



Lowenfeld mosaic responses of Crow Indian Head Start children
by Karen Elaine Chaloupka

A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE in Home Economics
Montana State University
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Abstract:

The goal of American Indian Education is to aid Indians in assimilating into the larger white society. The existing educational system has not been successful in reaching this goal. Differences between Indian and white children must be determined if the educational programs are to meet the Indians' needs.

An attempt was made to determine the maturational level of Crow Indian Head Start children through their response to the Lowenfeld Mosaic Test.

The sample consisted of forty-two Crow Indian children participating in three Montana Head Start Centers. The Mosaic Test was administered to each child, and their responses were evaluated. The findings revealed that although the Indian patterns of response were the same as white patterns, the Indian children were functioning one year and three months behind white children of the same age.

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KAREN ELAINE CHALOUPKA

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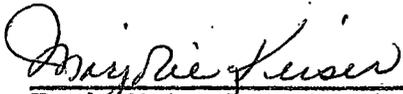
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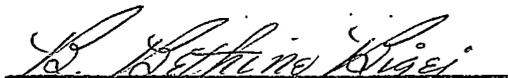
in

Home Economics

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ABSTRACT

The goal of American Indian Education is to aid Indians in assimilating into the larger white society. The existing educational system has not been successful in reaching this goal. Differences between Indian and white children must be determined if the educational programs are to meet the Indians' needs.

An attempt was made to determine the maturational level of Crow Indian Head Start children through their response to the Lowenfeld Mosaic Test.

The sample consisted of forty-two Crow Indian children participating in three Montana Head Start Centers. The Mosaic Test was administered to each child, and their responses were evaluated. The findings revealed that although the Indian patterns of response were the same as white patterns, the Indian children were functioning one year and three months behind white children of the same age.

CHAPTER I

INTRODUCTION

Importance of the Study

The problem of adjusting to the society as a whole, without losing his identity, has plagued the Indian since the first white man set foot on American soil. The values and ideals of the Indian contrast greatly from those of the dominant white group.

If the Indian is to participate effectively in the larger white society, some degree of assimilation must take place. It is agreed, by whites and Indians alike, that education is the most promising means of achieving this goal. The overwhelmingly large percentage of absenteeism, tardiness, over age-ness, and drop-outs in the schools is evidence that education has failed to meet the Indian's needs.¹

When Indian children start school, they are attentive, busy, and happy. They are equipped, however, with different values, different experiences, and in many cases, a different language than that of the white children starting school. They can not compete and perform successfully with their white peers, and their attitude changes to disinterest early in their school experience.

¹Brewton Berry, The Education of American Indians (Columbus, Ohio: Research Foundation, 1968), p. 37.

When compared with white students, Indians do poorly on standardized achievement tests. Poor achievement leads to a poor self image, which in turn leads to the high drop-out rate. Reports show an average drop-out rate of fifty percent throughout the nation. In some schools it is as high as ninety-five percent.²

The Indian is at a below average level of educational development in America. School programs must be ready to make room for individual differences and be flexible enough to meet individual needs.³ The educational system has the challenge of creating an environment that will motivate children who are culturally apart from the middle-class norm.³

Purpose of the Study

It is impossible to develop educational programs that will be suitable for Indian children until the level at which they are functioning is known. With this information it will be possible to incorporate the applicable characteristics of the American Public

²Lorraine Misiaszek, "The Cultural Dilemma of American Indians," Social Education, XXXIII (April, 1969), p. 439.

³Robert L. Bennett, "Our Schools and the 'Forgotten Americans'," Journal of American Indian Education, VIII (October, 1968), pp. 6-7.

School system in a way that will cope with the significant differences of Indian children.⁴

The purpose of this study is to determine the maturational age of Crow Indian Head Start children, through their response to the Lowenfeld Mosaic Test. The test reveals the age level of the child's response, and something of his individuality. This information should be useful in planning effective school programs for Indian children.

Hypothesis

It is hypothesized that the maturational age of Head Start Crow Indian children is the same as that of white American children of the same chronological age.

⁴Leif Fearn, "The Education of Indian Children," Journal of American Indian Education, VIII (October, 1968), p. 30.

CHAPTER II

REVIEW OF LITERATURE

Indian Culture

Historical Development

The American Indian is set apart from the larger society by his unique way of life. His rich heritage of ideal and values differ greatly from that of the white man. If the Indian is to be understood by the members of the white society, his background and value differences must also be understood.

Unlike early white settlers from Western Europe, Indians are indigenous to the North American Continent. The settlers' ideas about life were shaped in a post-Roman atmosphere. Kings, English Common Law, and feudalism were existing concepts. The Indians do not have these emotional, historical, or political relationships with another continent or another age.

Before the arrival of the white man, great confederacies occupied the country. Democracy in its true sense was more prevalent in pre-Columbian days. Despotic power was abhorred, and tribes thought of themselves as combinations of hunting parties, rather than political factions. The tribal system is a method of conforming to European political forms. Indian tribes have managed to coordinate

a modern political structure with a reservation program that compares favorably with the prevailing political system.⁵

Value Systems

Each Indian tribe has a unique set of characteristics setting them apart from other tribes, but there are some qualities that all Indians possess making them different from the white population. The following paragraphs include some of the conflicting aspects of white and Indian life styles.

Time.-- "Indians are like the weather...when storms are predicted, the sun shines. Likewise if you count on the unpredictability of Indian people, you will never be sorry."⁶ This quote by Vine Delauria, Jr. points out several Indian characteristics. Indians are unpredictable to whites because they are present oriented. They are concerned with what is happening now, and do not think in terms of tomorrow, next week, or next year. The white man is future oriented. In conjunction with this, Indians are not concerned with time as the white man is. They are consistently late for appointments that are important to the time centered white society.

⁵Vine Delauria, Jr., Custer Died For Your Sins (New York: Macmillan Company, 1969), pp. 11-13.

⁶Ibid., p. 1.

This characteristic is so apparent that a special term "Indian Time" has been coined to explain their inevitable tardiness.⁷

Wealth.-- The Indian tribe is concerned with taking care of its own people. Sharing and giving are highly valued. Indian people fail to see the importance placed on material things and accumulated wealth in the white way of life. The Indian who tries to accumulate wealth is often feared by his people.⁸

Age.-- Indians show a great respect for age, and to be old is synonymous with being wise.⁹ This is in contrast with the larger white society that emphasizes youth to a great extent.

Cooperation.-- Working together toward common goals is most important in the Indian culture. They strive for cooperation in an atmosphere of union and harmony. The white society is organized around competition. To be successful, white men feel the need to compete with their peers.

Nature.-- The Indians wish to live in harmony with their land and nature. They do not value the science and technology that the

⁷Kenneth Anderson, Gordon Collister, and Carl Ladd, The Educational Achievement of Indian Children (Kansas: Haskell Institute Print Shop, 1953), p. 31.

⁸Ibid., p. 31.

⁹Misiaszek, "Cultural Dilemma," p. 437.

whites use to manipulate the natural environment. This difference has caused a great deal of conflict in the history of the white and Indian relationship.¹⁰

Kinship Pattern.-- The extended family system in which blood ties are more binding than marital ties, is prevalent in the American Indian culture. In this type of kinship arrangement, the child becomes accustomed to being surrounded by numerous relatives, many of whom treat them as their own children. The conjugal family is dominant in the white society. The husband, wife, and their children make up the family unit.

Communication.-- Emotional rather than verbal expression is stressed in the Indian home. Ideas are conveyed through behavior, and the Indian becomes very adept at perceiving meanings of facial expressions, gestures, and tones of voice. Being able to express oneself verbally is highly valued in the white culture.

Because the Indians have chosen to retain these aspects of their culture, it has been difficult for them to function in the white society. "I trust that one day soon American society will see that its strength lies in the differences of its multi-racial

¹⁰Anderson, Educational Achievement, p. 31.

membership and that respect for individual differences will become the rule rather than the exception."¹¹

Indian Education

Among the Indians of the United States, formal education began four hundred years ago with the coming of the white man. At first, missionaries took the responsibility of teaching Indian youth, and many mission schools were established across the country.¹² The kind of education provided depended upon the religious order prevailing in the area. The Jesuits from France, the Franciscans of Spanish origin, and the Protestants each had their own educational philosophy and approach. All shared, however, the common goals of Christianizing and civilizing the Indians. Researchers agree that the mission schools did not succeed in accomplishing these goals.

While most Indian education continued to be under the auspices of the church, the government began appropriating funds for the education of Indian children in 1775. Boarding schools away from the reservation became the trend. Their philosophy was to remove

¹¹Misiaszek, "Cultural Dilemma," p. 446.

¹²Berry, Education of American Indians, pp. 8-9.

the children from their homes, enforce strict discipline, and provide work-study programs emphasizing industrial arts.

Tribal histories show that although both the church and government were involved in setting up schools for the Indian, individual tribes were concerned with establishing their own educational systems.¹³

The Bureau of Indian Affairs was concerned with the education of Indians.¹⁴ Their goal, to provide an educational program for all Indian children, has come very close to being fulfilled. Although the system leaves something to be desired, it has been successful in providing an educational opportunity for each Indian child.¹⁵

The trend today is away from special Indian schools, and toward the integration of Indians into the public schools. In 1968 it was reported that approximately 150,000 Indians between the ages of six and eighteen are enrolled in 216 boarding schools and public schools in the United States.¹⁶

¹³Ibid., pp. 13-15.

¹⁴U.S. Department of Interior, Bureau of Indian Affairs, The Montana-Wyoming Indian: 1968, p. 13.

¹⁵Fearn, "Education of Indian Children," p. 28.

¹⁶Cory Arnet, "Education, A Promise Unfulfilled," The Indian Historian, I (Winter, 1968), p. 13.

Previous goals for Indian education have changed from civilizing and Christianizing the Indian to helping him assimilate into the larger white society, and take part in the mainstream of American life. Researchers and educators do not believe that the new goals have been attained.¹⁷ The major justification for this belief is the level of academic achievement attained by the Indian students.

Young Indian students entering the first grade tend to be eager and bright in the school situation. As they attend the white man's schools and experience the lack of success, they become withdrawn and shy, losing their enthusiasm for school. Studies show that the gap between the levels of achievement between white and Indian children gets larger as they move through school.¹⁸

Before 1935 it was believed that Indians were less intelligent than whites. Since then research has shown that differences in I.Q. can be explained on the basis of cultural differences.¹⁹ Studies

¹⁷Berry, Education of American Indians, p. 21.

¹⁸Everett D. Edington, "Academic Achievements," Journal of American Indian Education, VIII (May, 1967), p. 11.

¹⁹Robert Rossel, Jr., Handbook for Indian Education (Los Angeles: Amerindian Publishing Co., n.d.), p. 57.

reveal that Indian students achieve poorly regardless of the criteria or instrument used.²⁰ When standardized test results are compared with state and national norms, Indian children, as a group tend to score lower than comparable grade white children.²¹

Achievement tests are the most widely used criteria for determining the effectiveness of education. Because Indians have a poor achievement level, the school programs are thought to be ineffective. Some educators believe that the success of their graduates is determined by the success of their schools. Graduate follow up studies reveal little effectiveness.²²

The history of Indian education reveals that the Indian has not profited satisfactorily from the great expenditure of money and effort. Recent literature indicates that educators are looking at Indian educational needs through the eyes of the Indian. They are realizing that Indian culture, history, traditions, philosophy, and language have meaning and value.²³

²⁰Anderson, Educational Achievement, p. 28.

²¹Edington, "Achievements," p. 11.

²²Berry, Education of American Indians, pp. 33-4.

²³"Montana's Indian Situation Today," Bozeman Daily Chronicle, February 22, 1970, p. 20.

The burden of helping Indians to become self-actualized is placed on the class-room teacher. Most teachers, however, having a middle class background and education, have little understanding of the values and problems of their Indian students.²⁴ An effective teacher must understand the children she teaches. This cannot occur without considerable effort on her part.²⁵ One of the most common mistakes is using competition and planning for the future as incentives for learning.²⁶ As previously cited, competition and preparation for the future are not highly valued in Indian culture.

The teacher of culturally different children must mix old ideas with new in appropriate proportions. She needs to be creative, moving away from orthodox methods.²⁷ The successful teacher should build upon the cultural foundation developed early in the child's home experience. If this foundation is made stronger, rather than

²⁴H. D. Overby, "Tell It Like It Is," Today's Education, LVIII (November, 1969), p. 55.

²⁵Rossel, Handbook, p. 51.

²⁶Misiaszek, "Cultural Dilemma," p. 6.

²⁷Bennett, "Forgotten Americans," p. 6.

deteriorated or destroyed, the child will make an easier and better adjustment to his school environment.²⁸

New programs are being developed in Indian education. Many teachers are casting aside old books and adapting and developing materials which better relate to the Indian students. Bilingual programs break down the communication barrier, and at the same time employ the use of the traditional language.²⁹ The American Indian Historical Society takes the position that one general educational formula will not solve the educational needs for all American Indians. They believe that each tribe and community must have the right to consider the problem, and make its own decision as to the solution.³⁰

The Crow Indians of Montana

Of the 600,000 citizens of American Indian birth, approximately 40,250 are members of tribes in the State of Montana. One of the seven reservations is the Crow, located in south central Montana, and covering about two and one quarter of a million acres of land. The reservation includes mountains, stony slopes, broad hill tops,

²⁸Misiaszek, "Cultural Dilemma," p. 439.

²⁹Overby, "Tell It Like It Is," p. 56.

³⁰Arnet, "A Promise Unfulfilled," p. 13.

level and productive valleys, deep canyons and extensive areas of rolling plateau. Five thousand of the Crow members live on the reservation while 1,500 members do not. Many of those living away spend considerable time on the reservation each year.³¹ Such attractions as Custer Battlefield, National Monument Museum, Custer National Forest, ruins of Fort C. F. Smith, and Bear Tooth Wilderness are located on the Crow Reservation.³²

The tribe was originally called Absorokee which means "Children of the large beaked bird". Other Indian tribes would refer to them in sign language by flapping their arms as bird wings. The white man interpreted this to mean the bird Crow, and called the tribe the Crows. In 1825 the Crow Tribe and the U. S. signed a Treaty of Friendship, and they joined with the United States Army in fighting other tribes.

Like most Indian tribes, personal gain and accumulation of private wealth has limited value to the Crow. Employment opportunities are primarily agricultural and quite limited in the

³¹U. S. Department of Interior, Montana-Wyoming Indian, p. 25.

³²Bernard Klein, and Daniel Icolari, eds., Encyclopedia of the American Indian (New York: B. Klein and Company, 1967), p. 110.

winter.³³ Currently, the average wage of a Crow Indian family is \$2,778.³⁴

The older Crow women still wear long braids, blankets, and high moccasins to symbolize group memberships. The young women and men have adopted modern fashions, and dress much like their non-Indian neighbors.³⁵

There are approximately seven hundred children, ages one through five, on the Crow Reservation. The children attend public schools since no federal schools have operated here since 1920. A number of Head Start Centers function on the reservation.

The Crow Indians seem to realize the importance of education and training. One promising program is to include a day care center providing social, cultural, developmental and creative experiences for pre school children. Potential areas for employment are being studied. Among these are recreational and tourist oriented vocations, industry, and small business operations.³⁶

³³U. S. Department of Interior, Montana-Wyoming Indian, p. 25-26.

³⁴Elnora A. Old Coyote, "Proposal for Crow Indian Developmental Pre School Children," Montana State University, 1970, typewritten.

³⁵U. S. Department of Interior, Montana-Wyoming Indian, p. 27.

³⁶Old Coyote, "Proposal," pp. 1-3.

The Lowenfeld Mosaic Test

Design

The Lowenfeld Mosaic Test was developed in the late 1920's by Margaret Lowenfeld. It can give information about two vital factors: 1) the maturity or level of functioning, and 2) the personality or what the individual is like in action.³⁷ The test shows what the individual can do with his intelligence and imagination in a concrete situation.

Subjects from pre-school age to adults manipulate the brightly colored plastic mosaic chips in any way they wish. Both cognitive and emotional processes are visible in the test performance.

Uses

Study of Children.-- There are two approaches to the analysis of children's products: 1) study of the child's development over a specific growth period, and 2) study of the differences between children of approximately the same age. This permits a better understanding of the potential of different children within the limits

³⁷Louise Bates Ames, and Francis L. Ilg, Mosaic Patterns of American Children, (New York: Harper and Brothers, 1962), p. 7.

of a given culture, and the relation of an individual child to the general pattern of development for all children.³⁸

Ilg and Ames have done extensive work with the Lowenfeld Mosaic Test at the Gesell Institute of Child Development. Through their studies they have found that Mosaic patterns change characteristically as age changes. They have determined norms for American children from the age of two to sixteen years of age.³⁹

Study of Cultures.-- The Mosaic test has been used to study the differences between cultures. Americans and Europeans reflected their attitudes to the outside world in their designs.⁴⁰ Eskimos were more exploratory in their approach to the test than other cultures.⁴¹ Jamaican children showed abundant energy with differences stemming from environmental factors.⁴²

³⁸Margaret Lowenfeld, The Lowenfeld Mosaic Test (London: Newman Neame Limited, 1954), p. 105.

³⁹Ames and Ilg, Mosaic Patterns of American Children, p. 269.

⁴⁰Lowenfeld, The Mosaic Test, p. 305-306.

⁴¹Gertrude M. Rieman, "The Mosaic Test: Its Applicability and Validity," American Journal of Orthopsychiatry, XX (1950), p. 609.

⁴²Lowenfeld, The Mosaic Test, p. 316.

Study of Disorders.--The Lowenfeld Mosaic Test has been useful in studying subnormal intelligence, neurosis, and severe mental disorders. Certain characteristics are apparent in the designs of subjects with these disorders. The test has been helpful in diagnosis.⁴³

⁴³Ibid., p. 208.

CHAPTER III

METHODOLOGY

The purpose of this study was to determine the maturational ages of Crow Indian Head Start children through their response to the Lowenfeld Mosaic Test. This test was chosen for the following reasons: its simplicity, short period of time required, enjoyment experienced, freedom from semantic complications, and reliability and validity in determining maturational age.⁴⁴

Subjects

Crow Indian students enrolled in Head Start Centers at Lodge Grass, Crow Agency, and Pryor, Montana participated. The study included children that attended school on the four testing days. Non-Indian students were not tested.

Materials

The standard set of test materials is available in two sizes. The box containing 228 plastic mosaic pieces each one-sixteenth of an inch thick was used. Five different shapes are included: square, diamond, equilateral, right-angled, isosceles and scalene

⁴⁴Ames and Ilg, Mosaic Patterns of American Children, p. 10.

triangles. Each geometric shape has six colors arranged in the following order: blue, red, yellow, green, white, black. The dimensions of the various shapes are related to those of the square.

There are four squares of each color, or twenty-four squares; six equilateral triangles of each color, or thirty-six; eight diamonds of each color, or forty-eight diamonds; eight right isosceles triangles making forty-eight; and twelve scalene triangles of each color, or seventy-two.

The working surface on which the patterns are to be made is a rectangular wooden tray, $10\frac{1}{2}$ by $12\frac{3}{8}$ inches, covered with a white sheet of paper.⁴⁵

Administration

A separate examining room with an appropriate sized table and chair was provided at each Head Start Center. The examiner's chair was placed in front and to the right of the table.

The tests were administered by trained personnel, and an interpreter was needed in two cases to ensure understanding of the directions.

⁴⁵Ames and Ilg, Mosaic Patterns of American Children, pp. 10-11.

Procedure

The subject was seated at the table in front of the testing tray. The box of mosaic pieces was placed near the hand that the child favored. The same instructions were given to each child:

Here is a box of pieces of all different colors and all shapes. I want you to make something with some of them on this piece of paper, anything you like. But first I'm going to show you all the different kinds.⁴⁶

The blue pieces were used for demonstration. Each shape was placed on the tray before the child in the following order: equilateral triangle, square, scalene triangle, diamond, and isosceles triangle. His attention was called to the other colors. After demonstrating, these instructions were given:

Now I want you to take some of these pieces out of the box and put them onto the paper and make something, anything you like. You may take as long or as short a time as you like. You may make a big thing or a little thing. And you may use a lot of pieces or just a few.⁴⁷

If the subject hesitated, he was encouraged by asking him which piece he wanted to begin with.

A data sheet was used to record as much detail as possible about what the child did and said (Appendix A). The back side of the sheet was used to write comments as the child made his product.

⁴⁶ Ames and Ilg, Mosaic Patterns of American Children, p. 11.

⁴⁷ Ibid., p. 11.

The subject was permitted to work as long as he wished, up to twenty minutes. When he finished, he was asked to tell about what he had made.

A color photograph was taken of each response and was available for later analysis.

Scoring

The photographs were analyzed and the responses were qualitatively evaluated determining the maturational age of each subject. The analysis was confirmed by Dr. Louise Bates Ames at the Gesell Institute of Child Development.

CHAPTER IV

RESULTS

Sample

The population consisted of forty-two Crow Indian Head Start students. The range of Indian blood was from $\frac{4}{4}$ to $\frac{7}{32}$ with an average of $\frac{31}{64}$. Twenty-seven (64%) were full bloods, having three-fourths or more Indian blood; twelve (29%) were mixed bloods, having one-fourth to three-fourths Indian blood; one (2%) had less than one-fourth Indian blood; and no information was available for two (5%) subjects. (Appendix B)

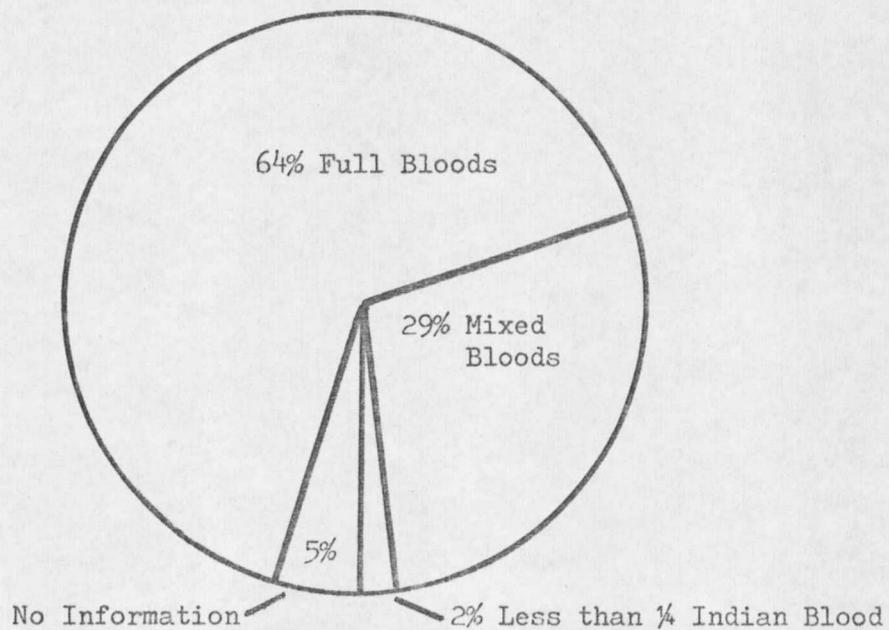


Fig. 1.--Percent of Indian Blood For Crow Head Start Children

The chronological age of the subjects ranged from four years and five months to five years and eight months, with an average of four years and ten months. To the nearest half year, five subjects were four years of age, eighteen subjects were four and a half years of age, seventeen subjects were five years of age, one subject was five and a half, and no age was recorded for one subject.

Although many of the children speak Crow at home, English is spoken in the Head Start program. Forty children (95%) were able to speak and understand English, while two children (5%) were not. The Head Start teacher translated the English instructions for these students.

Findings

The mosaic responses or patterns were evaluated according to the norms in Mosaic Patterns Of American Children by Ames and Ilg.⁴⁸ To determine this, the patterns were compared to the norms.

The test results showed that the maturational age, or level of functioning and the chronological age did not always correspond. The maturational levels of response ranged from two and a half years to six years, with an average of three and a half years. Only twelve percent of the sample were functioning at their chronological

⁴⁸Ames and Ilg, Mosaic Patterns Of American Children.

age or better. The remaining eighty-eight percent were below their chronological age: twelve percent at six months to one year behind, fifty-seven percent at one year or more behind, seventeen percent at two years behind, and no chronological age was recorded for two percent. (Fig. 2)

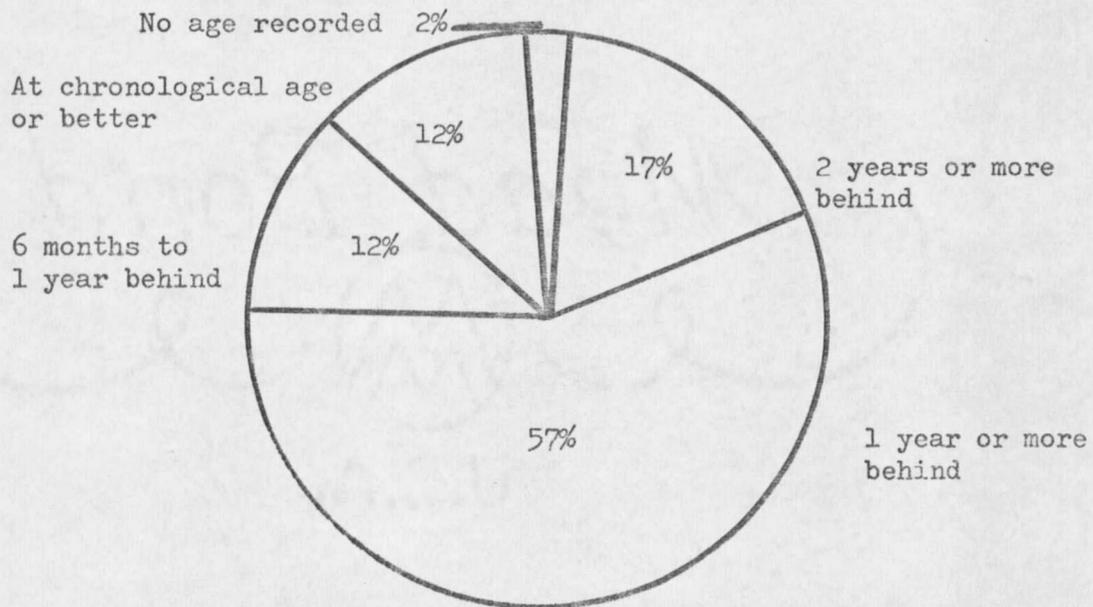


Fig. 2.--Level of Functioning for Crow Indian Children

Of the twelve percent functioning at or above their chronological age, three were males and two were females. Of those functioning below, seventeen were males and twenty were females. The subject whose age was unknown was a female. More males were functioning at or above their chronological age, and more females were functioning below. (Table 1)

TABLE 1

MATURATIONAL AGE OF CROW INDIAN CHILDREN

Age	Chronological												Total Number	Percent			
	4 yrs.			4½ yrs.			5 yrs.			5½ yrs.					No Age		
Maturational	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T		
6+ yrs.				1	1											1	2%
5							1	1	2							2	5%
4½							1		1							1	2%
4	2		2	2	2	4		3	3							9	21%
3½				5		5	2	4	6	1		1				12	29%
3		1	1	3	3	6	1	3	4							11	26%
2½	<u>1</u>	<u>1</u>	<u>2</u>	<u>-</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>1</u>		<u>6</u>	<u>15%</u>
Total	3	2	5	10	8	18	6	11	17	1		1			1	42	100%

Types of Patterns

The combination of mosaic pieces on the tray constitutes a pattern. It can have many pieces, or just a few. The patterns are classified into maturational age levels, each having their own characteristics.

Two and a Half Year Old Pattern.--- The two and a half year old patterns were characterized by a limited response in number, shape and color of the pieces. They were scattered singly or just dropped on the tray, often in the lower right corner. Six subjects (15%) of the forty-two performed at this level with chronological ages ranging from four to five years of age with an average of four

years and six months. Two who were at the two and a half year old level were four years old, two were four and a half, and one was five. No chronological age was recorded for one subject. (Fig. 3)

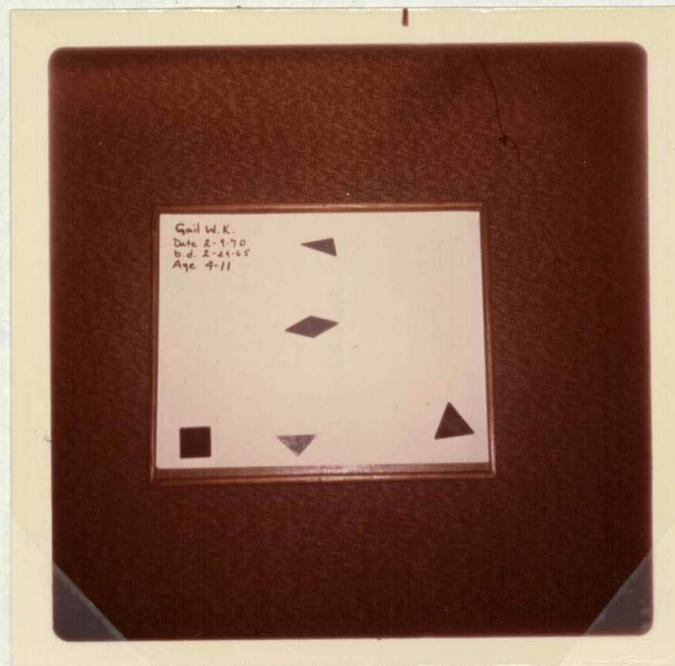


Fig. 3.--Chronological Age $4\frac{1}{2}$
Maturational Age $2\frac{1}{2}$

Three Year Old Pattern.-- Eleven subjects (26%) of the forty-two were functioning at the three year old level. Their ages ranged from four to five years of age, with an average of four years and six months. The patterns consisted of subjects scattering pieces over the area with no linear impression, or scattering pieces in the

lower right corner. Chronologically one was four, six were four and a half, and four were five years old. (Fig. 4)



Fig. 4.--Chronological Age 4
Maturational Age 3

Three and a Half Year Old Pattern.-- Twelve subjects (29%) of the forty-two were functioning at the three and a half year old level. These patterns were characterized by filling the tray unintentionally giving the impression of horizontal rows, piling the pieces in the center of the tray, scattering only diamonds on the tray and making a single horizontal row of pieces. The subjects ranged from four and a half to five and a half years of age with an

average of four years and eleven months. Five subjects were four and a half, six were five, and one was five and a half years old.

(Fig. 5)



Fig. 5.--Chronological Age $4\frac{1}{2}$
Maturational Age $3\frac{1}{2}$

Four Year Old Pattern.-- Nine subjects (21%) of the forty-two were functioning at the four year level. Patterns consisted of pre-fundamentals which are simple combinations of two pieces, usually of the same type, (Fig. 6), a fundamental design which is the simplest pattern that can be made with each different shape

such as the fundamental circle in Fig. 7, a vertical row of squares, and objects recognizable, but crude. (Fig. 8 and 9) The chronological ages for this pattern ranged from four to five years of age, or an average of four years and six months.

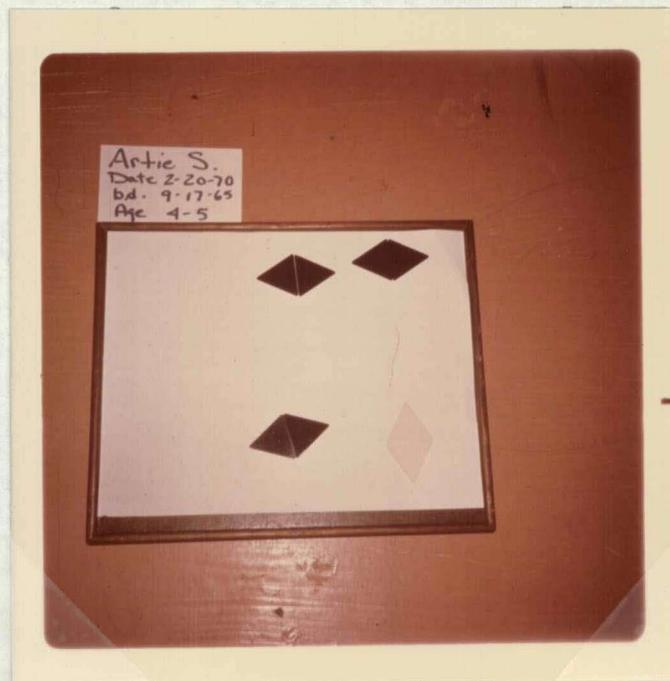


Fig. 6.--Prefundamentals

Chronological Age 4

Maturational Age 4

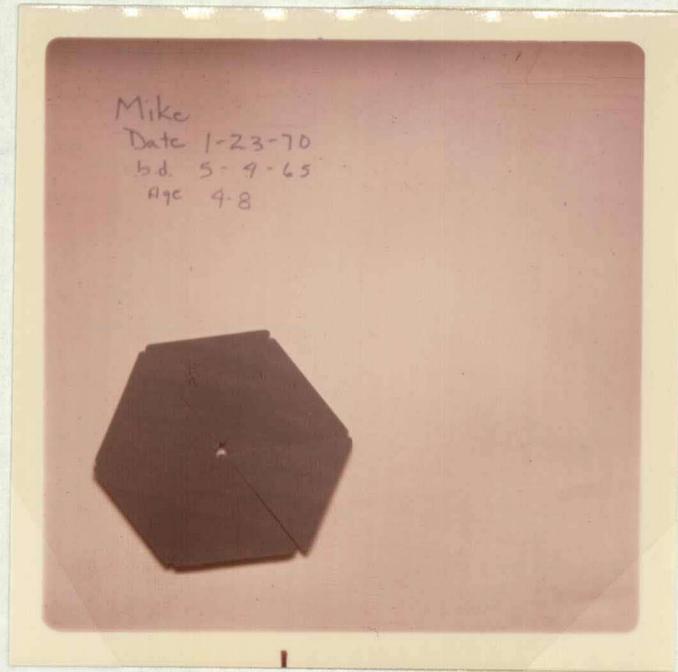


Fig. 7.--Fundamental,
Chronological Age $4\frac{1}{2}$
Maturational Age 4

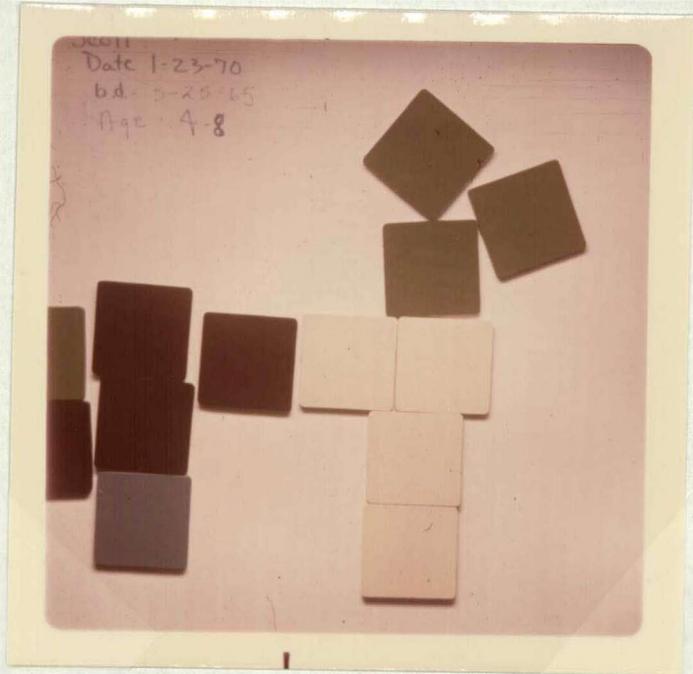


Fig. 8.--Chronological Age 4½
Maturational Age 4



Fig. 9.--Chronological Age 5
Maturational Age 4

Four and a Half Year Old Pattern.-- One subject (2%) of the forty-two produced a four and a half year old pattern. It was characterized by the use of pieces carefully placed one on top of another, and a pre-fundamental design. Chronologically this subject was five years old, functioning only six months behind her chronological age.

Five Year Old Pattern.-- Two subjects (5%) produced five year old patterns of organized form. One was characterized by

horizontal rows of the same shapes and colors (Fig. 10). The other pattern was a central design with the pieces and colors fitting together to create a pleasing appearance (Fig. 11). Both of these subjects were five years old and functioning at their chronological age.

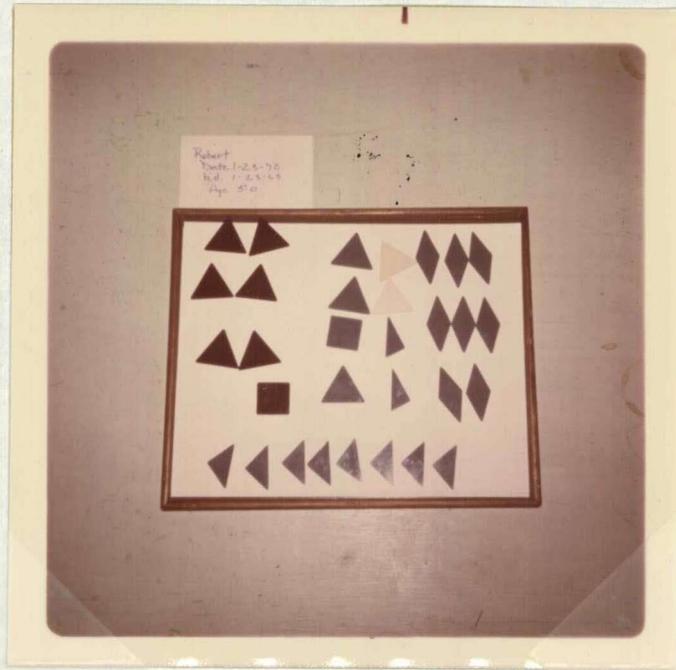


Fig. 10.--Chronological Age 5
Maturational Age 5

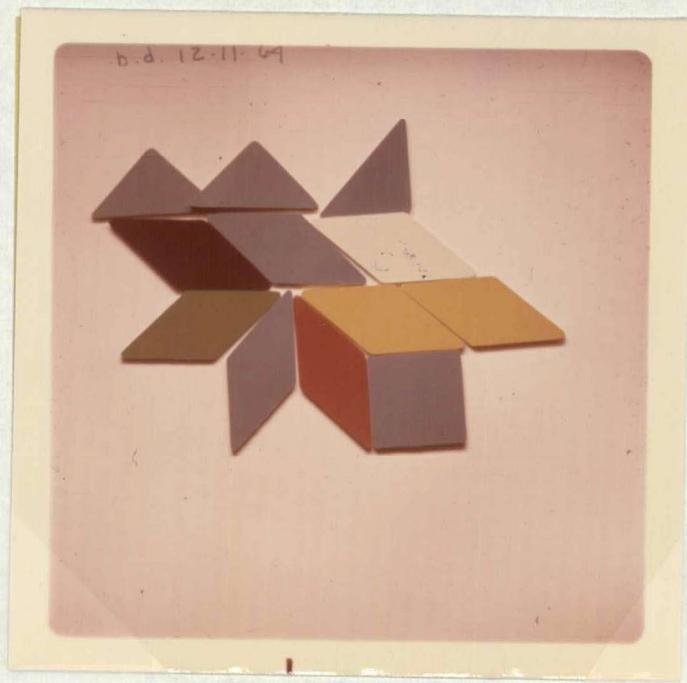


Fig. 11.--Chronological Age 5
Maturational Age 5

Six Year Old Pattern.-- The most mature pattern was produced by a subject functioning at six years of age. Chronologically this child was four and a half years old; a year and a half above the chronological age. The pattern consisted of two horizontal rows, one of squares and one of triangles (Fig. 12).

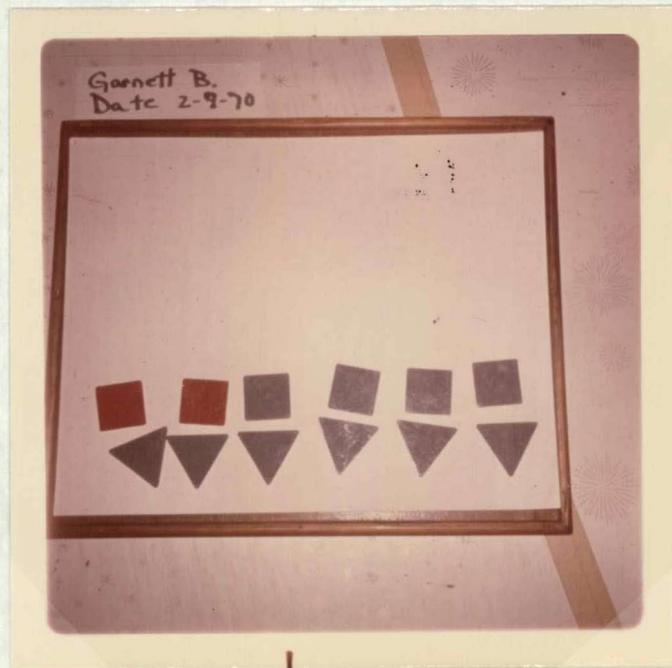


Fig. 12.--Chronological Age $4\frac{1}{2}$
Maturational Age 6

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The goal of American Indian Education is to aid Indians in assimilating into the larger white society. The existing educational system, geared to middle class white children, has not been successful in reaching this goal. Differences between Indian and white children must be determined if the educational programs are to meet the Indians' needs.

An attempt was made to determine the maturational age of Crow Indian Head Start children through their response to the Lowenfeld Mosaic Test.

The sample consisted of forty-two Crow Indian children participating in three Montana Head Start Centers. The Mosaic Test was administered to each child individually, and their responses were evaluated by Dr. Louise Bates Ames. The findings revealed that although the Indian patterns of response were the same as white patterns, the Indian children were functioning one year and three months behind white children of the same age.

Conclusions

Results showed that seventeen percent of the forty-two children were functioning two years or more behind, twelve percent were functioning six months to a year behind, fifty-seven percent were functioning a year or more behind, and only twelve percent were functioning at or above their chronological age.

Dr. Ames concluded that the Crow Indian children in this sample were one year and three months behind the expected average for their age.⁴⁹ The hypothesis that the maturational age of Head Start Crow Indian children is the same as that of white American children of the same age is rejected.

This conclusion indicates that the children in this sample may have trouble participating successfully in a middle class school with white children of the same chronological age. It would seem that the educational program must adjust to meet the maturational needs of the Indian child.

⁴⁹Personal correspondence from Louise Bates Ames, Gesell Institute of Child Development, New Haven, Connecticut, March 31, 1970.

Recommendations

This Study

This study was limited to only those children attending the three Head Start centers on the four testing days. This is only twenty percent of the total number of children enrolled in the Head Start Program. A larger sample would be more beneficial.

Other Studies

This study was limited to children of the Crow Reservation. It would be interesting to know if children of other tribes would have the same responses.

A longitudinal follow up study of these children could be done to determine the following: if their maturational age corresponds with their performance in school, if their future maturational age correlates with the maturational age found in this study. This information would be helpful in checking the progress of each child.

A study could be done attempting to determine factors relating to the developmental lag of Indian children. Such influences as Indian culture, home life, child-rearing practices, general health, or language could be studied in depth.

Important information could be found by doing a study of the children who were maturationally behind in relation to their

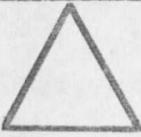
school performance. Attitude, achievement, perceptual-motor development and language ability are some of the aspects that could be investigated. Information in these areas could be helpful in planning more realistic school programs for Indian children.

APPENDIX

APPENDIX A

LOWENFELD MOSAIC TEST

PERCENT INDIAN BLOOD	NAME
GRADE	DATE
TOWN	BIRTHDATE
EXAMINER	CHRONOLOGICAL AGE
TIME	MOSAIC DEVELOPMENTAL AGE
COMMENTS :	

	BLUE	RED	YELLOW	GREEN	WHITE	BLACK	TOTAL
							
							
							
							
							
TOTALS							

APPENDIX B

<u>SUBJECT CODE</u>	<u>FRACTION OF INDIAN BLOOD</u>	<u>SEX</u>	<u>B.D.</u>	<u>C.A.</u>	<u>M.A.</u>	<u>MONTHS AHEAD OR BEHIND</u>
1	15/16	F	7-14-65	4-6	6+	+ 18
2	45/64	F	12-11-64	5-1	5+	0
3	7/8	M	1-23-65	5-0	5	0
4	15/32	M	12-23-64	5-2	4½	- 8
5	15/16	M	7-13-65	4-5	4	- 5
6	4/4	M	9-17-65	4-5	4	- 5
7	7/16	F	7-16-65	4-6	4	- 6
8	11/16	M	5- 4-65	4-8	4	- 6
9	3/4	F	5- 9-65	4-8	4	- 8
10	45/64	F	11-30-64	5-2	4+	- 12
11	3/4	F	10-21-64	5-3	4	- 15
12	7/8	F	11- 5-64	5-3	4	- 15
13	7/8	M	5-25-65	4-8	4-	- 9
14	4/4	M	7-30-65	4-7	3½	- 13
15	3/4	M	6- 1-65	4-8	3½	- 14
16	11/16	M	6-19-65	4-8	3½	- 14
17	7/32	M	3- 4-65	4-11	3½	- 17
18	5/16	M	3-23-65	4-11	3½	- 17
19	4/4	F	1-24-65	5-0	3½	- 18
20	4/4	F	2- 4-65	5-0	3½	- 18
21	11/16	F	1-14-65	5-1	3½	- 19
22	3/4	M	12-17-64	5-2	3½	- 20
23	3/4	M	11- 6-64	5-3	3½	- 21
24	3/8	F	11-11-64	5-3	3½	- 21
25	3/8	M	6- 9-64	5-8	3½	- 26
26	4/4	F	8- 7-65	4-5	3	- 17
27	7/8	F	2- 7-65	4-11	3	- 17

<u>SUBJECT CODE</u>	<u>FRACTION OF INDIAN BLOOD</u>	<u>SEX</u>	<u>B.D.</u>	<u>C.A.</u>	<u>M.A.</u>	<u>MONTHS AHEAD OR BEHIND</u>
28	13/16	M	6-14-65	4-8	3	- 20
29	7/8	M	5-27-65	4-9	3	- 21
30		M	11- 3-64	5-3	3	- 21
31	7/8	F	5- 5-65	4-8	3	- 20
32	7/8	F	4-22-65	4-10	3	- 22
33	7/8	M	3-27-65	4-11	3	- 23
34	11/16	F	2-14-65	5-0	3	- 24
35	29/32	F	12-27-64	5-1	3	- 25
36	7/8	F	11-24-64	5-3	3	- 27
37	27/32	M	9-25-65	4-5	2½	- 23
38	1/2	F	9-28-65	4-5	2½	- 23
39	15/16	F	3-29-65	4-11	2½	- 29
40	4/4	F	2-24-65	4-11	2½	- 29
41	27/32	M	12-13-64	5-2	2½	- 32
42		F			2½	

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