made in the morning between the

hours nine to ten and eleven to twelve, the usual play periods of the children.

Seven deaf children, three boys and four girls, and nine hearing children, one boy and eight girls served as subjects. Each child's age is given according to his age at the beginning of the observation which extended over a four month period. The intelligence quotients were computed on the Randall's Island Performance Series³⁸ given all preschool age deaf children at Central Institute. Both deaf and hearing were tested by the same examiner using the same test. Two of the hearing children discontinued attendance at Nursery School before the mental test was given but from comparative observations of their behavior with the others in the group, it is safe to consider their mental ability as normal.

Table 1 shows that the deaf group is older chronologically than the hearing group. Only one child of the hearing group is over four years old, but five of the deaf group are four or older. Chronological ages in the deaf group range from three years and two months to five years and five months and in the hearing group from two years and three months to five years and two months with a difference of one year in the mean age of the two groups.

All of the children showed normal or superior intelligence, but the hearing group shows an average intelligence quotient that is one and one-tenth points higher than the

³⁸Poull, L., Randall's Island Performance Series, N.Y., Columbia University Press, 1931.

deaf. The range of intelligence of the deaf group is greater, this group having the highest and lowest intelligence quotients.

Table 1
Data Concerning Subjects

Deaf				Hearing			
Child	Sex	C.A.	I.Q.	Child	Sex	C.A.	I.Q.
T.B.	Male	4-0	109	B.G.	Female	3-2	102
A.C.	Male	5-5	102	S.M.	Female	2-3	119
F.H.	Female	4-9	95	J.M.	Female	5-2	111
B.H.	Female	5-2	121	C.R.	Male	3-7	114
J.H.	Female	3-2	127	(J.S.)	Female	2-11	113
S.K.	Female	4-9	116	(J.S.)	Female	2-11	110
W.S.	Male	3-11	96	T.T.	Female	3-1	105
				M.V.	Female	3-10	
				K.W.	Female	3-11	
	Mean	4-5	109.4			3-5	109.5

The children were taken to a small room (six feet by eight feet) containing a small pink table and two small pink chairs and the play material to be used for the observation. The room had one window and one door. The upper half of one side of the room--the side containing the door, was glass. The children were permitted to play for five minutes as the observer sat just outside the room and recorded.

Each deaf child and each hearing child was observed alone. Each deaf child was paired with each other deaf child and then with each of two hearing children and the pair observed in six play situations. There were seven deaf children observed alone in the six situations, nine hearing children observed alone, fourteen combinations of a deaf child and a hearing child, and twenty-one combinations of two deaf children, making a total

of three hundred and six five minute observation periods recorded.

There were six different play situations: 1) clay, 2) books, 3) dolls, 4) blocks, 5) a combination of all four materials, and 6) no materials. This procedure resembles Cockrell's³⁹ except that she used six hearing children and placed no time limit on the play periods.

The brown modeling clay which was used was presented to the child in a lump. There were three different picture books (twelve inches by fifteen inches), an ABC book, a book of Nursery Rhymes, and a book entitled Animal Friends. The six inch dolls wore white dresses and hooded pink capes tied with pink ribbons and were placed in eight inch blue cardboard cradles and covered with white blankets. Decorated with the picture story of "Rock-A-Bye-Baby" the cradles were made of three pieces of cardboard which could be taken apart easily. The blocks were various shapes, sizes, and colors. There were four triangular green, sixteen small square red, fourteen rectangular yellow, ten square orange, ten square purple, and four large rectangular blue blocks. These were divided equally and kept in two red bags made of mosquito netting. In the block situation the blocks were taken from the bags and placed on the table before the child. When all the materials were presented the blocks were in the bags in order that all the material might be put on the table.

³⁹Cockrell, pp.cit., pp. 377-469

The child was taken to the room alone or with his play companion and allowed to play for the allotted time. If there were two children, two identical sets of material were used.

The observer sat just outside the glass side of the room. She could watch them but was also visible to them. Occasionally, at the beginning of the experiment the children showed some interest in what she was doing but after awhile they became accustomed to her presence.

If the child came out early he was permitted to stay out and his companion could come out or play as he wished. Play of the children was undirected and not interfered with except in one observation when two of the children threw blocks and began hitting each other.

The observer recorded the play behavior of the children for each half-minute period throughout a five minute observation on record sheets prepared in advance. Samples of the record sheets are included in the appendix. Behavior was noted by checks in the proper column according to the half-minute in which it was observed. A kodak timer which was always clearly visible to the observer was used for an accurate time check.

Record sheets varied according to the material used with the possibilities of uses of materials and behavior included on each. Some responses could be made in all situations and appeared on each record sheet. The following interpretations of response items were made.

Singing, laughing, and crying were easily recognized, but

with young deaf children talking had some modifications. Included as talking were the speech attempts of the deaf child, intelligible or not, as well as speech without voice which clearly conveyed some meaning. The same criteria were used for the speech of the hearing children, but unintelligible and non-vocal speech did not occur very often in this group.

Gestures were used frequently by the deaf to attract the attention of another person. They also used gestures aptly in telling stories or in expressing some idea. Gestures were only used by the hearing children to refer to the material at hand. All of these gesture responses were recorded.

The children usually showed each other anything of interest which they discovered. These responses were recorded as "showing something." For example, as soon as a child saw a picture in one of the books of an animal he might have had at home he would make some sound, wave his hand at the other child, point out the picture to him, perhaps name the animal and then with a wave of the arm say, "Home." These actions would be recorded as "gestures," "talking," and "showing something." In the clay and block situations the children frequently showed one another what they made.

Recorded as "helping the other child" was any assistance given the other child. One would frequently help the other select the right color blocks or tie a cape on the other child's doll.

Responses recorded as "watching the other child," were those in which the child paid no attention to his material

but observed what his companion was doing. Recorded as "looking around" were those situations in which the child disregarded the materials and his companion. He might have been looking at things in the room or outside of the room. "Imitating" was checked if one child copied what another did or made.

"Independent play" consisted of play with or without material in which the child paid no attention to his companion. In contrast "interference" was recorded when one child prevented another child's plan of activity, such as knocking down a tower of blocks before it was complete.

If one child tried to take his companion's material and met with opposition this was recorded as "an unsuccessful attempt to take the other's material." If he were permitted to keep the material he had taken, it was recorded as "a successful attempt to take the companion's material."

Provision could not be made on record blanks for all of the behavior which occurred. Blank spaces on the record sheet permitted the recording of unusual or infrequent responses. "Fighting" in which the children became angry and hit or kicked each other occurred in a few situations. A few of the children enjoyed "roughhouse" play which usually involved pushing the chairs and table around, kicking the material (blocks in particular), chasing each other or wrestling. All of this was boisterous activity carried on in a spirit of fun with no malicious intent.

Some responses could occur in just one or two situations, as they depended upon the kind of material and were therefore

only included on those specific record sheets. For example, "an attempt to build with" could occur in the block play but in no other situation. Recorded as "an attempt to build with" were those situations when one child placed blocks on the other's structure. These blocks may or may not have been accepted.

In the clay situation some of the children made things and then played with them. This was recorded as an "attempt to play with." The difference between "an unsuccessful" and a "successful attempt to make something" in the clay situation was often based on the judgment of the observer. If the child named it or used it in such a way that it was meaningful to him, it was recorded as a "successful attempt."

All possible uses of the material had to be included on the record sheets for each kind of material. When blocks were used color possibilities were included on the record sheet as well as form of structure. If the child built a red tower, both tower and red would be checked. If the color selection became varied, there was no attempt to keep a record of it. On the record sheet four possible structures were provided with space to add other types of structures if they occurred.

In the doll situation if the child took the blanket or cape off, the word "off" was written in the proper column. Attached to the blanket were strings which could be used to tie the blanket over the cradle, thus holding the doll in the cradle.

When all of the materials were presented simultaneously

the choice of materials was checked but not the activity with the materials. For example, if a child built a blue train, it was just recorded as block play.

For the companion situation with no material used, the sheets were ruled off and the behavior written in as it occurred.

Remarks about any unusual behavior were written at the bottom of the record sheets. The bashful twin did not touch the material in the first three situations, and when she finally did look at the books, in that space was written, "First time Joan has touched the material."

In a computation of the results, tables were made of the average number of responses per play situation for blocks, clay, books, dolls, combined materials, and no materials. The averages were computed according to the number of times each group was seen in each play situation--seven for the deaf alone, nine for the hearing alone, fourteen for the combination of deaf and hearing, and twenty-one for the combination of deaf and deaf. Separate tables of the average number of talking, laughing, crying, singing and gesturing responses per play situation were made to compare the amounts of responses requiring vocalization or some form of communication of ideas for each group.

A table tabulating the frequency of selection and the corresponding percentages of choices of the various materials in the combined material situation was made. When two children played together their choices of materials were recorded separately.

To determine what percent of the time was spent on the companion and what percent was spent in self play the action was recorded in terms of minutes and percentages computed on a basis of 255 minutes--the total length of time each situation was observed.

Companion play was of two types, cooperative and anti-social. In cooperative play the following items were included: 1) constructive play with the companion, 2) imitation of the companion, 3) watching the companion's play, 4) assisting the companion in play, and 5) showing something to the companion. Anti-social play included these items: 1) interference with the companion's play, 2) successful and unsuccessful attempts to take the companion's material, and 3) roughhouse and fighting.

In self play were included those responses in which the child paid no attention to either the companion or the material. Independent play and looking around were the items considered as self play.

Talking, laughing, gestures, singing, and crying were excluded because it was impossible to determine whether the companion always participated in these activities.

To indicate individual differences in responses to the play situations, descriptions of several selected cases have been included in the results. In these descriptions fictitious names have been given the children whose play is described.

Results of this type of experiment do not lend themselves to statistical procedures and only behavior trends based on

the judgments of the observer can be reported. Frequency of occurrence of responses of different types can therefore be the only basis of discussing results in this investigation.

CHAPTER IV

RESULTS

The responses of the deaf child alone, the hearing child alone, two deaf children playing together, and a deaf and hearing child playing together in each play situation are of interest in that they indicate that individual differences and type of material produce greater influence on play than the auditory impairment of one group.

Tables 2 to 7 inclusive tabulate the average number of play responses per play situation as recorded in half-minute intervals. In the companion play situations, two children rather than one, as represented in situations of a child observed alone, gave the recorded responses. Consequently, the frequency of observed response for companion situations could be double that of play alone and it was not possible in tabulating to record which child produced the most responses--although this information was recorded on the original record sheets.

Table 2, which records the average number of responses per play situation using clay, shows greater incidence of talking when the deaf child is alone than when the hearing child plays alone. With a companion there is more speech when the deaf child plays with a hearing child than when he plays with another deaf child. These differences are not great enough to be statistically reliable--but may indicate that even at preschool age the hearing child has realized the social significance of speech as a means of communication, whereas

speech for the deaf brings pleasure as vocalization.

Table 2

Average Number of Responses per Play Situation-for-Clay

Responses	Deaf Alone	Hearing Alone	Deaf with Deaf	Deaf with Hearing
Talking	2.0	1.44	3.28	3.71
Laughing			2.57	1.28
Gestures	1.42		3.90	2.28
Independent play			.09	2.28
Attempt to play with Interfere	.14	.22		.78
Successful attempt to take material			.19	.07
Unsuccessful attempt			.09	.28
Watch other			1.09	2.71
Imitate			1.23	.50
Show something			1.14	1.50
Sing		.11		.14
Help other			.52	.38
Cry			.04	
Roughhouse				
Fight				.07
Look around	.14	.55	.14	.42

It is interesting to note further that no laughter occurs when the children played alone but there was almost twice as much laughter for deaf with the deaf as for deaf with the hearing.

The hearing child did not use gestures when playing alone. More gestures were observed for the deaf with deaf than any other situation.

When the deaf and hearing played together there were more responses of "watching each other" than when deaf played with deaf. There was also more imitation of play of deaf with deaf. The hearing spent more time "looking around." Anti-social behavior was reduced to a minimum in play with the clay.

Table 3 shows the average number of responses per play situation for books.

Table 3
Average Number of Responses per Play Situation for Books

Responses	Deaf Alone	Hearing Alone	Deaf with Deaf	Deaf with Hearing
Talking	1.57	2.0	6.14	6.5
Laughing	.14		2.14	.71
Gestures	.42		4.57	2.64
Independent Play			.47	3.85
Interfere				
Successful attempt to take material			.14	.07
Unsuccessful attempt			.14	
Watch other			1.33	1.78
Imitate			1.09	.5
Show something			5.09	2.35
Sing		.55	.04	.04
Help other				
Cry	.85			
Roughhouse				
Fight				
Look around	1.14	.33	.71	.04

In play with books, the hearing child when alone is stimulated to more talking than the deaf child when playing alone, although the difference is slight. There is approximately three times as much talking in the companion situations, with slightly more talking when a hearing child plays with a deaf child than when two deaf children play together.

The increased amount of talking in the book situation as compared to the clay was probably due to the nature of the material. Perhaps pictures arouse ideas that can be expressed verbally, whereas clay simply holds the attention of the child who is absorbed in manipulating the material.

The hearing children found nothing in the books to provoke laughter, but the deaf laughed when playing with deaf and a slight incidence of laughter was recorded in the deaf with hearing situation. This was probably provoked by the deaf child.

No gestures were used by the hearing child when playing alone and very few were used by the deaf child alone. There was greater incidence of gestures used by the deaf when playing with the deaf than when playing with the hearing.

The incidence of independent play when a deaf child played with a hearing companion was 3.85 while that which occurred when a deaf child had a deaf companion was only .47. Successful attempts to take the companion's books occurred a few times in the play of both groups whereas unsuccessful attempts occurred only in the group of deaf with deaf. The incidence of "showing something" which occurred when the deaf child played with a deaf companion was over twice as great as that which occurred in the play of a deaf child with a hearing companion.

The hearing child when alone, responded by singing occasionally while looking at the books. This was perhaps a natural response to the pictures but when one deaf child sang when in companion play with another child, it was totally unexpected. This deaf child is too young for an audiometric test, but his responses indicate a residuum of hearing. The incidence of crying was due to the youngest deaf child who cried frequently when playing alone.

"Looking around" which occurred to a small extent when the hearing children were involved, was frequent in the play of a deaf child with a deaf companion, but most prevalent when a deaf child played alone.

The average responses per play situation for dolls are shown in Table 4.

Table 4

Average Number of Responses per Play Situation for Dolls

Responses	Deaf Alone	Hearing Alone	Deaf with Deaf	Deaf with Hearing
Talking	1.71	2.33	6.85	3.92
Laughing	.65		3.47	1.07
Gestures	.42	.22	7.23	1.28
Independent play			.28	.65
Attempt to play with			.09	
Interfere				
Successful attempt to take material			.04	.07
Unsuccessful attempt				.07
Watch other			1.28	2.42
Imitate			.66	.21
Show something			1.66	.42
Sing		.66		.14
Help other			.61	.42
Cry				
Roughhouse				
Fight			.28	
Look around	.57	1.44	.04	.35

The deaf when playing alone talked less than the hearing when playing alone. Perhaps the doll was equivalent to a companion for the hearing and stimulated them to speech. The incidence of talking which occurred when a deaf child had a deaf companion, was very high and exceeded by 2.93 that of a deaf child with a hearing companion.

No laughter was observed in the play of the hearing child alone, a slight amount in the play of the deaf child alone, a little more in the play of a deaf child with a hearing companion and the greatest amount in the play of a deaf child with a deaf companion.

The doll situations were the only ones which provoked gestures by the hearing children when playing alone. The highest incidence of gestures also occurred in these situations during the play of a deaf child with a deaf companion. The average number of gestures used by the group deaf with deaf was 7.23 while that of the group deaf with hearing only 1.26, a significant difference.

Independent play and "watching the other" were more prevalent in the play of a deaf child with a hearing companion. The hearing child watched the deaf child more frequently than the deaf child watched the hearing child. A deaf child playing with a deaf companion "showed the other something" much more frequently than a deaf child playing with a hearing companion.

Again, singing was most frequent in the play of a hearing child alone and did not occur in those groups involving the deaf. Assistance was given the companion when two children played together, the incidence being slightly higher in the group deaf with deaf. Fighting occurred in the play of a deaf child with a deaf companion. A rather large amount of "looking around" was done by the hearing child when playing alone.

Table 5 shows the average number of responses per play

situation for blocks.

Table 5

Average Number of Responses per Play Situation for Blocks

Responses	Deaf Alone	Hearing Alone	Deaf with Deaf	Deaf with Hearing
Talking	2.0	2.55	3.71	4.26
Laughing	1.28	.44	2.38	1.07
Gestures	2.57		3.28	.65
Independent play			1.71	5.57
Attempt to build with			.65	.21
Interfere			.38	
Successful attempt to take material			.38	.28
Unsuccessful attempt			.04	.07
Watch other			.95	1.64
Imitate			1.23	.42
Show something			.33	.57
Sing		1.33		.42
Help other			.61	.35
Cry	.85		.38	
Roughhouse			.85	
Fight			.95	
Look around	1.14	.33		.21

Blocks provoked a relatively large amount of talking in all situations. Laughter occurred in the play of all groups also. The incidence was small for the hearing alone, greater for the deaf alone than the deaf with the hearing, and greatest in the deaf with deaf group.

Hearing children alone used no gestures, but the deaf used them frequently when alone and in play with a deaf companion. The difference in the amount of independent play which occurred when the deaf played with the hearing as compared with that of the deaf and deaf is very marked.

In the play with blocks the favorite constructions for both deaf and hearing were towers and houses. The blue blocks,

which were the largest rectangular blocks, were chosen most frequently by both groups, but whether this was due to a color preference or the size and shape of the block could not be determined.

Although the constructive play of building with the companion occurred most frequently in the play of deaf with deaf, there also was a high incidence of anti-social behavior exhibited in fighting, roughhouse, crying, interfering, and attempts to take the companion's blocks.

The companion was watched more in the play of a deaf with a hearing child and imitated more in the play of a deaf with a deaf child. Singing occurred only in the groups involving hearing children, and crying occurred in the groups involving just the deaf. No "looking around" was observed in the play of a deaf child with another deaf child, whereas the deaf child alone did the most "looking around."

Using all of the materials the average responses per play situation are shown in Table 6.

In these situations the behavior was probably influenced by the material chosen. When playing alone the deaf child talked more than the hearing child. In the companion groups speech was more prevalent when the deaf child played with a deaf companion.

No laughter was observed in the play of a deaf child alone and a very slight amount in the play of a hearing child alone. The laughter of the group deaf with deaf exceeded that of the group deaf with hearing.

Table 6

Average Number of Responses per Play Situation
Using all Materials

Responses	Deaf Alone	Hearing Alone	Deaf with Deaf	Deaf with Hearing
Talking	2.28	1.66	4.23	3.50
Laughing		.11	1.85	1.28
Gestures	.42		5.28	.64
Independent play			1.42	7.71
Attempt to build with			.09	
Interfere				
Successful attempt to take material				
Unsuccessful attempt				
Watch other			.76	.64
Imitate			.76	.35
Show something			2.14	.57
Sing		.88		.35
Help other			.42	.07
Cry	1.28		.52	.14
Roughhouse				
Fight			.19	.07
Look around	1.00	.44	.23	.14

As usual, no gestures were used by the hearing alone, few by the deaf alone and the deaf with the hearing. The gestures of the group deaf with deaf were the most frequent of all responses for that group, and greatly exceeded the gestures of the other groups.

The independent play of the group of a deaf with a hearing child was 7.71, by far the greatest amount of independent play during any of the situations. The group of a deaf child and a hearing child exceeded the amount of independent play of the group of two deaf children by 6.29.

"Watching the other," and "imitating" were slightly greater for the group deaf with deaf over deaf with hearing. The incidence of "showing something" was 1.57 higher for the group deaf

with deaf over deaf with hearing.

Again, singing occurred when the hearing children played alone and crying in all situations, except those when the hearing children played alone. The greatest incidence of crying was during the play of the deaf child alone and again was due mainly to the responses of one child. A little fighting but no other anti-social behavior occurred during these situations. "Looking around" was more frequent in the single child situations occurring most frequently when the deaf child played alone. In play with a companion there is more activity; with both material and a companion to interest him, there is consequently less time for the child to look around.

Table 7

Average Number of Responses per Play Situation
Using No Material

Responses	Deaf Alone	Hearing Alone	Deaf with Deaf	Deaf with Hearing
Talking	1.00	.44	5.76	4.57
Laughing	.71	.22	4.61	3.25
Gestures	1.00		7.14	2.42
Independent play			.76	.42
Attempt to play with Interfere			.90	.42
Successful attempt to take material				
Unsuccessful attempt				
Watch other			1.09	7.07
Imitate			1.42	2.35
Show something			.95	.78
Sing		1.00		
Help other				
Cry	1.28		.09	.14
Roughhouse			.09	
Fight			.09	
Look around	5.71	4.00	1.61	1.92

When playing alone the children found things in the room which interested them--the radiator, the light switch, the window, and the table and chairs. The other child was a source of interest in the companion situations.

It was surprising to note that the incidence of talking was greater when the deaf played alone than when the hearing played alone. As expected there was much more talking in the companion situations, but again, the talking of a deaf child with another deaf child was unexpectedly more frequent than the talking of a deaf child with a hearing companion.

There was more laughter in play with both a hearing and deaf companion without play materials than in any other situation. This type of situation probably afforded more opportunity for observation of the companion.

No gestures were used by the hearing child alone. Those used by the deaf alone were doubled when the deaf child played with a hearing companion. In the play of the deaf with the deaf there was seven times as much gesturing, indicating that the deaf child uses gestures in his play alone, but much more frequently when with a companion. Perhaps more are used by the deaf together because they apparently understand the gestures of the other child, and the hearing child may not.

In the play of the deaf child with a hearing companion "watching the other" had a 5.98 higher incidence than in the play of a deaf child with a deaf companion. Imitating was also greater in this group.

Singing occurred only when the hearing child played alone.

The incidence of crying was low for the companion situations but high in the play of the deaf child alone. Again the only group in which crying did not occur was the hearing child alone.

In these play situations when the child had to rely upon himself for amusement the incidence of "looking around" was very high for the hearing child alone but higher for the deaf child alone. The incidence was much lower for the companion situations showing that the child was interested in his companions.

For further comparison the total average responses per situation have been added and tabulated in Table 8. These figures represent a total of all overt, recorded responses regardless of whether they are cooperative or independent; vocalization or gesture.

Table 8

Total Average Responses per Play Situation

Situations	Deaf Alone	Hearing Alone	Deaf with Deaf	Deaf with Hearing	Total
Clay	3.70	2.32	14.28	16.37	36.67
Books	4.12	2.88	21.86	18.48	47.34
Dolls	3.55	4.65	22.49	11.22	41.91
Blocks	7.84	4.65	18.03	16.14	46.66
All Material	4.98	3.09	17.89	15.46	41.42
No Material	9.70	5.66	24.41	23.34	63.21
Total	33.69	23.25	118.98	101.01	

This table shows that when materials were presented singly the deaf alone responded most frequently to blocks; the hearing

ing when the deaf play with hearing companions than when they play with deaf companions in the blocks, books, and clay situations. The reverse is true for dolls, no material, and all materials.

When the children played alone there was more talking by the hearing group in the blocks, books, and dolls situations.

Combining all groups, books and dolls provoked the most talking. Perhaps non-constructive materials were better stimuli for conversation for the children.

When all six situations are considered the mean average talking response of the deaf playing alone is approximately the same as the hearing playing alone. In companion situations the mean number of talking responses was greater when two deaf children played together than when a deaf child played with a hearing companion.

Since the talking responses of the children were unexpectedly frequent, the desire for speech is no doubt strong. Some child psychologists assert that the auditory and kinaesthetic sensations aroused by vocalizations serve as stimuli for repetition of sounds. Singing also produces such stimulation and was noted in some of the play situations. Does the auditorially handicapped child show any response which can be called singing? Table 10 shows the average number of singing responses per play situation and the mean average of such responses. This table shows that there was no singing when the deaf children played alone. The hearing children when playing alone sang in every situation, finding blocks and no

material the greatest stimuli for these responses.

Table 10

Average Number of Singing Responses per Play Situation

Situations	Deaf Alone	Hearing Alone	Deaf with Deaf	Deaf with Hearing	Total
Clay		.11		.14	.25
Books		.55	.04	.04	.63
Dolls		.66		.14	.80
Blocks		1.33		.42	1.75
All Materials		.68		.35	1.23
No Material		1.00			1.00
Mean	0	.75	.006	.18	

Clay provoked the least singing from the hearing children alone. When the deaf played with the deaf the only singing response noted occurred in play with books and was the response of one deaf boy. When the deaf played with the hearing the singing responses which occurred in all situations except that in which no material was presented were responses of the hearing children. The mean average singing response was greatest for the group of hearing children playing alone. Blocks provoked the greatest number of singing responses with all of the materials next and no material provoking almost as many.

In a study of overt vocal responses laughing and crying must also be considered.

In studies of the psychology of the deaf reference is frequently made to the lack of a sense of humor and the deaf are described as apathetic and listless.⁴⁰ The frequency of

⁴⁰Brunschwig, L., "A Study of Some Personality Aspects of Deaf Children," Teacher's College Contribution to Education, N.Y., Columbia University Press, No. 687, 1936.

laughter of preschool age deaf children in these play situations does not support such a conclusion.

Table 11 shows the average number of laughing responses per play situation.

Table 11

Average Number of Laughing Responses per Play Situation

Situations	Deaf Alone	Hearing Alone	Deaf with Deaf	Deaf with Hearing	Total
Clay			2.57	1.28	3.85
Books	.14		2.14	.71	2.99
Dolls	.85		3.47	1.07	5.39
Blocks	1.28	.44	2.38	1.07	5.17
All Material		.11	1.85	1.28	4.24
No Material	.71	.22	4.61	3.25	8.89
Mean	.49	.12	2.83	1.44	

The greatest number of laughing responses when the deaf played alone occurred during block play; dolls and no material ranked next. No laughing responses for this group were recorded during play with clay and all of the materials. For the hearing group playing alone few laughing responses were recorded and these occurred during play with blocks, all materials and no materials. When no material was presented the greatest number of laughing responses occurred in the group of two deaf children; dolls ranked next with clay, books, and blocks provoking slightly less laughter, and all materials least of all. As was true of the group deaf with deaf, the group of deaf with hearing were stimulated to the greatest amount of laughter during play in which no material was presented. Clay, dolls, blocks, and all materials were just

about equal with respect to the laughter they provoked. The least amount of laughter for this group occurred during play with books.

The total laughing responses for each situation shows that laughter occurred most frequently when no material was presented. Dolls and blocks ranked next and books provoked the least.

Examination of the means shows that the frequency of laughter responses for the deaf when playing alone was four times that for the hearing when playing alone. In companion situations the laughter responses for the group of deaf with deaf were twice as great as those for the deaf with hearing.

If the laughter responses indicate happy play, was there an equal amount of unpleasant play indicated by crying responses? Table 12 shows the average number of crying responses per play situation.

Table 12

Average Number of Crying Responses per Play Situation

Situations	Deaf Alone	Hearing Alone	Deaf with Deaf	Deaf with Hearing	Total
Clay			.04		.04
Books	.85				.85
Dolls					
Blocks	.85		.38		1.23
All Material	1.28		.52	.14	1.94
No Material	1.28		.09	.14	1.51
Mean	.71		.17	.04	

No crying occurred when the hearing children played alone. For the deaf children when playing alone the greatest

amount of crying occurred when all materials and no materials were presented. Some crying occurred in book and block play and none during play with clay and dolls. Most of these crying responses were made by the youngest deaf child who cried frequently when playing alone. In the companion groups the crying responses were slight. The greatest amount occurred in play with all materials. The mean average responses showed that crying occurred most frequently when the deaf played alone.

A study of the laughing and crying responses show that laughter was much more frequent than crying. If laughter is so common and so natural for these young deaf children, does the moroseness attributed to the deaf come later in their lives? The happy dispositions of these children should be fostered through guidance in play and social activities.

Deaf children frequently make use of gestures to accompany or to take the place of speech. Is this more frequent in the play of the deaf with the deaf or the deaf with the hearing?

Table 13

Average Number of Gesturing Responses per Play Situation

Situations	Deaf Alone	Hearing Alone	Deaf with Deaf	Deaf with Hearing	Total
Clay	1.42		3.90	2.28	7.60
Books	.42		4.57	2.64	7.63
Dolls	.42	.22	7.23	1.28	9.15
Blocks	2.57		3.28	.85	6.70
All Material	1.00		5.28	.64	6.34
No Material	.42		7.14	2.42	10.66
Mean	1.04	.036	5.23	1.68	

Table 13 shows that the deaf children employ gestures much more frequently than the hearing children in every situation. They were used most frequently in the companion situations, especially when the deaf play with deaf companions.

The hearing used gestures only in play with dolls when they played alone. The situation in which no material was presented produced the highest amount of gesturing and dolls averaged next in the number of gestures. With all materials, the least gesturing was recorded.

When considering the mean number of gesturing responses for all six situations the deaf playing alone used gestures frequently; whereas, for the hearing playing alone, the amount of gesturing was negligible. In companion situations there were about three times as many gestures used when the deaf played with the deaf as when they played with the hearing.

In order to determine the play material preferences of the deaf and hearing children, the results of the combined material play were studied. The preferences were tabulated according to the material chosen. Table 14 shows the number of children choosing each material combining results for play alone and companion play, and the corresponding percent of times each material was chosen. These are tabulated from the one situation in which all materials were presented simultaneously.

Clay was chosen by deaf children in over half of the situations. The choice of blocks, clay, or blocks and clay together by the deaf in eighty-four percent of the cases

clearly shows their preference for constructive materials.

Table 14
Choice of Play Materials

Materials	Deaf		Hearing	
	Number of choices	Percent of choices	Number of choices	Percent of choices
Clay	32	50.7	5	21.7
Blocks	18	28.5	6	26
Books	5	7.9	6	26
All Materials	3	4.7		
Blocks and Clay	3	4.7	4	17.3
Dolls	1	1.5	2	8.6
Out early	1	1.5		

They seem to enjoy materials which they can manipulate and which call for the use of creative ability and imagination. The deaf children showed more talent along this line than the hearing children. Birthday cakes with candles, cigars (which were smoked, making much of blowing the smoke from the mouth), monocles, glasses, candles, and a cat were among the things made by the deaf children.

When playing alone the hearing children never chose clay. In the presence of the deaf companion the choice may have been influenced by the choice made by the deaf companion.

Blocks, clay, or blocks and clay together were chosen by the hearing children in sixty-five percent of the cases. Their preference is also for constructive materials although this preference is not so marked as with the deaf. Books, however, were chosen as frequently as blocks and more frequently than clay. Perhaps this is because the language necessary to enjoy the situations in books is a factor even before reading is

possible and consequently influences the choice of the hearing child.

A study of the influence of the companion on the choice of material shows that the deaf child tends to influence the deaf companion. In seventy-six percent of the cases of a deaf child playing with a deaf companion both chose the same materials and in only twenty-four percent of the cases each child chose different materials. In play of a deaf child with a hearing companion, both chose the same materials in fifty percent of the presentations and in fifty percent of the cases, each chose different materials. The deaf children seemed to have a mutual agreement whereby the material chosen by one was also selected by the other. This may be due to the fact that they are very observing and consider what the other child does "the thing to do." Five of the deaf children are residents at Central Institute and always play together. Because of this some may rely on the others for guidance in play activities.

Excluding talking, laughing, gesturing, singing, and crying the percent of time spent on companion play and on self play for each situation was computed. Companion play was subdivided into cooperative and anti-social play.

The materials ranked according to the total amount of companion play are: 1) No material, 2) Books, 3) Blocks, 4) Clay, 5) Dolls, and 6) Combined Materials. Ranked according to the amount of cooperative companion play they are: 1) No Material, 2) Books, 3) Clay, 4) Dolls, 5) Blocks, and 6) Combined Materials. The greatest amount of anti-social

play occurred in play with blocks.

Table 15

Percents of Companion Play and Self Play
in the Six Situations

Situations	Companion Play		Self Play
	Percent of Cooperative Play	Percent of Anti-social Play	Percent
No Material	47	0.7	31
Books	43	1	18
Clay	31	2	5
Dolls	26	1	7
Blocks	24	11	25
All Materials	21	1	30

The responses recorded as self play included "looking around" and independent play. The materials provoking self play ranked in order of frequency are:-- 1) No Material, 2) Combined Materials, 3) Blocks, 4) Books, 5) Dolls, and 6) Clay.

Cooperative play is the best type of socialized play. The child who can adjust to his companion and play with him in a constructive way is the child who is best socialized. If anti-social play and self play detract from the amount of cooperative play it is possible to determine which materials provided tend to give the most social interaction. The materials according to this ranking are: 1) Clay, 2) Books, 3) Dolls, 4) No Material, 5) Blocks, and 6) All Materials.

This study confirms the results of Updegraff and Herbst⁴¹

⁴¹Updegraff and Herbst, op.cit., pp. 372-391

in which behavior of a sociable and cooperative type occurred more frequently during play with clay while non-sociable and non-cooperative behavior occurred in play with blocks, and disagrees with Hulson⁴² and Bridges⁴³ who have placed blocks highest and clay lowest in social value.

The preferences of materials selected according to the sex of the child were studied through the choices made by the child in the combined material situation. Of the deaf children playing alone with all of the materials, three of the girls (Susan, Betty and Janet) chose clay. The other girl (Frances) chose dolls. Two of the boys (Will and Albert) chose books, and one boy (Tim) chose blocks.

Of the hearing children playing alone with all of the materials, four of the girls (Sue, Kathryn, Joan, and Jere) chose blocks. Three of the girls (Theresa, Jean and Mary) chose books. The only boy (Carl) chose dolls. One child (Bess) played with blocks and clay together. No hearing child chose clay alone.

Although these differences were noted in preferences, there were no sex differences in the way the children used the materials.

The chronological age of the child is not the sole determining factor in the use of the materials. The best block structure was built by the oldest boy, but a more intelligent younger child also built excellent structures. This same

⁴²Hulson, op.cit., pp. 188-208
⁴³Bridges, op.cit., pp. 415-423

child showed more imagination in clay construction. Thus, uses of the materials varied with the individual children according to intelligence, skill, home environment and experiences, as well as chronological age. While the deaf group were older chronologically, the author feels that the better work done with constructive materials by this group was the result of previous experience with these materials. The hearing children had apparently never seen clay before, but may have had blocks at home.

Is a deaf child unhappy in a play situation with a hearing child? Does he play with the child or alone? Does he conform to the play standard set by the hearing child?

The observations revealed that the adjustment for the hearing children was more difficult. They did not know how to approach the deaf and were a little afraid to play with them. The deaf children took the initiative, and attempted to draw the hearing children into their play activities. The hearing children either conformed to the standards set by the deaf children and played with them or sat and watched them play, imitating what they saw.

In a report of the observations, the play of Will, Susan, Joan and Jean, and Carl has been studied.

Will, one of the younger deaf boys, whose I.Q. is ninety-six, had no idea of how to play. The children and the materials meant little to him as a basis for free and happy play. His attention was very flighty and his interests of short duration; materials interested him for a minute or two, then

he turned to the companion. His inability to initiate constructive play with a companion was manifested. Attempts to play with the companion usually resulted in fighting, but Will enjoyed this and consequently teased and terrorized the children. When some of the children ignored this behavior, he went out of the room and closed the door, pounded on it and screamed or played "Peek-a-boo" with the companion who usually remained in the room.

Will was the first to come out early voluntarily, doing so frequently and in one instance in the first minute of play. Some of the children followed him out, but others ignored him and played for the full time.

In the play of Susan, a deaf child whose I.Q. is one-hundred sixteen, a clear preference for constructive materials was noted. Always having a definite idea of what she wanted to make, she persevered until she had satisfied herself that it was what she wanted. Clay in particular appealed to her. Her cat was the best modeling done with the clay.

Susan had unusual ability in getting others to do what she wanted. Several of the children wanted to put clay on the windows, but Susan insisted that the clay be taken off. With Will as her companion in the clay situation, although she wanted to play with her clay, she was completely distracted by trying to make him take his clay off the window and sit down. He finally did as she commanded. In one situation Albert took Susan's material and she pouted until he gave it back to her.

The material was a source of great interest to Susan. One day when studying the pictures on the cradles she discovered the one which showed that the bough broke and the cradle was falling. Susan was so worried she almost cried and gesturing with her hands, kept saying, "Fall, fall."

Susan was the first to discover that the blankets could be tied over the cradle to keep the doll in. Displaying her histrionic ability frequently, Susan dramatized the numerous pictures in the books.

With Susan the companion situations with no materials were never dull. She delighted in playing teacher, getting her companion to go through voice building exercises or pretending to write from dictation. Mimicry games, peek-a-boo, play at the radiator, play with the light switch, play with handkerchiefs, and kicking under the table--all seemed to be fun.

The hearing twins, Joan and Jean, whose I.Q.'s are one-hundred thirteen and one-hundred ten, respectively, are alike in many ways, but show great differences in play behavior. Jean adjusts to a new situation easily, but Joan refuses to adjust.

Jean played with her companion very well, enjoying mimicry games with Janet and Will when they played without materials. With materials Jean played constructively and participated in cooperative play with her companion.

At first Joan refused to have anything to do with either her companion or the material. She showed some interest in the

clay and tried to play with it. Later she became interested enough in her own set of materials to resist Betty's attempt to take her blocks and put her other material on the floor.

Carl, a hearing child whose I.Q. is one-hundred fourteen, sang and talked almost continuously when playing alone. He recited nursery rhymes as he looked at the books, sang "Rock-A-Bye-Baby" when playing with the doll. He chose the doll in the combined material situation when alone and when playing with his companion, Tim. This was explained by his mother who said that Carl's sister has a number of dolls and Carl is not permitted to touch them. For this reason he probably welcomed an opportunity to play with dolls. In the combined material companion situations, Tim kicked Charles under the table. Carl kept saying, "If you don't stop I won't like you." When they played with blocks, Tim hit Carl. Carl said, "I'll like you if you don't hit me so much."

There was no constructive play when these two boys played together. Tim enjoyed terrorizing Carl and Carl permitted him to do it, which was surprising as Carl is not a meek, submissive child. This may be explained by the fact that deaf children often visit Carl's home and he has been taught to give in to the deaf child.

These explanations of the behavior of one child in specific instances show that some play behavior cannot be taken at face value. It is necessary to know the background and home environment of the child in order to interpret his behavior and to help him adjust to his environment.

CHAPTER V

CONCLUSIONS and RECOMMENDATIONS

Comparison of the play of preschool age deaf and hearing children was made by observation of their behavior while playing alone and with a companion. The play alone of seven deaf children and nine hearing children and the companion play of the seven deaf children with each other deaf child (a total of twenty-one combinations) and each deaf child with each of two hearing children (a total of fourteen combinations) was observed. Play materials were provided in planned situations presenting clay, books, dolls, blocks, all materials together, and no material.

The hearing group showed an average intelligence quotient that was one and one-tenth points higher than the deaf. The mean chronological age of the deaf group was one year higher than that of the hearing group.

The results of these observations indicated that individual differences influence type of response more than auditory impairment. For example, one deaf child cried whenever she was required to play alone; one hearing child sang on many occasions; one deaf child showed more anti-social play and frequently did not remain for the entire play period.

One outstanding observation was the amount of talking used by the deaf children. As measured in this study, it was equivalent to or exceeded that of the hearing in almost every situation. When the size of the vocabulary of the deaf child is considered, as compared with that of the hearing child, it

would seem that educators of the deaf and parents of the deaf child should be alert to the use of speech at preschool age and continue to stimulate the deaf child to use his speech.

There was more talking when the deaf played with hearing companions than when they played with deaf companions in blocks, books and clay situations. The reverse was true for dolls, no material and all materials. Combining all groups, books and dolls provoked the most talking.

The hearing children and one deaf child were responsible for the singing which occurred. Blocks provoked the most singing.

In the play of the deaf with the deaf, the laughter responses were greatest. The situation in which no material was presented provoked the largest number of laughter responses for all of the children.

The number of crying responses was very small and most of them could be traced to the youngest deaf child. The situation in which all materials were presented provoked the greatest number of crying responses.

When the total responses are considered, the deaf playing alone responded most frequently to blocks; the hearing alone to dolls and blocks with equal frequency; the deaf with deaf to dolls and the deaf with hearing to books. Most responses were recorded for all groups with no material present. The total number of responses per situation indicate more overt responses for the deaf than for the hearing.

The gestures of the deaf occur when playing alone and

with others. The incidence when playing with another deaf child is much greater than when playing with a hearing child. This is perhaps the best argument favoring the combined Nursery School as the deaf realize that gestures are not always the best means of social intercourse. Keeping the deaf child in a speech atmosphere will reduce communication by gestures.

Clay was unquestionably the favorite material for the deaf, with blocks a second choice. The hearing child selected blocks and books with equal frequency and clay almost as often. The deaf clearly showed greater preference and greater skill in handling constructive materials. The deaf in selecting materials influenced the selection of the deaf companion more than that of the hearing companion.

Certain materials also provoke more companion play-- most response to the companion was naturally made without any play material available. The ranking of the materials according to the amount of social interaction which they provoked are clay, books, dolls, no material, blocks, and all material together.

Anti-social play was infrequent occurring most often with blocks. Self play which consisted of independent play and looking around, was observed most frequently in play with no materials, blocks, and combined materials.

No sex differences or differences due to chronological age were noted in this experiment.

In play situations of deaf with hearing children the deaf

took the initiative and attempted to draw the hearing children into their play activities. The hearing either conformed to the standards set by the deaf children and played with them or sat and watched them play, imitating what they saw. How much of this was due to previous experience with the materials and how much to the individual differences of the children could not be determined.

The play program of the Nursery School is needed for both hearing and deaf. Both groups need emotional development and stability, instruction in cooperative play, and opportunities for social contacts with children of their age.

A Nursery School for hearing and deaf together is recommended for the preschool age deaf child on the basis of results of this experiment as it, first, makes possible contacts which stimulate speech and discourage communication by gestures, and second, provides opportunities for a normal play environment.

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