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Signature William G. Stoops

Date Dec 21, 1978

A STUDY OF EDUCATIONAL ACHIEVEMENTS OF  
CROW INDIAN STUDENTS

by

William Galen Stops

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Approved:

Edmond A. Old Coyote  
Chairperson, Graduate Committee

George C. Johnson, Jr.  
Head, Major Department

Henry L. Parsons  
Graduate Dean

MONTANA STATE UNIVERSITY  
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ABSTRACT

The Standard School Curriculum is a controlled environment or learning situation for an all English program. The reinforcement programs are also developed to involve more English language experiences.

In this paper, the author deals with the immersion method that was used by all of the schools on the Crow Reservation. This method did not allow the Indian students to use their language at all. Generally it was felt that if they were forced to use English they would learn it. But, as research shows, it isn't the best method for this language group.

One of the main reasons that the immersion method did not work is because other language learning factors were not dealt with. For one, the cultural values of the Indian languages should have been used in the assimilation process. This author feels that the language of the child should be used when the school is going to teach the child a new language. Therefore, a prerequisite for a teacher in this situation should be a background in linguistics. Then the teacher would be better prepared to deal with more than one language.

It is recommended that: (1) the curriculum focus on the Crow language for three years (K-2) and that all basics be taught in Crow; (2) by third and fourth grade the curriculum use 50% Crow and 50% English with a good English-as-a-second language program; and (3) from fifth to eighth grades, the curriculum use 95% English and 5% Crow language.

## INTRODUCTION

The author will present a brief outline of the history of education on the Crow Indian Reservation. This will be done to attempt to point out that the schools have been unresponsive to the needs of the Crow Indian students.

The core of the following information is taken directly from the text "The Crow Indians 100 Years of Acculturation", by Joe Medicine Crow and Charles Bradley.

It was the third treaty between the United States and the Crow Indians when Chief Blackfoot asked for a teacher to teach the Indian children. This was in 1868. These classes were held outdoors and the teacher had to go from district to district. The ages of the students ranged from four years old to about 18 years old. The things that the students remembered from this experience were candy or other treats given to them so that they would come to school. However, no textbook learning was acquired by the Indian students.

In 1871, with the agency for the Crows located at the site where the present city of Livingston is located, three school buildings were constructed. The Crow Indian children were forceably taken from their parents to attend school. Children from about age six to 18 years old were "kidnapped" and were actually held prisoners at thses schools.

When they reached the age of 18, they were made to get married before they could leave the school. Sometimes the young Crow men would steal the girls for wives and once they were married the girls didn't have to go back to school. These schools operated for two years (1872 to 1873) and at this time a request was made to write some of the textbooks in the Crow language, but this was never done.

The agency was moved to a new site in 1875, where the present town of Absarokee now stands, and another school building was erected called "The House." In 1883 the boys dorm burned down and once again the educational process came to a halt. Again the agency was moved to the new site where Crow Agency now stands, in 1884. Here a reservation boarding school was built and in 1921 this also closed down.

In 1886 the American Unitarian Association built a mission school named the Montana Industrial School which consisted of one room buildings. The Crow Indians knew the school as the Bond School after its founder, Reverend H. F. Bond. It was terminated in 1898 when the larger portion of the tribe moved to another location. In 1887 the Catholic Jesuits built the St. Xavier Mission in the Big Horn Valley. This school is still operating with a present enrollment of about 175 students. The Baptist denomination got permission to operate mission schools in 1903. This was a better situation for the Indian students because they weren't physically forced to attend school, but still the Indian people remember getting rapped on the

head for not being able to answer questions in school. All the non-Indian teachers in each district had Indian names which were used when addressing them. Some of the Baptist teachers even understood and talked some of the Crow language. By 1921, these schools were closed and the students integrated into local public schools.

The "Crow Bill" of 1919 gave to the State of Montana every 16th and 32nd section of each township on the reservation. By 1921 the government and mission school were phased out and the Indian children had to attend public schools locally. However, there are still government boarding schools operating, such as Haskell Institute in Lawrence, Kansas, Sharman Institute at Riverside, California, and other schools.

Until 1969 the public schools within the reservation demanded that the Indian students use only the English language while they were at school. However, in 1969, a survey (Dracon 1969) showed that about 85% of the Indian children still used their native tongue as their dominant language. The research also showed that the Indian children were from two to four years behind academically. Therefore, it seems feasible that new approaches must be tried to give the Indian children a quality education that they have so long deserved.

## CHAPTER I

### PROBLEM

The Crow Indians are a nomadic tribe historically. In most of the stories that the elderly people tell about the Crow Indians, they contain descriptions of landmarks that suggest a trail leading from the present area of Oklahoma to Canada, and finally, into the area of the Big Horn Mountains. Not all of these stories have been documented because the Crow Indian language was all verbal until recently when the written orthography has been completed. In fact, the linguists for the Crow language are still in the process of revising and editing the grammar rules. Beginning in 1969, federal education monies were sought and work began in the area of bilingual education on the reservation. Presently, three public schools on the reservation are involved in bilingual education. It is through these bilingual programs that some of the stories have been written down. All of them are written in the Crow language and about 20% of these have been translated to the English language. These, of course, are available to the public for review.

Being nomadic, the education of the young Indian children was one of learning by doing. For example, not only did the children learn from their parents, aunts and uncles, but due to the clan system the tribe had an extended family structure where other people in the

clan took on the responsibility of raising the children. So through this method the child had an individualized education as he grew up. Even after they were put on reservations and teachers brought in to teach them, the children never adjusted to the different system of education. The first teacher brought into the reservation was in 1872 (Medicine Crow and Bradley 1976-1977).

Until 1969, when bilingual education was introduced on the reservation, the immersion method was the only method employed (Dracon 1969). It was generally felt that if the Indian children were not allowed to speak their language in school that they would eventually learn the English language. But over the years, this has not been the case. In fact, over 85% of the Crow Indians of 5,723 people still use the Crow language as their dominant language. And it is this fact that this researcher will document. He will show that the Indian children have always scored low on standardized testing because, indeed, their dominant language is Crow and not the English language.

If this researcher can document the negative effects of imposing a standard English language, then he will suggest some possible solutions to the problem.

There are many factors to consider when suggesting possible solutions, but this researcher feels strongly that children think in the language that they speak. If the school systems do not offer,

for example, a curriculum taught in the Crow language, then one solution is bilingual education. Bilingual education is using the child's dominant language as another aid in his education. The ultimate goal is to have the child learn the English language, using his language to achieve this end.

So if the school systems on the Crow Reservation want to help the Indian children learn the English language beneficially, then they must begin early. Research has shown that a child usually grows cognitively at a rapid rate until approximately the age of 12. Therefore, any language learning must be initiated as soon as the children are able to attend school.

But whatever solution is to work must be developed and monitored by the Indian educators. This must be done because they are closest to the problem and will have a lower frustration level.

#### Systems Concepts

The attention of the vast majority of writers in the field of supervision has been directed elsewhere. They have expanded a great deal of effort in analysis of the knowledges, skills, and attitudes one needs if one is to be an effective supervisor. Thus they have allowed the nature of leadership, role theory, human relations, and similar topics to dominate the literature to the virtual exclusion of organizational theory. The following model will permit analysis of the problem.

Robert Katz (Feyereisen *et al.* 1970) concludes that three types of skills needed by an administrator are technical, human and conceptual.

- (a) Conceptual skill is: the ability to see the organization as a whole.

For our purposes we shall define a system as a set of components organized in such a way as to constrain action toward the accomplishment of the purposes for which the system exists.

All systems except the smallest have sub-systems, and all systems except the very largest have a supra system.

Systems analysis is a state of mind or point of view plus concepts organized in a logical pattern.

Its significance to education is that it forces the individual manager to define the problem precisely, note the alternatives available and their cost, and choose the most efficient alternative according to performance criteria (by Blaschke; Feyereisen *et al.* 1970).

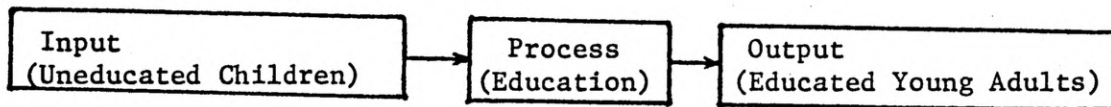
- (1) The first task facing a supervisor in designing a system is to define its boundaries.
- (2) All systems, particularly social or behavioral systems, are subject to stress and tension.

- (3) Allied to the concepts of stress and tension is the concept of equilibrium. The nature of a system is to maintain its equilibrium, or "steady state."

Entropy is the measure of the degree of organization of a system. At maximum entropy a system is characterized by uncertainty, error, chaos, disorder and unpredictability. As a system approaches zero entropy, or negentropy, it is more accurate, regular, ordered, organized and predictable.

- (4) Feedback can be viewed as the learning and maintenance capacity of the organization and is analogous to the information provided by the senses, nervous system, and brain in the human body.
- (5) The linking process consists primarily of designing a communications network which will tie together each component of the system.
- (6) The object of model building is to construct a symbolic representation of a total system.
- (7) We can now attempt to organize a school district as a self-regulating system. This means that we must design a system whose boundaries have been defined, that has the capacity to adjust and adapt itself to compensate for its internal stresses and tensions, and that can maintain its equilibrium within a tolerable range through programmed responses or

innovation despite internal and external influences toward equilibrium change.



Control is the process of comparing the actual output with expected output and identifying any discrepancies between the two.

Decision Rule is the process involved in deciding whether an existing rule or policy can be used to compensate for the reported variance in output or whether a new rule or revision in the process will be needed to provide the capability of producing the expected output.

- (8) Any social, political, economic, psychological, technological, or ideological shifts and changes are detected by the external sensor.
- (9) The input analyzer sorts all the information provided by the external sensor and transmits it to decision rule as requested.
- (10) The internal state of the system and its output are the primary concern of the identifier.
- (11) The output of both the input analyzer and the identifier becomes the input of decision rule and is used to produce a decision, policy, or instruction which is sent in the

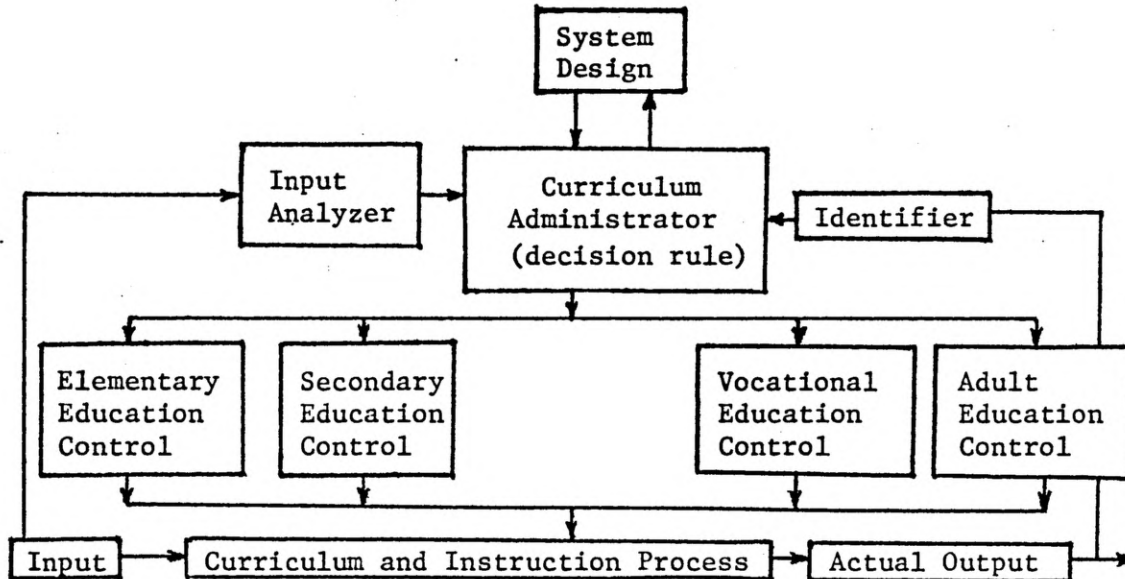
form of a control signal to the implementer. The actual change in process is accomplished by the implementer.

- (12) The systems-design component is constantly kept aware of the condition of the complete system and each sub-system by the identifier so that any part of the system can be redesigned to function more effectively.
- (13) When the system processes and problem load have been ascertained, the number, type and location of staff members can be determined. The major consideration in assigning staff is to assign the appropriate type and number of staff members throughout the system to ensure that the processes of the system can be efficiently and effectively performed.

#### A Management System

A management system for curriculum and instruction is a sub-system of the total administrative system which is responsible for the identification and solution of those problems found in the curriculum and instruction system of a school.

- (1) The authors assume the position that an explicit set of procedures for decision making is needed to replace the heuristic, trial and error, and accidental success methods by which decisions are made and changes introduced into the schools.



Simon, (Feyereisen *et al.* 1970) "Decision making comprises three principal phases: finding possible courses of action; and choosing among courses of action."

1. Identification of the problem.
2. Diagnosis of the problem.
3. Search for alternative solutions.
4. Selection of the best solution.
5. Ratification of that solution by the organization.
6. Authorization of the solution.
7. Use of solution on a trial basis.
8. Preparation for adoption of the solution.
9. Adoption of the solution.

10. Direction and guidance of the staff.

11. Evaluation of effectiveness of the solution.

(2) Problem identification, Step 1: "Nature of a Problem."

A problem is any factor, situation, or condition which prevents or hinders the achievement of the stated objectives of the curriculum and instruction system, or any conditions which necessitate a change in the objectives. "Problem Raisers"--Problems can be raised by the board of education, the central office staff, the instructional staff, the public and students. "Control Process"--System control is responsible for integrating and coordinating the decision-making process, which is accomplished by screening, routing, scheduling, assigning, coordinating, expediting, and following up the organizational problems. "Record Keeping"--The problem-raising form should be used by anyone wanting to call the attention of supervision control to a particular problem; a problem ledger which would provide basic information concerning the state of the problem-solving system. A problem-solution form serves two functions: Problem Scheduling; to prevent an overload of the system the control unit assigns priorities to the problems as they enter the system, and they form a queue or waiting line, Problem Routing; when a problem has been identified, screened and processed, control assigns the problem to a problem solver or combination of problem solvers.

(3) Diagnosis of the problem, Step 2: A problem in the instructional system may exist for many reasons:

- (1) The instructions in a curriculum guide, manual, etc, may not have been followed.
- (2) The instructions may have been improperly followed.
- (3) The instructions may have been incorrect.
- (4) Conditions may have changed, causing previously used procedures to fail.
- (5) A completely new problem may exist.

(4) Search for alternative solutions, Step 3: Of all the steps in the decision-making process, this is probably the least structured because all the possible alternatives are not known and will not necessarily be found in printed form.

(5) Selecting the best alternatives, Step 4: Among the considerations to be weighed in making the final selection are payoff, risk, resources, and feasibility.

(6) Ratification of the solution, Step 5: Upon receipt of the solution, system control must determine which of the sub-systems would be affected by the solution and send it to them for ratification.

(7) Authorization of the solution, Step 6: The authorization step may be a very routine matter or very troublesome, depending on the delegation and definition of authority and responsibility for making decisions, and the effectiveness of the problem solvers in

producing a valid and viable solution.

(8) Solution used on a trial basis, Step 7: The authorization to use a solution on a trial basis might well be called the testing of solutions because the trial step in the decision-making process requires the application of all techniques associated with testing and research.

(9) Preparation for adoption, Step 8: The purchase of supplies, building alterations and installations, adjustment of schedules and employment of needed staff are important considerations in preparing for adoption, but central, and often neglected in this process, is the preparation of staff or in-service education.

(10) Adoption, guidance, and evaluation, Steps 9, 10 and 11: The adoption step involves the actual implementation of the solution in the curriculum and instructional system. Despite the effort expended in preparing the staff, confusion, misinterpretations, misunderstandings and mistakes will occur. Usually, at this point, a supervisor should be available to the staff to provide guidance. The last step, evaluation, is obviously necessary if we are to know how successful the solution has been in solving the problem that originally entered the system.

#### Scope of Study

The researcher will make an analysis of the Wyola School District #29. This study will include the total student population, K-8,

when possible. All the standardized scores will be evaluated beginning in 1961. The researcher will use this sample size to represent the Crow Indian population. It is representative of the total population because the students are very mobile and move from one school on the reservation to another; sometimes a student will attend three schools in one year. Therefore, the results of the Wyola School will be a valid sample size for this study.

#### Bilingual Student

When the researcher talks about a bilingual student, he will refer to a student that has a Crow Indian language dominance and an understanding of the English language.

The retention of the language and participation in the traditional culture are perhaps greater in the Crow tribe than any of the plains tribes. This may be a major factor in the trend for most Crows to stay on the reservation or maintain close ties. Over 80% of the Crow Indian children coming to the schools use the Crow language. Inter-marriage to members of other tribes or non-Indians, particularly if it is the mother who does not speak Crow, is about the only factor operating for language loss.

There is a certain irony to the notable retention of language and cultural patterns, since the Crows have a longer history of contact and cooperation with the white man than any of the plains tribes. A

member of the Souian linguistic group, they were always a small, highly organized group who held their prized territory against the pressures of the larger Blackfeet, Sioux and Cheyenne tribes of the adjoining regions. The Crows were able to use early trade contacts and later military alliances with the whites to maintain their position. The major outcome of this long cooperation with the whites was the Crow Indian Reservation which provided a much stronger economic base and still has a higher potential than most of the other reservation sites.

#### Education on the Crow Reservation

At the present time, most children attend public elementary and secondary schools on the reservation. The original schools were mission schools and government schools. The BIA turned the operation of schools over to the state in about 1920. A large Catholic elementary boarding school still operates at St. Xavier and a small Catholic day school in Pryor.

The public school system in Montana is loosely connected through the State Department of Education, which administers the portion of school funds coming from the state level and provides some broad curriculum recommendations and some technical assistance. Beyond that, most control exists at the level of the school districts which have sprung up mostly from local whim and historical accident, particularly

in the rural areas where little consolidation has been attempted. This situation is particularly aggravated on the Crow Reservation, where elementary districts cross reservation lines. High school districts overlap parts of the elementary districts as well.

By the high school years, many Crow students pursue their education off the reservation. About 80 attend BIA boarding schools and about the same number attend private or mission schools; many of the latter going to nearby St. Labre School on the Northern Cheyenne Reservation. The overall drop-out rate for high school is about 40% and is declining. Only 32 Crow students graduated in 1963. By 1970 the number was 85. It is now about 100 each year.

The overall picture which emerges is one of a rural area which has not demonstrated much economic development for the Indian. It is interesting to note that over the past 20 years, the total population of Big Horn County has scarcely varied, but that the proportion of Indians has increased to a majority. The realization of the educational aspirations of Indian parents through longer attendance and higher levels of performance must be coupled with basic changes in the economic situation if the young people are to continue to remain on the reservation.

## CHAPTER II

### REVIEW OF LITERATURE

The first day in school for a child can be the most important time in his life because we are taking a child from the security and safety of his home. But the teacher has had the kind of training to understand the child and can make the first day of school very exciting. This of course assumes that the teacher and the child talk the same language and understand the same culture. So what of the child who comes to school with a different language and a different culture?

We must regress to the time a child is born to appreciate the problem more fully. In fact, the baseline development for language growth is beginning as soon as the baby is born. Jean Piaget (1969) says:

"The sensori-motor period is the time during which the infant lacks the symbolic function. In spite of this lack, mental development during the first eighteen months of life is particularly important, for it is during this time that the child constructs all the cognitive substructures that will serve as a point of departure for his later perceptive and intellectual development, as well as a certain number of elementary affective reactions that will partly determine his subsequent affectivity."

It is during this time that a child is developing readiness for later stages he must go through to become competent in his dominant language. Also in the same book, Piaget (1969) points out the general phases of language growth:

"Articulate language makes its appearance, after a phase of spontaneous vocalization (common to children of all cultures between six and ten or eleven months) and a phase of differentiation of phonemes by imitation (from eleven or twelve months), at the end of the sensori-motor period, with what have been called 'one-word sentences' (C. Stem). From the end of the second year, two-word sentences appear, then short complete sentences without conjugation or declension, and next a gradual acquisition of grammatical structures."

And, according to Lee H. Salisbury (1967), by the time a child reaches the age of seven, his cultural and language patterns have been set. Since a child is required to begin school at the age of six in the first grade, then what we have is a child who is ready to read about the language that he has developed for six years at home. But what of the child who has a different dominant language other than English? Obviously he has been developing in his own language and is ready to read in his own language, but not English. What is the result if the child who has a different dominant language is forced into an all-English school curriculum? In a study by Evvard, Evelyn, and Mitchell, George C. (1966) they attempted to find if the Scott, Foresman Basic Readers were adequate tools to teach Navajo children to read. They discovered that these readers reflect middle-class values of the white man. Differences between white and Indian concepts and values with respect to animals, pets, human personality, human expression, games, toys, and home cause minimum comprehension and maximum confusion. And there are other researches to reinforce

these findings, but the point is that when a child is placed in an unfamiliar situation, learning does not take place. And for a long time this was the situation in most elementary schools where the idea was that if a child came to school with a different dominant language, and if he was told not to use his own language, then he would have to learn English.

One method that was used was called acculturation. In a study by Chester C. Christian, Jr. (1965), the effect that insistence on spoken English had on bilingual children was studied. The problem of confusion and frustration which exists when a child learns one language and culture from his parents and another when he enters school is discussed. The author maintains the term "acculturation" refers to the destruction of one culture to gain a second culture. He suggests that education should attempt to involve the culture of the child in his education instead of forcing the child to strip himself of the minority culture. However, this method proved to be very weak because mainly the child was already a product of his own environment and was reinforced as soon as he left school. So he did not really have the incentive to learn either the language or the culture of the white society. This fact can be documented by some sampling of dominant language of the children in an elementary school where there are large numbers of an ethnic group other than English, and by studying the percentage of these children using their own language. The problem

was complex at the school where this author worked. Until 1970, the school board, administration, school teachers, and school personnel were all non-Indians and about 90% of the total school population was Indian children. Up until that time no attempt had been made to study or evaluate the school programs in terms of the failure of the Indian students, although Indian students were at least three years behind their age group when they graduated from the eighth grade. They were labeled as incompetent students and this was in fact, accepted as "usual" for all Indian students. This insensitivity was researched by several programs and in one in particular, by Paul Witherspoon (1960), he found a general lack of teacher sensitivity toward socio-cultural differences of the bilingual. There were really more likenesses than differences between Anglos and bilinguals; but he suggested that teachers, counselors, and administrators need to be aware of the main problems involved in the differences. The communication between the school and homes of the bilingual children was also nonexistent. Without this communication the expectancies of the parents vs. the school were different for the Indian children. The administration may have wanted education for all the students, but the teachers usually taught to about the top 20% of the class who were the non-Indians or the faster Indian students. The rest of the class were falling farther and farther behind each year. The parents on the other hand wanted their children to succeed in school so that

they could go on to better jobs after schooling, but since they never went to school board meetings or parent day, they did not know much about the operation of the school. For the school to begin to look at the problems involved in teaching a bilingual child, this communication between the school and home must be improved 100%. Only then can the individual needs of the child be evaluated and the proper diagnosis prescribed. What are the skills needed for language learning? In an article by Edward Diller (1962) "The four skills in language learning are:

1. Listening: Preconditioning programs, language awareness of songs, poems, and recorded speeches, and listening for sound discriminations, comprehension, and significance.
2. Speaking: Mimicry-memorization, imitation, pattern drills, and spontaneous expression.
3. Reading: Recognition of patterns, contextual reading (finding the meaning of an unfamiliar word from contextual clues), and controlled reading.
4. Writing: Copying and matching exercises, writing from dictation, controlled writing and free expression (essays, letters, and reports)."

If the above sequence is the proper way for language learning then in order to teach any child a second language different from his own, we must provide the kind of learning experiences that will enhance the child's chances of being successful in school. Therefore, the school program must be changed so that the proper program can be developed for the needs of the bilingual child. There have been

proposed models of a Bilingual Education Program. Vera John Steiner (1975) has proposed four basic models in an article that she wrote. The first model is called the "informal model" and in essence it proposes that a school that has bilingual children should have more teacher aides that know the language of the children, and the model suggests there be no planned lessons. The teachers aide is available only to help out the bilingual children when they need her. The second model is the "supplementary model" and in this model, a para-professional who knows the language of the bilingual children is hired and planned lessons in language arts are taught. Usually the time allotted is a half-hour per day. The third model is the "transition model", where the certified teacher is also bilingual and can read and write the language of the bilingual child. In this model the bilingual teacher teaches the basic concepts in the primary native language. But the main goal is that by the fourth grade the bilingual children will have had enough English-as-a-second-language activities to make the transition to the standard school curriculum. The last model, called the "two-way model", is probably the most expensive model to implement. In this model, the bilingual children learn the language and culture of the white people, but in turn the program is set up so that the non-Indian children learn the language and culture of the Indian children. In choosing between the models there are many factors to consider. In a report by Constance

Amsden (1966), she suggests some of the basic problems to be considered. A program to develop oral language skills and to reinforce traditional cultural values of the Spanish-American community was designed by her. Reading achievement and oral language development were assessed, and independent studies of the Spanish language proficiency of the children and Spanish influence on the children's oral English were undertaken. Emphasis on parent participation, individualized instruction, self-instruction, and cultural awareness were recommended to assure the children's academic progress and develop their sense of identity and self-esteem. The important point to remember is that if a school district is to implement a bilingual education program, it must be committed to the implementation of this component into the total of the school curriculum. If the school district is not wholly committed then it is better off not to make a half-hearted effort. The efforts of a bilingual program must be looked at as a major area of concern as far as the bilingual children are concerned because without a concerted effort by the administration and teachers, it will be without a doubt a predictable failure. And as Charles C. Fries (1949) points out in his article, "Although two systems or languages may exist simultaneously, they must remain as two separate languages. Each system is observable and describable yet unique and must be discussed in terms of its own traits without comparison to any other system."

## CHAPTER III

### METHODS

Since 1872, Crow Indian students have been put through an education system with no real success for the Indian children. This report documents this fact. A bilingual education model is suggested in this paper.

In this research data were collected in the form of standardized score results from 1961 to 1969. These data had to be up to date before any form of bilingual education could be suggested. All the scores were analyzed by grouping the students from first grade to eighth grade by either putting them in the dominant Crow language speakers (bilingual) or dominant English speakers (English). Then data were collected from 1969 to 1973. These were data after the Title VII bilingual education program was started. All statistical analyses involved grouping the students into bilingual and English speakers.

#### Sampling Procedure

The attempt here was to sample one elementary school on the Crow Indian Reservation and to infer the results as representative of the total Crow Indian student population. The school under investigation was the Wyola School, which is an elementary school, district 29. All of the available achievement test results were used in the research for the pre-bilingual years.

The research attempted to sample two different groups in terms of time. One group to be sampled was the group from 1961 to 1969. In this time period the students were grouped into the Crow dominant speakers and the English dominant speakers. Group two was the group from 1969 to 1973. This was the group that had exposure to a bilingual treatment for those who were Crow dominant speakers.

#### Sample

For the first group (1961-1969), an ex post facto design was used. This is where the researcher examines the effects of a naturalistically occurring treatment after that treatment has occurred rather than creating the treatment itself. The examiner attempts to relate this after-the-fact treatment to an outcome or dependent measure.

When a researcher is working in an on-going educational environment, particularly when he is interested in generating some hypotheses about what causes a particular state or condition, it is often helpful to begin by contrasting the characteristics of a state with the characteristics of an opposite state using the criterion-group approach.

If effect the treatment for the second group was the same in that the results from tests already given were analyzed in terms of bilingual versus English speakers.

The school population was analyzed so that a total picture is presented of the school children. To determine if a student

was a dominant Crow speaker or a dominant English speaker, the researcher carefully examined the list of families that appeared on school records. In this activity the researcher made home visits and community-relation type of work to be sure that a student was in fact a Crow dominant or English dominant speaker. Because the community is small the researcher did not have a difficult time finding the needed information either from the community or from the school records.

#### Collection of Data

For group one, starting from school year 1961 until 1969, the researcher collected all available standardized testing results from the individual student folders at the Wyola School. First the researcher collected the data directly from the school records, then he grouped into dominant Crow speakers and dominant English speakers. This was done in each level in the school. The reliability and validity of the standardized tests that were used were quoted. From these raw data the statistical analysis was conducted according to the needed information.

For group two, from 1969 until 1972, the same standardized tests were conducted and the statistical analysis was done on these tests. The basic analysis again was to compare the educational progress of the Crow dominant speakers versus the English dominant speakers in the school. The reliability and validity of the individual

test instruments was quoted. Group one and group two was given similar treatment to give a similar result.

### Hypothesis

The hypothesis to be tested was that there is a correlation between a dominant language of a student in relation to success in school. The researcher attempted to show that there was a positive relation between students having a dominant language in Crow and a student dominant in the English language.

### Analysis

For group one the standard deviation for the Crow dominant speakers was calculated. Parametric correlation (Pearson-Product-Moment Correlation) was calculated between the two groups (bilingual and English dominant) in each grade level. The parametric correlation was used to deal with two interval variables, each of which was normally distributed. A correlation is an indication of the predictability of one variable given the other. It is an indication of covariation. The attempt here was to calculate the relationship between the scores of the Crow dominant and English dominant students.

A t-test is a statistical test that allows a comparison of two means to determine the probability that the difference between the means is a real difference rather than a chance difference. The formula for the t-test is:

$$t=r \frac{N-2}{1-r}$$

The analysis of data for group two (the bilingual era) was given the same treatment as group one and the results should point out the difference between children having a different dominant language that the one at school, and children growing up with a language that the school uses as the dominant language for instruction.

## CHAPTER IV

### RESEARCH

In this section the researcher will compile data that include essentially two populations in relation to time. First the researcher will analyze the time period from school year 1961-1962 to 1968-1969. This the researcher will define as the "pre-bilingual" era. It was after this time period that bilingual education began at the Wyola School. Then the researcher will analyze data from school year 1969-1970 to 1972-1973, which the researcher will call the "bilingual period" because during these four years bilingual education was available to the students. The following tables will attempt to analyze one grade level per table. For example, Table 1 will contain data on all the first graders from school year 1961-1962 to 1968-1969, and first graders from school year 1969-1970 to 1972-1973. Table 9 will analyze total averages 1961-1962 to 1968-1969, and will include: average grade scores, average growth per year and the average gain or loss in growth. Table 10 will analyze total averages for 1969-1970 to 1972-1973 in the same areas as Table 9. Table 11 will contain standard deviations, correlations and t-scores.

The Tables will be:

Table 1: First graders each year from 1961-1962 to 1968-1969;  
and 1969-1970 to 1972-1973.

Table 2: Second graders each year from 1961-1962 to 1968-1969;  
and 1969-1970 to 1972-1973.

Table 3: Third graders each year from 1961-1962 to 1968-1969;  
and 1969-1970 to 1972-1973.

Table 4. Fourth graders each year from 1961-1962 to 1968-1969;  
and 1969-1970 to 1972-1973.

Table 5. Fifth graders each year from 1961-1962 to 1968-1969;  
and 1969-1970 to 1972-1973.

Table 6. Sixth graders each year from 1961-1962 to 1968-1969;  
and 1969-1970 to 1972-1973.

Table 7. Seventh graders each year from 1961-1962 to 1968-1969;  
and 1969-1970 to 1972-1973.

Table 8. Eighth graders each year from 1961-1962 to 1968-1969;  
and 1969-1970 to 1972-1973.

Table 9. Total averages from 1961-1962 to 1968-1969.

Table 10. Total averages from 1969-1970 to 1972-1973.

Table 11. Standard deviation, correlation and t-scores from  
1961-1962 to 1968-1969; and standard deviation,  
correlation and t-scores from 1969-1970 to 1972-1973.

The data presented are from the grade equivalent scores from the Stanford Achievement Test for all grade levels. According to this test the validity is a general concept concerned with what may properly be inferred from a test score. Reliability may be defined as a measure

of precision or consistency. The mean, median and standard deviation for test items may be obtained from the Norms booklet.

Table 1. First Graders each Year from 1961-1962 to 1968-1969; and 1969-1970 to 1972-1973.

|           | Indian<br>Population | Non-Indian<br>Population | Indian<br>G. E. | Non-Indian<br>G. E. | Indian<br>Drop-Out |
|-----------|----------------------|--------------------------|-----------------|---------------------|--------------------|
| 1961-1962 | 13                   | 2                        |                 |                     | 1                  |
| 1962-1963 | 7                    | 4                        |                 |                     |                    |
| 1963-1964 |                      |                          |                 |                     |                    |
| 1964-1965 | 11                   | 7                        | 1.5             | 1.8                 |                    |
| 1965-1966 | 7                    | 6                        | 1.8             | 2.1                 |                    |
| 1966-1967 | 5                    | 10                       | 1.7             | 1.9                 |                    |
| 1967-1968 | 9                    | 9                        | 1.3             | 1.7                 |                    |
| 1968-1969 | 20                   | 4                        | 1.6             | 2.0                 |                    |
| Averages  | 10.3                 | 6.0                      | 1.6             | 1.9                 | 1                  |
| 1969-1970 | 9                    | 9                        | 1.6             | 2.1                 |                    |
| 1970-1971 | 6                    | 7                        | 1.6             | 1.9                 |                    |
| 1971-1972 | 6                    | 7                        | 1.5             | 2.0                 |                    |
| 1972-1973 | 10                   | 10                       | 1.6             | 1.7                 |                    |
| Averages  | 7.7                  | 8.2                      | 1.6             | 1.9                 |                    |

Table 2. Second Graders each Year from 1961-1962 to 1968-1969; and 1969-1970 to 1972-1973.

|           | Indian<br>Population | Non-Indian<br>Population | Indian<br>G. E. | Non-Indian<br>G. E. |
|-----------|----------------------|--------------------------|-----------------|---------------------|
| 1961-1962 | 10                   | 6                        |                 |                     |
| 1962-1963 | 12                   | 3                        |                 |                     |
| 1963-1964 |                      |                          |                 |                     |
| 1964-1965 | 11                   | 5                        | 2.3             | 3.3                 |
| 1965-1966 | 5                    | 8                        | 2.2             | 2.9                 |
| 1966-1967 | 6                    | 7                        | 2.4             | 2.8                 |
| 1967-1968 | 4                    | 13                       | 2.9             | 2.9                 |
| 1968-1969 | 9                    | 4                        | 2.0             | 4.0                 |
| Averages  | 8.1                  | 6.6                      | 2.4             | 3.2                 |
| 1969-1970 | 7                    | 9                        | 2.5             | 3.3                 |
| 1970-1971 | 6                    | 9                        | 1.9             | 2.6                 |
| 1971-1972 | 4                    | 9                        | 2.8             | 3.1                 |
| 1972-1973 | 6                    | 7                        | 2.3             | 2.9                 |
| Averages  | 5.7                  | 8.5                      | 2.4             | 3.0                 |

Table 3. Third Graders each Year from 1961-1962 to 1968-1969; and 1969-1970 to 1972-1973.

|           | Indian<br>Population | Non-Indian<br>Population | Indian<br>G. E. | Non-Indian<br>G. E. |
|-----------|----------------------|--------------------------|-----------------|---------------------|
| 1961-1962 | 8                    | 6                        |                 |                     |
| 1962-1963 | 12                   | 3                        |                 |                     |
| 1963-1964 | 10                   | 4                        | 3.4             | 4.6                 |
| 1964-1965 | 11                   | 3                        | 3.1             | 4.0                 |
| 1965-1966 | 9                    | 9                        | 3.2             | 3.8                 |
| 1966-1967 |                      |                          |                 |                     |
| 1967-1968 | 6                    | 6                        | 3.3             | 4.4                 |
| 1968-1969 | 13                   | 7                        | 3.5             | 3.7                 |
| Averages  | 9.8                  | 5.4                      | 3.3             | 4.1                 |
| 1969-1970 | 4                    | 6                        | 3.2             | 3.8                 |
| 1970-1971 | 5                    | 10                       | 3.4             | 4.0                 |
| 1971-1972 | 4                    | 8                        | 3.4             | 4.4                 |
| 1972-1973 | 5                    | 7                        | 3.0             | 3.2                 |
| Averages  | 4.5                  | 7.7                      | 3.2             | 3.8                 |

Table 4. Fourth Graders each Year from 1961-1962 to 1968-1969; and 1969-1970 to 1972-1973.

|           | Indian<br>Population | Non-Indian<br>Population | Indian<br>G. E. | Non-Indian<br>G. E. |
|-----------|----------------------|--------------------------|-----------------|---------------------|
| 1961-1962 | 7                    | 7                        |                 |                     |
| 1962-1963 | 8                    | 5                        |                 |                     |
| 1963-1964 | 10                   | 3                        | 4.0             | 3.9                 |
| 1964-1965 | 14                   | 3                        | 3.6             | 5.5                 |
| 1965-1966 | 7                    | 4                        | 4.0             | 4.7                 |
| 1966-1967 |                      |                          |                 |                     |
| 1967-1968 | 6                    | 8                        | 4.1             | 5.1                 |
| 1968-1969 | 10                   | 7                        | 4.0             | 5.6                 |
| Averages  | 8.8                  | 5.3                      | 3.9             | 5.0                 |
| 1969-1970 | 3                    | 12                       | 4.5             | 4.9                 |
| 1970-1971 | 2                    | 6                        | 4.4             | 4.3                 |
| 1971-1972 | 4                    | 7                        | 3.6             | 5.7                 |
| 1972-1973 | 3                    | 8                        | 4.5             | 4.8                 |
| Averages  | 3.0                  | 8.2                      | 4.2             | 4.9                 |

Table 5. Fifth Graders each Year from 1961-1962 to 1968-1969; and 1969-1970 to 1972-1973.

|           | Indian<br>Population | Non-Indian<br>Population | Indian<br>G. E. | Non-Indian<br>G. E. |
|-----------|----------------------|--------------------------|-----------------|---------------------|
| 1961-1962 | 8                    | 7                        |                 |                     |
| 1962-1963 | 7                    | 4                        |                 |                     |
| 1963-1964 | 4                    | 8                        | 4.8             | 6.1                 |
| 1964-1965 | 11                   | 5                        | 4.9             | 5.5                 |
| 1965-1966 | 14                   | 7                        | 4.5             | 7.1                 |
| 1966-1967 |                      |                          |                 |                     |
| 1967-1968 | 9                    | 7                        | 4.6             | 6.0                 |
| 1968-1969 | 6                    | 7                        | 4.8             | 7.2                 |
| Averages  | 8.4                  | 6.4                      | 4.7             | 6.4                 |
| 1969-1970 | 4                    | 4                        | 4.8             | 6.7                 |
| 1970-1971 | 6                    | 15                       | 5.0             | 5.4                 |
| 1971-1972 | 2                    | 5                        | 4.9             | 4.7                 |
| 1972-1973 | 4                    | 7                        | 4.6             | 6.8                 |
| Averages  | 4.0                  | 7.7                      | 4.8             | 5.9                 |

Table 6. Sixth Graders each Year from 1961-1962 to 1968-1969; and 1969-1970 to 1972-1973.

|           | Indian<br>Population | Non-Indian<br>Population | Indian<br>G. E. | Non-Indian<br>G. E. | Indian<br>Drop-Out |
|-----------|----------------------|--------------------------|-----------------|---------------------|--------------------|
| 1961-1962 | 9                    | 3                        |                 |                     | 2                  |
| 1962-1963 | 7                    | 6                        |                 |                     |                    |
| 1963-1964 | 5                    | 4                        | 5.9             | 7.0                 |                    |
| 1964-1965 | 8                    | 3                        | 5.7             | 7.3                 |                    |
| 1965-1966 | 12                   | 3                        | 3.9             | 6.8                 |                    |
| 1966-1967 | 15                   | 5                        | 5.2             | 7.9                 |                    |
| 1967-1968 | 6                    | 2                        | 5.4             | 7.2                 |                    |
| 1968-1969 | 12                   | 10                       | 5.9             | 7.3                 |                    |
| Averages  | 9.2                  | 4.5                      | 5.3             | 7.2                 | 2                  |
| 1969-1970 | 5                    | 6                        | 5.0             | 7.3                 |                    |
| 1970-1971 | 4                    | 4                        | 5.2             | 7.8                 |                    |
| 1971-1972 | 5                    | 14                       | 5.5             | 5.5                 |                    |
| 1972-1973 | 3                    | 7                        | 5.8             | 5.9                 |                    |
| Averages  | 4.2                  | 7.7                      | 5.4             | 6.6                 |                    |

Table 7. Seventh Graders each Year from 1961-1962 to 1968-1969; and 1969-1970 to 1972-1973.

|           | Indian<br>Population | Non-Indian<br>Population | Indian<br>G. E. | Non-Indian<br>G. E. | Indian<br>Drop-Out |
|-----------|----------------------|--------------------------|-----------------|---------------------|--------------------|
| 1961-1962 | 7                    | 5                        |                 |                     | 1                  |
| 1962-1963 | 7                    | 2                        |                 |                     |                    |
| 1963-1964 | 5                    | 4                        | 6.5             | 7.7                 |                    |
| 1964-1965 | 7                    | 3                        | 6.5             | 7.4                 |                    |
| 1965-1966 | 2                    | 7                        | 7.2             | 8.3                 |                    |
| 1966-1967 | 11                   | 5                        | 6.3             | 7.8                 |                    |
| 1967-1968 | 12                   | 7                        | 6.4             | 9.0                 |                    |
| 1968-1969 | 13                   | 4                        | 6.1             | 8.4                 |                    |
| Averages  | 8.0                  | 4.6                      | 6.5             | 8.1                 | 1                  |
| 1969-1970 | 9                    | 3                        | 6.9             | 8.1                 |                    |
| 1970-1971 | 5                    | 6                        | 6.0             | 8.1                 |                    |
| 1971-1972 | 4                    | 4                        | 5.5             | 7.7                 |                    |
| 1972-1973 | 5                    | 10                       | 6.2             | 6.7                 |                    |
| Averages  | 5.7                  | 5.7                      | 6.1             | 7.6                 |                    |

Table 8. Eighth Graders each Year from 1961-1962 to 1968-1969; and 1969-1970 to 1972-1973.

|           | Indian<br>Population | Non-Indian<br>Population | Indian<br>G. E. | Non-Indian<br>G. E. |
|-----------|----------------------|--------------------------|-----------------|---------------------|
| 1961-1962 | 5                    | 9                        |                 |                     |
| 1962-1963 | 8                    | 4                        |                 |                     |
| 1963-1964 | 7                    | 3                        | 7.4             | 9.1                 |
| 1964-1965 | 7                    | 5                        | 7.9             | 9.1                 |
| 1965-1966 | 7                    | 3                        | 7.6             | 7.9                 |
| 1966-1967 | 3                    | 6                        | 7.6             | 9.8                 |
| 1967-1968 | 6                    | 5                        | 7.2             | 8.2                 |
| 1968-1969 | 17                   | 6                        | 6.6             | 9.2                 |
| Averages  | 7.5                  | 5.1                      | 7.4             | 8.9                 |
| 1969-1970 | 4                    | 4                        | 7.3             | 8.9                 |
| 1970-1971 | 9                    | 4                        | 7.1             | 8.7                 |
| 1971-1972 | 4                    | 5                        | 6.5             | 8.4                 |
| 1972-1973 | 8                    | 6                        | 5.9             | 7.8                 |
| Averages  | 6.2                  | 4.7                      | 6.7             | 8.4                 |

Table 9. Total Averages from 1961-1962 to 1968-1969.

|           |            | Popu-<br>lation | G. E. | Gain or Loss<br>from<br>Previous Year | Months Ahead<br>or<br>Behind in Grade |
|-----------|------------|-----------------|-------|---------------------------------------|---------------------------------------|
| 1st Grade | Indian     | 10.3            | 1.6   |                                       | + 0.6                                 |
|           | Non-Indian | 6.0             | 1.9   |                                       | + 0.9                                 |
| 2nd Grade | Indian     | 8.1             | 2.4   | + 0.8                                 | + 0.4                                 |
|           | Non-Indian | 6.6             | 3.2   | + 1.3                                 | + 1.2                                 |
| 3rd Grade | Indian     | 9.8             | 3.3   | + 0.9                                 | + 0.3                                 |
|           | Non-Indian | 5.4             | 4.1   | + 0.9                                 | + 1.1                                 |
| 4th Grade | Indian     | 8.8             | 3.9   | + 0.6                                 | - 0.1                                 |
|           | Non-Indian | 5.3             | 5.0   | + 0.9                                 | + 1.0                                 |
| 5th Grade | Indian     | 8.4             | 4.7   | + 0.8                                 | - 0.3                                 |
|           | Non-Indian | 6.4             | 6.4   | + 1.4                                 | + 1.4                                 |
| 6th Grade | Indian     | 9.2             | 5.3   | + 0.6                                 | - 0.7                                 |
|           | Non-Indian | 4.5             | 7.2   | + 0.8                                 | + 1.2                                 |
| 7th Grade | Indian     | 8.0             | 6.5   | + 1.2                                 | - 0.5                                 |
|           | Non-Indian | 4.6             | 8.1   | + 0.9                                 | + 1.1                                 |
| 8th Grade | Indian     | 7.5             | 7.4   | + 0.9                                 | - 0.6                                 |
|           | Non-Indian | 5.1             | 8.9   | + 0.8                                 | + 0.9                                 |

Table 10. Total Averages from 1969-1970 to 1972-1973.

|           |            | Popu-<br>lation | G. E. | Gain or Loss<br>from<br>Previous Year | Months Ahead<br>or<br>Behind in Grade |
|-----------|------------|-----------------|-------|---------------------------------------|---------------------------------------|
| 1st Grade | Indian     | 7.7             | 1.6   |                                       | + 0.6                                 |
|           | Non-Indian | 8.2             | 1.9   |                                       | + 0.9                                 |
| 2nd Grade | Indian     | 5.7             | 2.4   | + 0.8                                 | + 0.4                                 |
|           | Non-Indian | 8.5             | 3.0   | + 1.1                                 | + 1.0                                 |
| 3rd Grade | Indian     | 4.5             | 3.2   | + 0.8                                 | + 0.2                                 |
|           | Non-Indian | 7.7             | 3.8   | + 0.8                                 | + 0.8                                 |
| 4th Grade | Indian     | 3.0             | 4.2   | + 1.0                                 | + 0.2                                 |
|           | Non-Indian | 8.2             | 4.9   | + 1.1                                 | + 0.9                                 |
| 5th Grade | Indian     | 4.0             | 4.8   | + 0.6                                 | - 0.2                                 |
|           | Non-Indian | 7.7             | 5.9   | + 1.0                                 | + 0.9                                 |
| 6th Grade | Indian     | 4.2             | 5.4   | + 0.6                                 | - 0.6                                 |
|           | Non-Indian | 7.7             | 6.6   | + 0.7                                 | + 0.6                                 |
| 7th Grade | Indian     | 5.7             | 6.1   | + 0.7                                 | - 0.9                                 |
|           | Non-Indian | 5.7             | 7.6   | + 1.0                                 | + 0.6                                 |
| 8th Grade | Indian     | 6.2             | 6.7   | + 0.6                                 | - 1.3                                 |
|           | Non-Indian | 4.7             | 8.4   | + 0.8                                 | + 0.4                                 |

Table 11. Standard Deviation, Correlation and t-scores from 1961-1962 to 1968-1969; and 1969-1970 to 1972-1973.

|                                                                                                                                                                                                                                                 | Variable X | Variable Y |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|
| Part 1. Pre-Bilingual. The following analysis is for the "pre-bilingual" period from school year 1961-1962 to 1968-1969. The "X" variable is the Indian grade equivalent scores and the "Y" variable is the non-Indian grade equivalent scores. |            |            |
| Mean                                                                                                                                                                                                                                            | 4.4        | 5.6        |
| Standard Deviation                                                                                                                                                                                                                              | 2.0        | 2.5        |
| Correlation = 0.9920<br>t-score = 19.2323<br>2-tailed P-value = 0.0001                                                                                                                                                                          |            |            |
| Part 2. Bilingual. The following analysis is for the "bilingual" period from school year 1969-1970 to 1972-1973. The "X" variable is the Indian grade equivalent scores and the "Y" variable is the non-Indian grade equivalent scores.         |            |            |
| Mean                                                                                                                                                                                                                                            | 4.3        | 5.3        |
| Standard Deviation                                                                                                                                                                                                                              | 1.8        | 2.3        |
| Correlation = 0.9986<br>t-score = 46.5690<br>2-tailed P-value = 0.0001                                                                                                                                                                          |            |            |

### Progress of First Graders

The following information is an attempt to show how a particular group did each year as they started first grade on until they were eighth graders. The author recognizes the many factors that can affect the groups' progress, but at this point we want to look at the effect of the school curriculum. The groups will be designated as follows:

Table 12. Group I. The first graders of 1961-1962.

Group II. The first graders of 1962-1963.

Table 13. Group III. The first graders of 1963-1964.

Group IV. The first graders of 1964-1965.

Table 14. Group V. The first graders of 1965-1966.

Group VI. The first graders of 1966-1967.

Table 15. Group VII. The first graders of 1967-1968.

Group VIII. The first graders of 1968-1969.

Table 16. Group IX. The first graders of 1969-1970.

Group X. The first graders of 1970-1971.

Table 17. Group XI. The first graders of 1971-1972.

Group XII. The first graders of 1972-1973.

The data presented are as follows: number of students/grade equivalents.

Table 12. The First Graders of 1961-1962 (Group I); and 1962-1963 (Group II).

| Group |             | 1961-1962 | 1962-1963 |
|-------|-------------|-----------|-----------|
| I     | Indians     | 13        |           |
|       | Non-Indians | 2         |           |
| II    | Indians     |           | 7         |
|       | Non Indians |           | 4         |

Table 13. The First Graders of 1963-1964 (Group III); and 1964-1965 (Group IV).

| Group |             | 1963-1964 | 1964-1965 |
|-------|-------------|-----------|-----------|
| III   | Indians     |           |           |
|       | Non-Indians |           |           |
| IV    | Indians     |           | 11/1.5    |
|       | Non-Indians |           | 7/1.8     |

Table 14. The First Graders of 1965-1966 (Group V); and 1966-1967 (Group VI).

| Group |             | 1965-1966 | 1966-1967 |
|-------|-------------|-----------|-----------|
| V     | Indians     | 7/1.8     |           |
|       | Non-Indians | 6/2.1     |           |
| VI    | Indians     |           | 5/1.7     |
|       | Non-Indians |           | 10/1.9    |

Table 15. The First Graders of 1967-1968 (Group VII); and 1968-1969 (Group VIII).

| Group |             | 1967-1968 | 1968-1969 |
|-------|-------------|-----------|-----------|
| VII   | Indians     | 9/1.3     |           |
|       | Non-Indians | 9/1.7     |           |
| VIII  | Indians     |           | 20/1.6    |
|       | Non-Indians |           | 4/2.0     |

Table 16. The First Graders of 1969-1970 (Group IX); and 1970-1971 (Group X).

| Group |             | 1969-1970 | 1970-1971 |
|-------|-------------|-----------|-----------|
| IX    | Indians     | 9/1.6     |           |
|       | Non-Indians | 9/2.1     |           |
| X     | Indians     |           | 6/1.6     |
|       | Non-Indians |           | 7/1.9     |

Table 17. The First Graders of 1971-1972 (Group XI); and 1972-1973 (Group XII).

| Group |             | 1971-1972 | 1972-1973 |
|-------|-------------|-----------|-----------|
| XI    | Indians     | 6/1.5     |           |
|       | Non-Indians | 7/2.0     |           |
| XII   | Indians     |           | 10/1.6    |
|       | Non-Indians |           | 10/1.7    |

### Group Progress

The following information will look at each grade level in 1961-1962 school year. Then we will look at the progress of each grade level up to the eighth grade. Other factors may affect the data but here we want to look at the school curriculum. The groups will be designated as follows:

Table 18. Group I. The first grade of 1961-1962.

Group II. The second grade of 1961-1962.

Table 19. Group III. The third grade of 1961-1962.

Group IV. The fourth grade of 1961-1962.

Table 20. Group V. The fifth grade of 1961-1962.

Group VI. The sixth grade of 1961-1962.

Table 18. The First Grade of 1961-1962 (Group I); and The Second Grade of 1961-1962 (Group II).

| Group |             | 1961-1962 |
|-------|-------------|-----------|
| I     | Indians     | 13        |
|       | Non-Indians | 2         |
| II    | Indians     | 10        |
|       | Non-Indians | 6         |

Table 19. The Third Grade of 1961-1962 (Group III); and The Fourth Grade of 1961-1962 (Group IV).

| Group |             | 1961-1962 |
|-------|-------------|-----------|
| III   | Indians     | 8         |
|       | Non-Indians | 6         |
| IV    | Indians     | 7         |
|       | Non-Indians | 7         |

Table 20. The Fifth Grade of 1961-1962 (Group V); and The Sixth Grade of 1961-1962 (Group VI).

| Group |             | 1961-1962 |
|-------|-------------|-----------|
| V     | Indians     | 8         |
|       | Non-Indians | 7         |
| VI    | Indians     | 9         |
|       | Non-Indians | 3         |

Eighth Grade

This portion of the report will look at the average age of the eighth graders from 1963-1964 school year to 1972-1973 school year.

The pages are as follows:

Table 21. School year 1963-1964.

Table 22. School year 1964-1965.

Table 23. School year 1965-1966.

Table 24. School year 1966-1967.

Table 25. School year 1967-1968.

Table 26. School year 1968-1969.

Table 27. School year 1969-1970.

Table 28. School year 1970-1971.

Table 29. School year 1971-1972.

Table 30. School year 1972-1973.

Table 21. School Year 1963-1964.

| Indian  |         |    | Non-Indian |          |    |
|---------|---------|----|------------|----------|----|
| Boy     | 3-16-49 | 15 | Girl       | 11-18-50 | 13 |
| Boy     | 5-07-48 | 16 | Boy        | 10-29-50 | 13 |
| Boy     | 8-27-49 | 14 | Boy        | 8-08-50  | 13 |
| Boy     | 1-22-50 | 14 |            |          |    |
| Girl    | 1-23-50 | 14 |            |          |    |
| Girl    | 8-22-50 | 13 |            |          |    |
| Total   |         | 86 | Total      |          | 39 |
| Average |         | 14 | Average    |          | 13 |

Table 22. School Year 1964-1965.

| Indian  |          |    | Non-Indian |         |    |
|---------|----------|----|------------|---------|----|
| Girl    | 5-13-51  | 14 | Boy        | 7-25-51 | 13 |
| Girl    | 11-09-50 | 14 | Girl       | 2-10-51 | 14 |
| Girl    | 9-12-51  | 13 | Boy        | 2-01-51 | 14 |
| Girl    | 10-31-50 | 14 | Boy        | 9-09-50 | 14 |
| Total   |          | 55 | Total      |         | 55 |
| Average |          | 14 | Average    |         | 14 |

Table 23. School Year 1965-1966.

| Indian  |          |    | Non-Indian |         |    |
|---------|----------|----|------------|---------|----|
| Boy     | 12-27-53 | 12 | Boy        | 9-23-52 | 13 |
| Girl    | 5-22-52  | 14 |            |         |    |
| Girl    | 6-28-52  | 14 |            |         |    |
| Boy     | 10-18-50 | 15 |            |         |    |
| Boy     | 8-22-52  | 13 |            |         |    |
| Total   |          | 68 | Total      |         | 13 |
| Average |          | 14 | Average    |         | 13 |

Table 24. School Year 1966-1967.

| Indian  |         |    | Non-Indian |          |    |
|---------|---------|----|------------|----------|----|
| Girl    | 3-29-51 | 16 | Boy        | 8-14-53  | 13 |
| Girl    | 1-29-53 | 14 | Girl       | 10-02-53 | 13 |
| Girl    | 8-10-53 | 13 | Girl       | 8-06-53  | 13 |
|         |         |    | Girl       | 2-05-53  | 14 |
|         |         |    | Boy        | 9-19-52  | 14 |
| Total   |         | 43 | Total      |          | 67 |
| Average |         | 14 | Average    |          | 13 |

Table 25. School Year 1967-1968.

| Indian  |          |    | Non-Indian |          |    |
|---------|----------|----|------------|----------|----|
| Girl    | 10-17-53 | 14 | Girl       | 12-13-54 | 13 |
| Girl    | 6-17-53  | 15 | Boy        | 5-24-54  | 14 |
| Boy     | 11-14-53 | 14 | Girl       | 2-13-54  | 14 |
| Girl    | 10-24-52 | 15 | Boy        | 12-21-53 | 14 |
| Girl    | 7-01-54  | 13 |            |          |    |
| Boy     | 7-28-52  | 15 |            |          |    |
| Total   |          | 86 | Total      |          | 55 |
| Average |          | 14 | Average    |          | 14 |

Table 26. School Year 1968-1969.

| Indian  |         |     | Non-Indian |          |    |
|---------|---------|-----|------------|----------|----|
| Girl    | 3-18-54 | 15  | Girl       | 3-04-55  | 14 |
| Boy     | 9-15-52 | 16  | Girl       | 10-28-55 | 13 |
| Girl    | 3-25-55 | 14  | Girl       | 6-08-55  | 14 |
| Boy     | 1-29-54 | 15  | Girl       | 12-11-53 | 15 |
| Girl    | 1-29-55 | 14  | Boy        | 4-04-55  | 14 |
| Boy     | 6-10-54 | 15  |            |          |    |
| Boy     | 9-14-54 | 14  |            |          |    |
| Boy     | 3-04-55 | 14  |            |          |    |
| Boy     | 8-10-55 | 13  |            |          |    |
| Girl    | 8-28-53 | 15  |            |          |    |
| Total   |         | 145 | Total      |          | 70 |
| Average |         | 15  | Average    |          | 14 |

Table 27. School Year 1969-1970.

| Indian  |          |    | Non-Indian |          |    |
|---------|----------|----|------------|----------|----|
| Boy     | 5-01-56  | 14 | Girl       | 1-29-56  | 14 |
| Boy     | 9-10-56  | 13 | Boy        | 10-22-56 | 13 |
| Girl    | 9-02-55  | 14 | Boy        | 11-11-56 | 13 |
| Boy     | 11-16-56 | 13 | Girl       | 5-28-56  | 14 |
| Total   |          | 54 | Total      |          | 54 |
| Average |          | 14 | Average    |          | 14 |

Table 28. School Year 1970-1971.

| Indian  |          |     | Non-Indian |          |    |
|---------|----------|-----|------------|----------|----|
| Girl    | 6-20-57  | 14  | Girl       | 8-11-57  | 13 |
| Boy     | 10-03-57 | 13  | Girl       | 4-08-57  | 14 |
| Girl    | 7-09-56  | 14  | Boy        | 2-22-57  | 14 |
| Boy     | 2-08-57  | 14  | Girl       | 9-09-57  | 13 |
| Boy     | 8-13-57  | 13  | Girl       | 12--2-55 | 15 |
| Girl    | 12-19-55 | 15  |            |          |    |
| Girl    | 12-19-55 | 15  |            |          |    |
| Girl    | 5-28-57  | 14  |            |          |    |
| Total   |          | 112 | Total      |          | 69 |
| Average |          | 14  | Average    |          | 14 |

Table 29. School Year 1971-1972.

| Indian  |         |    | Non-Indian |          |    |
|---------|---------|----|------------|----------|----|
| Girl    | 6-12-57 | 15 | Girl       | 8-01-58  | 13 |
| Girl    | 5-27-57 | 15 | Girl       | 9-18-58  | 13 |
| Girl    | 8-14-58 | 13 | Boy        | 11-27-57 | 14 |
| Boy     | 2-19-57 | 15 | Girl       | 11-30-57 | 14 |
| Total   |         | 58 | Total      |          | 54 |
| Average |         | 15 | Average    |          | 14 |

Table 30. School Year 1972-1973.

| Indian  |         |     | Non-Indian |          |    |
|---------|---------|-----|------------|----------|----|
| Girl    | 4-21-59 | 14  | Girl       | 4-14-59  | 14 |
| Boy     | 5-06-57 | 16  | Boy        | 12-20-58 | 14 |
| Girl    | 9-02-59 | 13  |            |          |    |
| Boy     | 9-09-57 | 15  |            |          |    |
| Girl    | 4-04-58 | 15  |            |          |    |
| Girl    | 5-17-59 | 14  |            |          |    |
| Boy     | 2-16-57 | 16  |            |          |    |
| Girl    | 6-07-58 | 15  |            |          |    |
| Total   |         | 118 | Total      |          | 28 |
| Average |         | 15  | Average    |          | 14 |

### Standardized Scores

From Tables 9 and 10, it is evident that the Crow Indian students begin to fall behind in the fifth grade. The Crow Indian students rely on rote memory from kindergarten to fourth grade and they do get quite adept at this skill. However, beginning in the fifth grade the curriculum requires students to begin to apply the English language in written form and orally. It is at this time that the Crow Indian students fall behind because they have not developed this language internally and, therefore, they cannot communicate properly. As the Tables 9 and 10 clearly show, the Indian students are not doing eighth grade work when they graduate.

### Ages of Eighth Graders

Tables 21 to 30 show that Crow Indian students do not graduate until some of them are 16 years old. If we relate this to the fact that on the average they are about one year to one and a half years behind in school, then they are in no way ready for high school. This is the exact problem that the researcher wishes to expand upon.

## CHAPTER V

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

It has become clear to this researcher that school curriculums have never been made responsive to the needs of the Crow Indian children. In fact, not until the 1970's have there even been Crow Indian teachers in the school at all. In the meantime the students have been the ones to suffer because they cannot fit in socially and cannot compete academically in the schools. Not only is it difficult for the Indian students but the teaching staff has had to deal with problems they have not had training in.

The data reviewed indicate consistently lower score patterns for Indian students, particularly above grade five. There was also no dramatic improvement in the period identified as the "bilingual period" from 1969-1973. In fact, the major difference in the two periods under consideration was the introduction of a small number of Crow speaking aides into the school, who were used to support the existing curriculum in whatever way possible including the use of their Crow language to explain concepts presented in English. This is the "informal model" according to Vera John Steiner described in Chapter II.

What is clearly called for is a more fundamental shift of curriculum in the direction implied in the "transitional or two-way" models where the child's own language and culture become

central for at least the early years of schooling.

For the Wyola School, the researcher recommends a pragmatic approach using the organizational model for curriculum described earlier. If we look at the school from the pragmatic view then we would provide a curriculum that transmitted the values of the society relative to what is true now. The curriculum should provide concrete materials to convey the concepts that are to be learned by the students. Also the curriculum should reflect values that the students can acquire to benefit society as a whole. The values must perpetuate that society from which the educational institute was formulated.

Since the school is a function of the society, the administration must provide a curriculum that reflects the truths of the society. This means that what works now is truth and this must be presented to the students. However, if a new value is introduced into the society, then the curriculum must present this new value and if it makes a difference it must be compromised with other existing values in the system.

The underlying objective here is that the school is to serve society and reflect the values of that society.

The teacher must provide a curriculum where the students have the opportunity to examine ideas and concepts for themselves, such as hands on materials, environmental studies, literature, local, state,

county and national governments. The new concepts must be introduced in such a way that the students can inquire about the value. Then the student should be able to accept or reject the value in relation to obtaining what is good. So the teacher must use a dynamic teaching procedure and have students involved in the cognitive growth of the group.

For the student it means participating in the learning process and to see how he furthers the truths of his society. If presented with new values he must decide if they will alter his becoming and either reject or accept the values. But the student is existing for himself first, and ultimately he must exist as a member of his society.

#### Language Readiness Model: A Recommendation

When a Crow Indian student begins in kindergarten he is about five years old. If we are to structure his language growth so that he may think in his language, we must first provide a curriculum to meet his needs. If his dominant language is Crow Indian, it is recommended that the curriculum focus on this for at least three years. That is, K-2 should be taught in the Crow language entirely if he is to learn another language, because if his dominant language is not used, he will not be able to learn and communicate effectively

in any language. A three year program in his language would give him a better chance to learn the basics for education as he goes through school. For these three years he will be learning conversational English with no requirements in using the English language.

In the third and fourth grades the Indian student should be spending 50% in a Crow curriculum and 50% in an ESL (English-as-a-second language) program. Then in the fifth to the eighth grades, he should be spending 5% in a Crow curriculum and 95% in an all English curriculum.

The researcher believes that the above model should be adopted in an attempt for the school to successfully educate the Crow Indian students. The ultimate goal is that the Indian student will learn English slowly and carefully but at the same time continue to develop his dominant language in all the basics of education. It is hoped that by using this model when an Indian student graduates from the eighth grade he will be able to compete academically in high school.

The above is a recommended possible model which the author suggests as a trial alternative to the present models being used in the schools, which this paper has attempted to demonstrate as unsuccessful. It remains to be tried over a long enough period of time to check its worth.

## APPENDICES

### CROW EDUCATION HISTORY

- 1872. Mr. J. H. Aylsworth - first school teacher
- 1875. Agency moved to Absarokee - H. J. Armstrong at "The House."  
This burned down in 1883.
- 1886. Agency moved 10 miles south of Ft. Custer - Reservation  
boarding schools were built. This closed in 1921.
- 1886. A boarding school built by the American Unitarian Association -  
called the Bond School - terminated in 1898.
- 1891. Catholic Jesuits built the St. Xavier Mission and School -  
closed after implementation of the Crow Act of 1920.
- 1904. The Baptist denomination established missions and day schools.  
By 1921 the four Baptist schools closed.
- 1920. The Crow Act of 1920 gave 45,000 acres to the state to establish  
public schools on the Reservation - and the Indian children  
attend these public schools today.

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