

An Abstract of the Thesis of  
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in Native American Cultural Instruction

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Materials concerning ethnic and minority groups are a concern for many curriculum leaders. Inappropriate materials perpetuate stereotypes, in many cases due to a lack of study concerning the information within the materials. The materials concerning Native Americans typically presented in public school classrooms tend to overgeneralize information about the cultural groups of native people found in North America.

This study addressed the content of materials pertaining to one specific group, the Native American of the Great Plains region. The researcher questioned the traditional curriculum materials found in the Kansas history program used in fourth, fifth, and sixth grade instruction, which concerned the Indians who resided in the area. Traditional materials addressed only the culture found after the horse was an established part of the culture of the native inhabitants. The prehistory of the native people before Anglo-Saxon intervention and the changes that occurred because of the introduction of the horse into the cultures of the Great Plains region was limited.

Materials that contained descriptions of the history before white settlement and changes that occurred because of the horse were developed by the researcher. In an effort to determine the most suitable grade level to implement such curriculum, the researcher tested self-developed materials in the fourth, fifth, and sixth grades.

A pretest posttest design was utilized for the study. Descriptive statistics were compiled for all data sets and for the total sample. Pretest mean scores and posttest mean scores for each grade

level were compared employing a t-test for repeated measures. Analysis of covariance using pretest scores as the covariant was employed to compare performance at the grade levels investigated (4-6). Multiple comparisons of the adjusted posttest means were made employing least square means.

The results cited in the study indicate that the posttest mean score was significantly larger than the pretest mean score for all groups tested. The most significant increase was noted at the fourth grade level. Based upon the achievement of the students tested, after adjustments were made for preknowledge, the developed materials appeared to be most ideally suited for fourth grade level students.

Samples of the materials that were developed by the researcher are included in the Appendices of the paper.

The Effect of Selected Materials  
on the Achievement of Students in the Intermediate Grades  
in Native American Cultural Instruction

by

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## DEDICATION

This study is dedicated to the four most important people in my life--my husband, my daughter, and my parents.

It is dedicated to my husband, Harold Paul, for his encouragement in doing the work, his persistence that it could be done, and for the uncountable times that he carried on the family responsibilities while I was involved in research and writing. It is dedicated to my daughter, Patti, for understanding, for giving up some very important time in her growing-up years, and for the pride in her busy mother, which she often expresses.

It is also dedicated to my parents, Mr. and Mrs. T.E. Bowen. My mother never wavered in her faith or conviction in her daughter's ability and felt great pride because of it. She dedicated her life to her family and directed her children's development to include responsibility as a part of their existence. My father possesses the heritage that led to the interest in the subject matter. Both of these people provided the necessary background to pursue such an endeavor.

Without the love and support of these four people this project could not have been attempted, much less completed.

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CHAPTER I

INTRODUCTION

When little boys play Indian, they often don feather headdresses and, if Santa Claus has been bountiful, costumes suggesting deerskin jackets and leggings decorated with fringe. When our European friends come to our shores, they sometimes expect to see Indians not unlike the ones that used to roam our Plains. Most of us, when we think of Indians, envision such items as tipis, war bonnets with trailing feathers, Sitting Bull, ponies, and buffaloes. In other words, we have all come to think of the Plains Indians as the genuine Indian, the ideal Indian--the very quintessence of Indianness. In many ways, however, the Plains Indians were a highly distinctive group and lived in a rather specialized way....Yet through the accidents of history, perhaps also by their own role, often heroic...They have come to usurp in the public mind all other Indians and to represent the Indian way of life (Shapiro, 1963).

Shapiro (1963) in the foreword to Lowie's Indians of the Plains, described in part, the problem that this study explored and addressed the limited knowledge concerning the Native people found within the general population that includes children in the elementary school. The Indians of the Great Plains region, during the period of their history in which the horse was utilized by the Native inhabitants, is one that the majority of society visualizes when thinking about any group of Native American people. The early history of this group of Native people and the changes that occurred when the horse became a part of their culture are rarely considered.

The Native people, who resided in the area of the Great Plains for many years before the advance of European settlers, developed a common culture only after the horse had been introduced by the Spanish and had been adapted into the cultures. The horse-dominated culture

was only a small portion, although admittedly the most famous, of the cultures that had existed for thousands of years before.

A simplified conceptualization of the Native peoples began with the Europeans who settled the Americas. The Europeans would have found great diversity in the Native people of the continents but early writers chose a simplified description of the Native inhabitants that lacked distinctive characteristics. By categorizing an immense variety of cultures and societies into a single entity, early European writers did not distinguish the different values and beliefs, many languages, and cultural differences of the Native people of North America. A simplified conceptualization was employed in descriptions and analyses of the Native people by the European settlers.

The trend for oversimplification has continued throughout the history of interpretation of Native Americans. Berkhofer (1979) maintained that the generalization from one tribe's society and culture to all Indians was one of several persistent practices found in documents pertaining to Indians. He also saw a need for accurate description from within the framework of the specific culture.

Boaz, a noted anthropologist, developed a theory of cultural wholeness, which stressed the validity of the different cultural groups among the natives of the North American continent. He advocated an appreciation of the cultures in their multiplicity and of their achievements in terms of themselves, not in comparison with the dominant society. The theory employed by Boaz and his contemporaries sought to dispel the belief that the Indian was inferior in his culture. Despite their efforts and those of many other noted anthropologists who have followed them, the image of the Indian has not changed. The inadequacy and subordinancy of all Indians have appeared in works of literature and mass media.

The movie industry of the twentieth century contributed to the Plains Indian stereotype. The Indian of the western movie was usually the generic version of the tribes of the Plains region. No matter how advanced the media became, the same image of the Indian endured. The vicious, occasionally noble, savage moved from the

movie screen to the television screen as themes of the Indian against the settler or progressive society (such as the Pony Express) have prevailed throughout the history of the media. Indians have been portrayed as inferior people who blocked progress (Berkhofer, 1979).

This lack of understanding of the diversity of the Native American is still evidenced. The incomplete, inadequate descriptions are also found in materials used for instruction about the Indian cultures in the public schools (Gay, 1977, Yoshiwara, 1977). Grade school children asked to describe an American Indian give a description of the Plains Indian (a man on a pony, wearing a headdress, living in a tipi, and hunting the buffalo). The research in this study specifically addressed materials pertaining to the Native people of the Great Plains region.

#### Statement of the Problem

The primary purpose of this research was to develop curriculum materials for the intermediate grades (grades 4, 5, and 6) about the Native American of the Great Plains region and to test the instruction of the materials to determine what, if any, learning took place. A second purpose was to determine for which grade level(s) the materials developed would be most appropriate for instruction.

The rationale employed to determine grade level placement of the materials was statistical significance. If a statistically significant difference among the three grade levels (grades 4, 5, and 6) was shown, the materials would be considered most appropriate for the grade level that had the highest achievement. If no significant difference was found among the three levels, the materials would be considered equally appropriate for the three grade levels.

#### Statement of the Hypotheses

Null Hypothesis 1: There will be no statistically significant difference between the pretest mean score and the posttest mean score on a test over information about Indian cultures of the Great Plains for a sample of fourth graders who received instruction in the developed materials.

Null Hypothesis 2: There will be no statistically significant difference between the pretest mean score and the posttest mean score on a test over information about Indian cultures of the Great Plains for a sample of fifth graders who received instruction in the developed materials.

Null Hypothesis 3: There will be no statistically significant difference between the pretest mean score and the posttest mean score on a test over information about Indian cultures of the Great Plains for a sample of sixth graders who received instruction in the developed materials.

Null Hypothesis 4: There will be no statistically significant difference among adjusted posttest mean scores on a test over information about Indian cultures of the Great Plains according to grade placement for those who received instruction in the developed materials.

#### Definition of Terms

The following definitions were employed in this study:

Great Plains: A geographic region of the United States of America and Canada, which includes the American heartland. The Great Plains area used in this study included the area from the foothills of the Rocky Mountains eastward to the 95th meridian west, and from northern Alberta in Canada southward into Texas. It includes approximately 800,000 square miles as defined by Jennings (1978).

Native American-Indian: The term used to describe the Native people who occupied the Great Plains region, used interchangeably in this study.

Subjects: The groups of students who received instruction from the developed materials.

Multicultural-multiethnic: Terms relating to, or designed for, a combination of several distinct ethnic groups, used interchangeably in this study.

Advanced organizer: A type of material provided prior to study for facilitating systematic planning for a specific subject matter (a study guide in this study).

#### Limitations of the Study

The following were potential limitations to this study:

1. The sample was taken from one elementary school.
2. The sample was not random.
3. The measurement used to determine statistical significance may not accurately measure the value of the materials developed for use in the study.

## Chapter II

### LITERATURE REVIEW

The literature review has four major sections. They are: historical anthropological writings concerning the Native Americans; writings that covered the historical development of the social studies curricula; writings regarding multiethnic materials; and a summary of writing concerning curriculum development and testing. All of these sections contributed to the development of the materials used in the study.

#### Native Americans

There are thousands of books written concerning the cultures of the American Indians. Many of the early books written about the Native people of the Americas reflected a primitive, uncultured people. This reflection was found because the books were written comparing the Indian cultures to the majority culture of the times. Many books, written in the twentieth century by recognized anthropologists, were utilized in developing factual material about the Plains Indian cultures.

Lowie (1963) provided detailed information by tracing the Native people of the region from the time of their discovery until their near disappearance after westward expansion by settlers. Lowie groups the people by language family and gave reasons to unite the groups because of cultural traits (diet, housing, dress, and ceremonial life), which were distinct from other groups of Native people inhabiting other regions. Lowie dispelled any myth of a stereotypic Plains Indian, but also skillfully defended the people and their characteristics as a distinct cultural unit. The book also described such cultural elements as material culture, social organization, recreation, art, beliefs, and ceremonialism. Descriptions of the prehistory of the inhabitants of the Great Plains regions were also included in the writing by Lowie.

Haines (1976) drew on the findings of archaeologists and anthropologists and presented the differences and similarities of

the Plains Indian tribes. He called for the reexamination or reexplanation of the history and culture of the cultural unit.

Wissler (1966) discussed the Native American from prehistoric times to the time of the reservation. Wissler divided the groups into families by linguistic characteristics. The material pertaining to the Sioux language family was used by the researcher for informational purposes in describing the Plains culture.

Holder (1970) wrote concerning the agricultural practices of the people of the Plains region. He surveyed changes that developed in agricultural techniques. The changes in agricultural practices occurred as the culture evolved after the introduction of the horse in the region.

Jennings (1978) provided factual information concerning the ancient Native Americans. His book was written from an archaeological perspective and was based on current scientific techniques and research concerning the inhabitants of North America in prehistoric times. The scientific data were recovered through archaeological excavations and information was gathered through modern scientific organization. The chapter pertaining to the prehistoric Plains region, before the introduction of the horse or firearms, was particularly useful in developing the instructional materials.

Newcomb (1974) examined the origin and development of the Indian cultures. One chapter of particular significance addressed the bison hunters of the Great Plains region and discussed the cultural groups of the Plains from their ancient history through the adaptations that led to the common horse culture that evolved in the eighteenth century. Social organization, warfare, and religious and ceremonial life were addressed by Newcomb.

McFee (1977) provided extensive information concerning the Blackfeet Indian culture, which was a part of the Plains culture. The cultural characteristics of this tribal group were analyzed from the time period of the hunting and gathering society through the period when the Blackfeet adapted to the horse culture. In addition, McFee provided descriptions of the culture as it exists today.

Wright (1977) explored several minority groups in American history from the period of white settlement in the new world to the twentieth century. The origins of people in North America were discussed in the introduction of the book. The book provided an interesting analysis of the cultural groups of the American Indian, Negro, Jew, and Oriental Americans. Their problems and contributions to American society were outlined by historical periods.

Deloria (1970) addressed the problem of stereotyping. He not only discussed stereotyping of the Indian people, but the stereotyping of Blacks and Chicanos as well. He stressed that the stereotypes have developed about minority groups because of movies, television, and the impact the medias have on society. He also examined the problems found in the social studies programs in the schools. He saw the ultimate problem of stereotyping not so much as racial, but as a problem of limited knowledge and understanding of other cultures.

Many sources were used to develop the materials implemented in this study. The researcher analyzed all sources for accuracy and validity in the description of the Indian cultures. A complete bibliography can be found with the Overview History of the Native Americans of the Great Plains Region (Appendix C) in this paper.

Drawn from this review of the literature, the researcher was able to develop the Overview History of North American Cultures of the Great Plains Region.

### Social Studies Programs in the Schools

Most programs concerning groups of people are found within the social studies curriculum. Therefore, it was necessary to examine the social studies curriculum and its development in the educational schema.

It was determined from the readings that the social studies have long been a part of the curriculum of the school systems of our country. Social studies programs have, from the earliest religious education of colonial America, stressed the major theme of developing



citizenry. The religious education of early public schooling programs became overshadowed with the passage of the colonial period. The common man, and his preparation for American society, became the predominant theme. Early textbooks written in the late eighteenth and the early nineteenth centuries, covered geography, history, and civics. These subjects were considered necessary in the preparation of the masses for good citizenship (Butts, 1977).

After the Civil War, history took on a new importance in the social studies programs. The programs not only stressed good citizenship, but included patriotism because it was considered beneficial for the wave of immigrants who were migrating to the United States. The primary theme of the history of this time period was the colonization of the country. Scholars such as Bancroft (Butts, 1977) have called this period the "nationalistic" approach to history. Heroes were a common part of the approach. Textbooks became the major resource used by teachers of social studies during this period.

A national curriculum began to develop in the 1890's (Gross and Dynneson, 1983). National committees were appointed to work on problems faced by the education communities. These committees included one concerned with social studies programs. Many of the reports and recommendations of the early committees have influenced education practices, including social studies curricula, for nearly 100 years.

One such group, the National Education Association Committee of Ten, made recommendations for high school curricula as early as 1893 (Gross and Dynneson, 1983). One recommendation from the group included the use of a scientific approach to history. Another committee, formed from members of the American History Association (in 1889), recommended the teaching of history as a major subject area in the nation's schools. The American History group stressed emphasis on inquiry approaches. The same organization worked to include Old World history in the intermediate level of the elementary schools in 1905. The Seven Cardinal Principles, developed in 1918 by the National Education Association Commission, included citizenship as one of the seven principles for all public education institutions. The teaching of citizenship continued to be a part of social

studies programs. Citizenship has, historically, remained the primary purpose of the social studies area of the curriculum. Materials, especially the textbooks, have been developed around this major theme.

There have been various scope and sequence designs for the social studies programs in the last 40 to 50 years that have used citizenship as a major theme. These have included: the community approach, social problems approach, world approach, interdisciplinary approach, and the expanding horizons approach (Michener, 1939). Each approach held ideas for use in the elementary school. Although many designs have been advocated, and the National Council of the Social Studies has continued to study various developments, a national curricula has not been developed.

There is, however, a national trend for the social studies that has been maintained by tradition. Textbooks have contributed to the trend through established patterns of publication. The social studies curricula have followed a typically uniform pattern, primarily because the textbook is the essential material used in instruction. The following depicts the typical pattern that has developed (Gross and Dynneson, 1983):

- Kindergarten--Self, School, Community, Home
- Grade 1--Families
- Grade 2--Neighborhoods
- Grade 3--Communities
- Grade 4--State History
- Grade 5--United States History
- Grade 6--World Cultures
- Grade 7--World Geography or History
- Grade 8--American History
- Grade 9--Civics
- Grade 10--World History
- Grade 11--American History
- Grade 12--American Government

Although there are variations of this pattern from state to state, the trend to follow this sequence is predominant throughout the nation. Teachers tend to depend on the textbook in establishing scope and sequence.

It is common for the belief to exist that students need lessons of history to learn to cope with issues that face today's society (Hertzberg, 1982). Hertzberg emphasized the need for a vigorous and continual body of historical writing that offered a variety of information about, and interpretations of, our past.

The National Council for the Social Studies issued a statement in 1981 that defined the social studies. Included in the definition were: history and the culture of our nation and the world, geography, intergroup and personal relationships, worldwide relationships between and among nations, races, cultures, and institutions. The statement indicated the complexity and the expansion that social studies programs have experienced. The twentieth century has generated an interest in the established disciplines of social studies programs, as well as many special topics and problems that concern today's citizens.

Problems related to racial minorities, women, the handicapped, the elderly, the poor, and the environment are but a few of the complexities of our society being studied and addressed in modern social studies programs. The areas now being studied emphasize the complicated society in which we live. One area that has evolved from such programs is the recognition of cultural pluralism.

Grant (1977) maintained that as society became more complex and interdependent because of economic, political, and social affairs, cultural groups tend to become more distinct in their likenesses and differences. This occurs because of the power found among different interest groups, not only in this country, but in the world community. Grant emphasized the need to develop a greater understanding of others. One method, recommended by Grant, to accomplish the task of understanding people and the reasons behind their decisions, would be to study them beyond historically monocultural perspectives.

By studying the development of the social studies, the placement of the developed materials for this study in the social studies program of Kansas history was determined as appropriate for the purposes of this study.

### Multicultural Education

The study of ethnic groups in the public schools is commonly referred to as multicultural or multiethnic study. This section of the literature review was developed to determine the problems that existed in current materials available for ethnic groups, such as Native Americans. It was determined that cultural pluralism has emerged as an ideal to be pursued in the educational world. Labeled multiethnic or multicultural education, the goals have included: the recognition of diversity, the development of greater understanding of other cultural patterns, a respect of individuals of all cultures, and the development of positive and productive interactions among people and among experiences of diverse cultural groups. Initial steps have been taken to meet the goals. Nationally recognized professional groups, such as the Association for Supervision and Curriculum Development and the National Education Association have issued statements that have stressed that multicultural education should be a continuous, systematic process that will broaden and diversify as development proceeds (Hertzberg, 1982). The statements have further emphasized that multicultural programs should have content that stressed respect for all people regardless of their differences. The statements of these groups accentuated the need for diversity as an ideal to be recognized and prized.

Grant (1977) expressed the need for educators to strive to understand cultural pluralism and develop an empathy for more than the obvious trappings that might characterize a culture. He explained that it was time to translate our concern for individual development into the more difficult task of understanding individuals within the context of their cultural group experience. A good beginning for such a plan, as determined by Grant, would be to emphasize that many different cultures exist in the United States.

Anthropologists have long advocated diversity in cultural learning. Special interest groups such as the National Association for the Advancement of Colored People, Red Power, and the National Organization for Women, have forced the populace to recognize a culturally pluralistic nation (Hertzberg, 1982). With the recognition came the movement for multicultural education, initiated by Black studies programs, usually at the university level.

Smith (1977) determined that the 1972 legislation enacting the Ethnic Heritage Studies Program was the first official recognition by Congress of the heterogeneous population of this country. This act, as explained by Smith, proposed that people living in a multi-ethnic society need to have a greater understanding of their own history and the history of others. He maintained that many individual publishers disregarded the democratic ideals of the nation, and on their own initiative excluded or disallowed inclusion of important minority culture and history in American history or civics textbooks. Smith decided that ideals were disregarded because minority culture and history either were not deemed important or that such actions were taken to epitomize the melting pot theory. Cultural differences were deemphasized except where they had to be included as a major contribution to the history of the United States. In the case of the Native American, Smith determined that a distorted and biased view of history had been written.

Baptiste and Baptiste (1977) agreed with Smith and concluded that most materials about ethnic groups had been written with insensitivity, inaccuracy, and from an Anglo-Saxon perspective. They maintained that in many instances the quality of ethnic materials tended to perpetuate or create erroneous myths, stereotypes, and pseudo superheroes.

Dodge (1977) postulated that the American Indian was one of the most maligned of all groups in social studies programs. She speculated that misrepresentation had happened because most American citizens have had no personal contact with Indians and that the limited familiarity that they have had with any Indian culture had come primarily from television and from books, which were usually

inaccurate in their information on Indian life. She maintained that most textbooks portrayed the Indian population in a biased, negative manner, and as a result, detrimental stereotypes had developed and were still widely held. Dodge further expressed the belief that the majority of curriculum materials concerning Indian cultures had one common trait--superficial research as their basis. She explained that accuracy could only be achieved through adequate research and that lessons should be designed to study tribal groups by region, emphasizing one's own area.

Yoshiwara (1977) examined multicultural education as a means for implementing the kinds of changes in curriculum that would reflect life in a culturally pluralistic society and world. She determined that programs should study root cultures to give dignity to, and create acceptance for, nonwhite minorities. Such programs would also create a means for learning about alternatives and change, as well as the relationship created by the expanding interdependence of world nations. She acknowledged that in the past the study of root cultures of minority peoples (in social studies programs) had been considered a hindrance to the assimilation of the peoples from minority cultures into the dominant culture. She further explained that although students are taught about the greatness of ancient Rome and Greece, they have become accustomed to accept the omission of the study of highly developed cultures in Africa, Asia, and the Americas as a matter of little importance or consequence. Great damage has been experienced by nonwhite students because if studies of their root cultures have been made, they have shown them to be strange, primitive, or exotic. Little attempt has been made to identify and study common bonds of humanity. One specific example cited by Yoshiwara was the West. She speculated that the West would have never been considered "wild" without the stubborn resistance of the Native Americans defending long-established cultures and lifestyles that existed long before the coming of the white man. She thought it would add to the understanding of this area of our country to explore historically the cultures and lifestyles of the Native Americans.

Gay (1977) advocated one major objective for multicultural education. She believed that the objective should be the correction of ethnic and racial myths and stereotypes. The objective could be accomplished by providing the student with accurate information pertaining to the histories, lives, and cultures of ethnic groups. She appealed for a multicultural curriculum that would correct distortions by explaining the contributions that minority groups have made to American history and culture. The curriculum should also present honest, comprehensive portrayals of the life experiences of the different groups. Information should be included concerning the status of minority groups in American society in contemporary and historical perspective, as well as their characteristics as functional cultural entities. She maintained that many teachers and administrators were not adequately prepared to undertake multicultural education because of the nature of the formal education.

The lack of appropriate materials and teacher training in multicultural education was addressed by Miller (1974). He expressed concern because current instructional materials reflected neither our pluralistic society nor its common aspiration. He maintained that materials tended to reinforce a pattern of racist, or separatist, attitudes in our society. He found that evidence of ethnic bias has continued because of current conflicts and historical interpretations of minority groups that were not considered in a realistic, factual manner. He concluded that many teachers were trained with types of material that contain the kinds of bias that need to be eliminated.

Dunfee (1974) noted that most ethnic studies contain little more than the cataloging of lists of heroic feats and the achievement of individual minority leaders. He concluded that little attention had been given to understanding the values, beliefs, expectations, perceptions, and behavior of ethnic cultures.

Drachler (1974) investigated American schools and their neglect of the cultural identity of native-born children whose cultural roots were in Africa and Spanish-speaking countries, as well as those native-born Americans who were generally lumped under the single word

"Indian" in curriculum programs. He emphasized that the schools had not kept pace with the gains achieved by other institutions in intergroups relations. He saw the neglect as a problem that needed to be studied.

Ethridge (1974) studied American history in textbooks utilized by schools. He concluded that one reason American history has not been understood was because most textbooks have been written as if nothing happened in North America prior to 1492. He discussed schools as contributors to institutional racism and determined that sexism and discrimination against the poor and ethnic groups had the same underlying characteristics as racism.

Banks (1974) called for new and humanistic perspectives in the study of ethnic groups. He explained that often Blacks, Native Americans, Chicanos, Puerto Rican Americans, and Asian-Americans are studied only when they have presented problems in the European settlement of the continent. Most information found in textbooks about Blacks, for example, has been focused on the topic of slavery as found by Banks. Substantial information about Black history after the period of slavery does not appear in most textbooks until the Black revolt of the sixties was discussed. Another example of a lack of information concerning a minority group cited by Banks was the Native American. He reported that the Native American was discussed as they were when Columbus discovered them and later only when the cultural group became a problem with the expansion of settlement across the continent.

Blackburn, Commissioner of Education of the State of Kansas, determined in 1984 that one of the main functions of the public school was transmitting current and past cultures. In an effort to meet this goal, one Kansas Community College developed a program in which students reenacted events that had occurred during the history of the Americas. To date, the events reenacted have portrayed only history after the European settlement of North America (Jarolimek, 1983).

An article written by Wilson (1983) in the KASCD Record explained that the multicultural instructional component of the social



studies was designed to eradicate racism, classism, sexism, ethnocentrism, prejudice, and discrimination. He elaborated that students should be taught to identify with the idea that there is no one model American. Jarolimek (1983) reported that in a typical study of history, students learned only about minority men and women who had achieved prominence. He concluded that social history should involve the study of the lives of the ordinary people of ethnic groups.

Education in the 80's: Multiethnic Education (1981) was written as a guide for multiethnic teaching. The National Education Association publication gave credit to the public schools for the effort that had been made to try to increase the ethnic awareness of students. The publication stressed that school systems have tried to become more sensitive to and knowledgeable about the racial and ethnic diversity of America. The publication further expressed the need to continue to work in the area of multicultural teaching because the information gained from such programs would be needed by students for interpersonal and international survival in the twenty-first century.

Banks (1983) cited the fact that American culture was made up of a shared universal culture and many ethnic subsocieties and communities. He examined culture and determined that almost every American participated both in the universal American culture and society, as well as in individual subcultures.

Stone and DeNive (1971) maintained that each minority group should be understood as being unique, with unique people, characteristics, contributions, and concerns. Their book was prepared for students of education as preparation for work in a multiethnic society. The book discussed the Black, Puerto Rican, Mexican American, Indian, and Asian-American heritages. The book also provided an extensive resource list of materials for each of the distinct cultural groups.

Egan (1982) determined that it was possible and desirable to teach history to young children and children should learn about history early in their lives. Weinland (1982) stressed the need for

historical information as the most important element of the social studies programs in the elementary grades. He suggested that students should be exposed to United States history and the history of at least one other area of culture.

Ponder (1983) expressed the need for the development of materials with the help of resource people who were knowledgeable about the methods, materials, and realities of the classroom. Practical, classroom-tested materials that would be relatively inexpensive and would complement, or extend, commercially available textbooks and workbooks would be useful in the schools, explained Ponder.

Bennett (1981) examined history, language, literature, art, music, nutrition, politics, economics, and social values as they have been taught in social studies programs. She explained that the contents have been taught from the point of view of the dominant culture, which in the United States is Anglo-European. She also maintained that the biggest failure of the schools has been with racial minorities. This failure was attributed to monocultural schools that are inadequate for the multicultural society. She called for a curriculum that would build an understanding of each of our cultural orientations and would foster intercultural understanding. She determined that many educators oppose multicultural education and pluralism because they, as educators, have misconceptions about the meaning of pluralism.

Multicultural education has emerged as an area to be reexamined and explored. The trend to develop materials has been noted by many writers. Materials were written and developed specifically for this study by the researcher. The materials were designed to increase the knowledge and understanding of the cultural traits and changes that occurred in the Great Plains region among the Native American cultures.

### Curriculum Development

The development of curriculum materials concerning the Native American people was a part of this study. Therefore, some references concerning curriculum development were used in this study.

Although a definition of curriculum is still under study, Tyler (1949) defined curriculum, in its most limited sense, as an outline of a course of study. The plan used to develop curriculum, advocated by Tyler, included the identification and selection of objectives, the selection of learning experiences, the organization of the learning experiences, and an evaluation of the program. This definition is commonly accepted today.

English and Steffy (1982) defined curriculum as a management tool of strategic importance. They determined that curriculum was a response to a mission statement of a school district that implemented board policies. Policies were translated into teaching activities and pupil outcomes.

English (1983) expressed that curriculum was viewed by some as the total of the experiences a student had in school. Others, he concluded, viewed curriculum as a sense of essential references about content and how the content was planned.

Tyler (1978) recommended that the development of a curriculum course of study required an analysis of whether or not the need existed to construct the curriculum. He also advised that consideration had to be given to the teachers who would be directly involved in the content teaching. Preparation of teachers was advised. Setting objectives and creating learning experiences was needed. The sequence of the learning experiences had to be developed in which the learning could build from previous experiences. Finally, Tyler recommended that evaluation as a checking process was needed.

Mortorella (1977) determined that clearly understood objectives had a useful purpose in material development. They wrote that objectives determined the desirable direction of growth, enabled proper selection of learning experiences, and provided a means for evaluation. He further found that materials made a difference in student learning. He emphasized the need for clearly stated objectives for all materials. The clearly stated objective, he explained, would lead to greater student learning.

Stake and Easley (1978) reported that classroom teachers had expressed a need for better materials. They concluded that teachers

lacked the freedom to develop materials not found in the traditional curriculum. They stated that a similar need for better materials was found for social studies programs.

Patrick and Hawke (1982) explored textbooks as a method to be utilized to meet objectives in the basic knowledge found in social studies programs. They concluded that specific objectives such as the learning of attitudes were best met through the use of supplementary materials and activities.

Those who wrote Project Span (1982) made recommendations for social studies curriculum through instruction. One of the recommendations from Project Span was that the individual classroom teacher develop one unit of supplemental material every year. This study advised that the units developed should not be available from commercial publishers. The use of resource persons as guest speakers in the development and instruction of social studies programs was encouraged.

Jonassen (1982) determined that advance organizers helped make new material meaningful to the learner. He noted that organizers should be specific concerning the information provided. Organizers could be games, models, and visuals, as well as prose. Advance organizers were most beneficial when used in learning concepts, he advised.

Curriculum program evaluation was reviewed for this study. Bragaw and Hartoonian (1988) determined that five factors were needed for developing and evaluating a curriculum program. The first factor that they noted was the the programs (and the students) required and information base from which connections were built from old to new learning. A second factor was different logic and perspectives from historical study and were presented in the program. A third factor was that new knowledge was recognized through the interaction and extension of history. A fourth factor was that communication skills were required that enabled the program content to present an interpretation of history and an application of that history to daily interactions. Finally, critical thinking concerning other people was a factor for evaluation purposes. Bragaw and Hartoonian believed

that these factors were consistent with current research related to effective schools.

Tyler (1984) reported that certain concepts have developed concerning curriculum evaluation. Tyler found that four phases of evaluation corresponded to the stages of program development. In the planning stage of the program, the developer studied the objectives and the learning procedures proposed. Revisions and improvements were made as trial programs were implemented. Implementation included evaluation in every setting where a program was used. Appraisals of student learning were found necessary throughout implementation. In addition, further refinements in the programs were determined by an evaluation of performance of learning a year or more after students completed the program. Monitoring evaluations over time was useful as a method for maintaining program effectiveness. Careful consideration of the implications of any curriculum program and the changes that occurred because of the program were other areas considered for evaluation purposes by Tyler.

Scriven (1978) found that an effective program had goals and course content that matched, goals, and examinations that matched and unit content and examination content that matched. Scriven considered the matching of all elements of the program as an essential evaluation tool.

Payne (1969) developed a model for evaluation that utilized a dichotomy for analyzing curriculum materials. Payne recommended that a descriptive technique be used for examination and, in addition, a comparative technique with another model utilized in the analysis of materials. Payne concluded that one set of evaluation criterion could not be used for all situations.

Klein and Tyler (1978) reported on various models that would serve the purposes of curriculum evaluations. Models presented included descriptive methods, comparative methods, and judgmental methods that used stated criteria for evaluation. Klein and Tyler concluded that the ideal method of evaluation would combine description and evaluation of the materials.

The readings concerning curriculum development and evaluation provided insights for the development of the materials used in the study. Guidelines and suggestions found in the readings were followed in developing the curriculum materials and in choosing evaluation techniques.

The review of the literature also included a search to determine a valid design to be utilized in the research. The researcher chose a pretest posttest control group design. A comparison of the means on posttest scores was made.

In addition to searching for a design, the researcher investigated test development, particularly the development of teacher-made tests. Hilliard (1984) determined that the evaluation of learning was an integral part of any program being reviewed. He further explained that evaluation had to be ongoing, cooperative, and a dynamic process aimed at building improvement and knowledge. Hilliard said that testing, whether teacher developed or prepared by others, had to be congruent with the instruction.

Fancett and Hawke (1982) determined that teachers develop tests as a method of evaluation of student progress. The tests were developed regardless of the type of teaching technique used to convey new learning or to build understanding of presented instruction. The most common classroom tests were found to be objective or essay type examinations. Stake and Easley (1978) found that teacher-made tests were more closely related to what actually occurred in the classroom concerning the instruction given by the teacher than standardized tests.

Stiggins (1985) reported that assessment was different from teacher to teacher and was determined by the purpose, grade level, and subject matter tested. Stiggins further concluded that teachers depended heavily on testing irregardless of the origin of the test instrument (teacher-made or supplied as a part of instructional materials). Teacher-made tests were trusted and valued because such assessments provided the teachers with information regarding student growth on a regular basis.

Lindeman and Merenda (1979) found that teacher-made tests were constructed to measure the achievement of specific instruction objectives related to units of work. They also concluded that teacher-made tests were normally constructed in an essay or objective format. Types of objective tests included: short answer, completion, true-false, multiple choice, or matching. Objective tests require a response from the student. The response could be a word or phrase in answer to a question or a choice of a response from alternatives provided. Tests of an objective nature were used to measure student knowledge, the comprehension of important facts, and the use of knowledge in problem solving.

Ahmann and Glock (1975) found that the individual nature of each group of students determined the value of the test instrument. They further concluded that the teacher should be the authority concerning the nature of the characteristics of each class and that the appropriateness of a test should be determined by the educational objective of a lesson or unit. The teacher was in a position to develop items for tests that would appraise student achievement.

Sax (1974) determined that teacher-made tests that effectively measured achievement were dependent on the skill of the teacher in presenting information to students and on the knowledge that the teacher possessed concerning test development. Sax reported that teacher-made tests should have the following characteristics: objectives specific to the needs of the students; items that could be added, eliminated or modified; administration and scoring determined by the teacher; norms developed for any given group of students; and evaluation determined by the teacher.

Lindeman and Merenda (1979) also concluded that there were general guidelines for the development of teacher-made tests. The guidelines included suggestions such as: clear, unambiguous items, a readability level adjusted to meet individual group needs; items that did not supply answers for other questions; sources supplied if the response was dependent on the judgment of an author or authority; and an avoidance of interdependence among items.

Objective tests have been found to provide ease in scoring due to the elimination of subjective judgment in the determination of the correctness of student response (Ahmann and Glock, 1975). Objective tests are so named because of the manner in which they are scored (Lindeman and Merenda, 1979). Lindeman and Merenda further found that objective test items should be constructed to evaluate the instructional objectives and to build a correlation between the material that was taught and the material tested. Items should be adjusted by number and difficulty level for each group tested with any teacher-made test. The multiple choice format, as used in the instrument employed in this study, has been used as a measure of achievement for almost all items of interest in education. It has been found useful in measuring understanding and in testing the ability for concept application.

Hanley (1985) determined that standardized tests have an uncertain relationship to the specific teaching and learning that was experienced by students in any given classroom. An uncertain relationship existed because externally-developed tests might not meet the needs of a particular teacher or school. Hanley advocated teacher-made tests.

The findings of the literature regarding design and test development and the assistance of Dr. Bill Daley, Fort Hays Kansas State University, aided the researcher in the development of the design and test instrument used in the study.

### Conclusion

The current emphasis by recognized educational writers concerning the need for factual, researched materials for multiethnic or multicultural programs addressed studies such as this one. The literature cited depicted many examples that supported a study such as the one conducted in this research.

Grant (1977) called for an emphasis concerning the existence of many different cultures in the United States and for the need to understand individuals within the context of their cultural groups experiences. Smith (1977) explained the need to have a greater under



standing of one's own history and the history of others. Baptiste (1977) expressed concern about the quality of available materials for ethnic studies. The need for materials was stressed by several writers such as: Martorella (1977), Stake and Easley (1978), and Patrick and Hawke (1982). Dodge (1977) cited superficial research as a problem with materials and expressed the need for adequate research in the development of programs. Yoshiwara (1977) maintained that teachers of multicultural education could implement changes in curriculum that would reflect life in a culturally pluralistic society. Gay (1977) examined multicultural education as a method to be utilized to correct ethnic and racial myths and stereotypes by providing students with accurate information about ethnic groups. Miller (1974) expressed interest in ethnic bias in textbooks because of unrealistic and inaccurate portrayals of ethnic groups. Dunfee (1974) examined the problem of little attention being given to the masses of the different cultural groups. Banks (1974) called for a new approach that considered ethnic groups as more than historical problems in Anglo-Saxon history.

All of the sources examined support a study such as this research project because the materials developed sought to portray a more complete and accurate history of the Native peoples of the Great Plains region. The need for materials to be used in the elementary school was supported by several writers (Egan, 1982, Weinland, 1982). The materials were developed specifically for use in classrooms at the intermediate (fourth, fifth, and sixth) grade level. Each of the four phases of the literature review dealt with the study and the development of the materials used in the study.

### Chapter III METHODOLOGY FOR THE PRESENT STUDY

#### Introduction

The purpose of the research was to develop curriculum materials for the intermediate grades (grades 4, 5, and 6) about the Native American of the Great Plains region and to test the instruction of the materials to determine what, if any, learning took place. A second purpose was to determine for which grade level(s) the materials developed would be most appropriate for instruction. The subjects were students in fourth, fifth, and sixth grade. A pretest posttest control group design was used.

A single set of materials not differentiated by grade level was developed specifically for this study by the researcher. After objectives were determined, the Overview History of the Native People of the Great Plains, developed by the researcher, was employed as a basis for developing the materials used in the study. The primary focus of the materials was a study guide, using an outline form, written for the intermediate grades (4-6). Supplemental materials used included slides related to the Overview History, a study guide, charts, a guest speaker (archaeologist), and library materials pertaining to the human occupation of the Great Plains region.

Traditional materials primarily consisted of a book with one chapter devoted to early man in the continent of North America and whatever other materials the classroom teacher determined useful in the teaching of Kansas history, the curriculum area where information concerning Native Americans is normally presented. Teacher discretion determined the scope and depth of materials presented to the students. A Kansas statute (1985) determined that Kansas history would be taught in the elementary schools. The new statute, however, left considerable freedom for teacher selection of materials. The development of the program was delegated to local school districts. A part of the program development required the examination and

selection of materials to be utilized, such as the materials developed for this study.

### Setting

The study was conducted in an elementary school in Great Bend, Kansas (part of the Great Plains region). The school utilized in the study served students from kindergarten through grade six. The study was conducted in self-contained classrooms with one teacher per classroom having primary responsibility for instruction.

The school served approximately 325 students. The average per pupil expenditure was \$2,018. The per-pupil expenditure was slightly below the Kansas average of \$2,205 and the national average of \$2,275 (NCES, 1982). The population was selected for the study for accessibility and convenience. The percentages of students by race and ethnicity for the State of Kansas are: white, 87.3; black, 7.8; Hispanic, 3.0; Asian, 1.2; and Native American, 0.6. The percentages for the school in which the study was conducted were: white, 93; black, 5; and Hispanic, 2. (Kansas ranks slightly below the national average in terms of minority representation.)

The pupil-teacher ratio of the school utilized in the study was 21.6 students. This was slightly above the national average of 18.8 students per teacher in the public schools (NCES, 1982). The teachers who participated in the study had a median of 6.2 years of classroom experience, compared to the national median of 12 years experience (NCES, 1982).

The study was conducted in a school district consisting of eight elementary schools, two junior high schools, and one high school. Student enrollment in the district at the elementary level was 1,850. The teaching staff consisted of 258 teachers. There were four central office administrators.

### Participants

The researcher selected four class groups, two sections of grade four, one section of grade five, and one section of grade six as subjects. The teachers volunteered to present the materials. The students were not homogeneously grouped. There were two sections at each grade level. The Sample consisted of the following: 48 fourth graders (two groups of 24 each), 21 fifth graders, and 21 sixth graders. The students in the classes that participated in the study scored (by class) within the average range of SRA Achievement Tests and the Kansas Minimum Competency Tests.

### Instrument

A test was constructed by the researcher. The test items addressed predetermined objectives and an outline of the materials to be taught. The questions on the test addressed knowledge, comprehension, and analysis of the materials.

The researcher constructed a test of 75 items. The items were in multiple choice format. Multiple choice items were employed because the items can be constructed to have the following: comprehensive sampling of content, adequate content validity, high reliability, high item discrimination, and objectivity of scoring (Daley, 1984).

The initial test was refined by employing a pilot study. The pilot study was conducted with 60 students in the intermediate grades (4-6) in the same district but at a school other than the one in which the study was conducted. The results of the pilot testing were subjected to computer analyses. The following data were compiled: item discrimination and item difficulty levels. The results were utilized as a guide in the selection of items for the final test. Item discrimination was given highest priority in item selection. No item was included on the final test that had a correlation coefficient with the total score of less than .27. Difficulty levels were determined and reported but not given direct consideration in item selection.

The final test consisted of items in multiple choice format. The refined test was administered as the pretest posttest for data collection.

### Procedures

Random placement of students was not feasible for this study due to the disruptions it would create. Therefore, a meeting was held with the teachers of each section of fourth, fifth, and sixth grades to determine which classes would participate in the study. The researcher sought volunteer teachers to instruct the students using the developed materials. Two fourth grade teachers, one fifth grade teacher, and one sixth grade teacher volunteered to teach the materials.

Implementation procedures employed with the teachers who chose to teach the materials were initiated by holding a 1-hour inservice regarding the materials. An explanation of the materials--the student study guide, the slides, the charts, the library materials, and the Overview History was given to the teachers by the researcher. The time allotted for teaching was six 1-hour sessions. The method, or style of presentation, was determined by the individual teachers. The classes utilized in the study received instruction about the Indian cultures using only the materials provided by the researcher.

The study started with an assembly. A guest speaker from the University of Kansas at Lawrence, Kansas, a practicing archaeologist, explained his work and the scientific methods used to date artifacts that had been unearthed to the participating students. Samples of artifacts found within the state of Kansas were shown to the students.

The pretest was administered approximately one week following the assembly given by the archaeologist and before formal instruction of the materials was initiated by the participating teachers. The pretest was administered to all students participating in the study.

The Overview History, the student study guide, and the supplemental materials were presented during the next 6-week interval to

the participating classes. The students in the classes were given an individual copy of the student study guide. Other materials were used only by the instructing teachers for whole class instruction. Following the interval of instruction posttests were administered by the participating teachers. Pretest and posttest scores were subjected to computer analysis.

The test instrument was administered to fourth, fifth, and sixth grade students in another school setting in order to establish a control group for the study. The test was given to students who had not received any instruction in the curriculum materials being evaluated. Mean scores were used to determine a comparative measure between the groups.

The mean of the pretest and the mean of the posttest was used as a measure of central location to represent the data set. Item analysis was applied to ascertain information pertaining to the content validity of the proposed test items. An ANOVA was applied on the pretest posttest data.

## Chapter IV

### RESULTS

#### Introduction

The purpose of the research was to develop curriculum materials for the intermediate grades (grades 4, 5, and 6) about the Native American of the Great Plains region and to test the instruction of the materials to determine what, if any, learning took place. A second purpose was to determine for which grade level(s) the materials developed would be most appropriate for instruction. The materials were developed specifically for use as a supplemental unit of study for the intermediate (4-6) grades. The materials included: the Overview History (for teacher use, Appendix C), a study guide (for student use, Appendix E), slides, charts, and selected books. The materials were taught by classroom teachers over a 6-week period.

The hypotheses stated: 1) There will be no statistically significant difference between the pretest mean score and the posttest mean score on a test over information about Indian cultures of the Great Plains for a sample of fourth graders who received instruction in the developed materials; 2) There will be no statistically significant difference between the pretest mean score and the posttest mean score on a test over information about Indian cultures of the Great Plains for a sample of fifth graders who received instruction in the developed materials; 3) There will be no statistically significant difference between the pretest mean score and the posttest mean score on a test over information about Indian cultures of the Great Plains for a sample of sixth graders who received instruction in the developed materials; and 4) There will be no statistically significant difference among adjusted posttest mean scores on a test over information about Indian cultures of the Great Plains according to grade placement for those who received instruction in the developed materials.

### Analytical Technique

Descriptive statistics were compiled for all data sets and for the total sample. Pretest mean scores and posttest mean scores for each grade level were compared employing a t-test for repeated measures. Analysis of covariance using pretest scores as the covariant was employed to compare performance at the grade levels investigated (4-6). Multiple comparison of the adjusted posttest means were made employing least square means.

### Data Analysis

Four null hypothesis were tested. This section of Chapter 4 was organized according to null hypotheses for ease of reference. A common format was employed with each null hypothesis for ease of comparison. Each null was restated, a table containing data for the null cited, and a decision statement written.

It was hypothesized in null hypotheses 1 that there would be no statistically significant difference between the pretest mean score and the posttest mean score on a test over information about Indian cultures of the Great Plains for a sample of fourth graders who received instruction in the developed materials. Table 1 contains grade level, sample size, pretest mean, pretest standard deviation, posttest mean, posttest standard deviation,  $t$  values, and probability levels.

Table 1

A Comparison of Pretest and Posttest Mean Scores  
for a Test of Information Pertaining to Indian Culture  
of the Great Plains  
for the Fourth Grade Students Employing a  $t$ -test

Grade Level	<u>N</u>	Pretest <u>M</u>	Pretest <u>SD</u>	Post <u>M</u>	Post <u>SD</u>	<u>t</u> -value	Probability Level
4A	24	10.4*	3.53	15.1	3.68	11.47	.0001
4B	24	9.4	2.90	14.1	3.49	10.79	.0001

\*The possible score for the test was 27.



The calculated  $t$  values for grades 4A and 4B were statistically significant at the .05 level; therefore, null hypothesis 1 was rejected. The results cited in Table 1 indicated that the posttest mean score was significantly higher than the pretest mean score.

It was hypothesized in null hypothesis 2 that there would be no statistically significant difference between the pretest mean score and the posttest mean score on a test over information about Indian culture of the Great Plains from a sample of fifth graders who received instruction in the developed materials. Table 2 contains grade level, sample size, pretest mean, pretest standard deviation, posttest mean, posttest standard deviation,  $t$  value, and probability level.

Table 2

A Comparison of Pretest and Posttest Mean Scores  
for a Test of Information Pertaining to Indian Culture  
of the Great Plains  
for the Fifth Grade Students Employing a  $t$ -test

Grade Level	<u>N</u>	Pretest <u>M</u>	Pretest <u>SD</u>	Post <u>M</u>	Post <u>SD</u>	<u>t</u> -value	Probability Level
5	21	10.4*	3.69	13.5	3.50	9.44	.0001

\*The possible score for the test was 27.

The calculated  $t$  value for grade five was statistically significant at the .05 level; therefore, null hypothesis 2 was rejected. The results cited in Table 2 indicated that the posttest mean score was significantly higher than the pretest mean score.

It was hypothesized in null hypothesis 3 that there would be no statistically significant difference between the pretest mean score and the posttest mean score on a test over information about Indian culture of the Great Plains from a sample of sixth graders who received instruction in the developed materials. Table 3 contains grade level, sample size, pretest mean, pretest standard deviation,

posttest mean, posttest standard deviation,  $t$  value, and probability level.

Table 3

A Comparison of Pretest and Posttest Mean Scores  
for a Test of Information Pertaining to Indian Culture  
of the Great Plains  
for the Sixth Grade Students Employing a  $t$ -test

Grade Level	<u>N</u>	Pretest <u>M</u>	Pretest <u>SD</u>	Post <u>M</u>	Post <u>SD</u>	<u>t</u> -value	Probability Level
6	21	11.8*	4.43	15.9	4.58	11.29	.0001

\*The possible score for the test was 27.

The calculated  $t$  value for grade six was statistically significant at the .05 level; therefore, null hypothesis 3 was rejected. The results cited in Table 3 indicated that the posttest mean score was significantly higher than the pretest mean score.

It was hypothesized in null hypothesis 4 that there would be no statistically significant difference among adjusted pretest mean scores on a test over information about Indian culture of the Great Plains according to grade placement for those who received instruction in the developed materials. Table 4 contains grade level, sample size, pretest mean, pretest standard deviation, posttest mean, posttest standard deviation, adjusted post means, F value, and probability level.

Table 4

A Comparison of Adjusted Posttest Mean Scores  
for a Test of Information Pertaining to Indian Culture  
of the Great Plains  
According to Grade Placement  
Employing a One-Way Analysis of Covariance

Grade Level	<u>N</u>	Pretest <u>M</u>	Pretest <u>SD</u>	Post <u>M</u>	Post <u>SD</u>	Adjusted Posttest <u>M</u>	<u>F</u> -value	Probability Level
4A	24	10.4*	3.53	15.1	3.68	15.1 <sup>a</sup>	7.02	.0003
4B	24	9.4	2.90	14.1	3.49	15.0 <sup>a</sup>		
5	21	10.4	3.69	13.5	3.50	13.6 <sup>b</sup>		
6	21	11.8	4.43	15.9	4.58	14.7		
Homogeneity of Regression							0.21	.8903

\*The possible score for the test was 27.

<sup>a</sup> <sup>b</sup> Difference was statistically significant at the .05 level according to least square means multiple comparison tests.

The calculated F value for null hypothesis 4 was statistically significant at the .05 level. Therefore, null hypothesis 4 was rejected. It should be noted that the calculated F value for homogeneity of regression was not statistically significant at the .05 level; therefore, the assumption of homogeneity of regression was met. The results cited in Table 4 indicated (after being adjusted for pretest score--covariant) that each of the fourth grade groups had significantly higher adjusted posttest mean scores than the fifth grade students. The results generated for null hypothesis 4 indicated that statistically, the instruction was most effective for fourth graders and least effective for fifth graders.

Table 5

Mean Scores for a Test of Information  
 Pertaining to Indian Culture of the Great Plains  
 According to Grade Placement in a Control Group

Grade Level	<u>N</u>	<u>M</u>	<u>SD</u>	<u>t</u> -value	Probability Level
4	16	9.88*	3.35	10.46	.0001
5	21	10.38	3.36	13.91	.0001
6	19	10.8	3.25	12.5	.0001

\*The possible score for the test was 27.

The control group for this study was established by administering the test in another school setting to students who had no instruction in the curriculum materials. A comparison of mean scores indicated that there was no significant difference in the pretest mean score of the control group students and the experimental group students in the study setting. There was a difference between the mean scores of the control group and the posttest mean scores of the students receiving instruction from the materials developed for the study. Posttest scores were higher for the experimental group.

The test employed in the present study was used in an earlier pilot study. The sample in the pilot study consisted of fourth, fifth, and sixth graders. The results from the pilot study were very similar to those of this study. The earlier study employed a control group. The experimental group at each grade level did statistically better than the control group. Also, the results of the earlier study indicated that the materials were most effective with fourth graders.

Under the conditions of the study, the materials were effective at all three grade levels. The most significant increase was noted at the fourth grade level. Even though the materials were effective at all grade levels tested according to pretest posttest comparisons,

they were most effective at the fourth grade level and the least effective at the fifth grade level. Based upon the achievement of these students, after adjustments were made for preknowledge, the materials appeared to be most ideally suited for fourth grade level students.

## Chapter V SUMMARY

### Discussion

This project was developed to study materials developed to address the evolution and changes of the native inhabitants of the Great Plains region and to determine at which grade level the materials would be the most effective. The materials were utilized as part of the Kansas history curriculum in the setting studied. The pretest posttest mean scores difference indicated that all groups benefited from the presentation of the materials although the most significant difference was noted for the fourth grade groups.

Although all groups showed a gain in the pretest posttest mean score difference, the fourth grade was the highest. The teachers with the highest pretest posttest mean score difference, the fourth grade teachers, reported the following lesson format employed for the study. The students and the teacher discussed the outline provided in the study guide for the lesson being addressed. The objectives for the lessons were determined jointly by the teacher and the students. The slides and charts were presented; discussion and questions were encouraged while the teacher explained each slide or chart. After the discussion and questions, the teacher and the students reviewed the study guide. The students and the teacher orally reviewed the lesson again. This format differs from the typical lesson in which a passage is assigned for reading from the textbook, is read aloud by the students with the teacher monitoring the reading, and after discussion, a test is given over the materials.

The results of the present study supported the finding of Martorella (1977) that materials made a difference in student learning when implemented with clearly stated objectives that were oriented toward a definite goal. He also stressed the need to match students with appropriate instruction for established objectives found in social studies learning. The results of the present study confirmed findings reported by Stake and Easley (1978) in which teachers called for better materials to use in the presentation of

social studies programs. Despite the different approaches and methodology used by teachers, materials were considered a basic need for the development of social studies programs (Stake and Easley, 1978).

The method of material development should also be considered. Materials were researched and developed as a unit of study for classroom presentation. The materials used in the study were supplemental in nature and were not intended to replace the regular curriculum materials used in Kansas history instruction (textbook and films concerning the history of the state). The use of supplemental materials varies from teacher to teacher and level to level. There is, however, a demand for supplemental materials. The development of the materials used in this study followed a practice recommended by the writers of Project Span (1983). Project Span writers recommended that social studies teachers should take the responsibility for the development of at least one new unit of supplemental materials each year, which would probably not be available from a commercial publisher. The researcher shares the opinions of Patrick and Hawke (1982) that classroom teachers do not practice the development of supplemental materials as employed in this study because of the tradition of using commercially-prepared curriculum materials and the time required to complete development of such materials.

The material development included the structure and format of the testing instrument used to determine the effectiveness of the materials and the grade level most appropriate for material use. The objective test using a multiple choice format followed the recommendations of Fancett and Hawke (1982) and Stake and Easley (1978). The test items were constructed to measure specific instructional objectives. The test sought to build an understanding between the material that was taught and the material tested. The test followed the guideline of item construction as described by Lindeman and Mereda (1979). The test further assessed the purpose and subject matter addressed in instruction using the materials as reported by Stiggins (1985).

The development of the program evaluated for the study followed the format advocated by Bargaw and Hartoonian (1988) and the

concepts proposed by Tyler (1984). The program matched goals, content, and evaluation as recommended by Scriven (1978).

The materials were developed to facilitate concentration on the changing culture of a group of people who resided in a common region. Common region is a method of group classification. Employing an emphasis on classification by group was supported by anthropologists such as Lowie (1963), Jennings (1978), and Haines (1976). The materials did not stress individual heroes nor their accomplishments (Dunfee, 1974). It focused instead on the characteristics of the people that distinguished them from other groups who lived on the same continent.

A study guide, used as an advance organizer, was utilized in the study. Results from Project Span (1983) studies indicated that advanced organizers were often employed as a means of helping students shape their learning activities. Ausubel (1963) hypothesized that there would be greater retention of materials from presentations and reading if the materials were accompanied by organizing ideas such as the guide used in this study. Further analysis of Ausubel's studies indicated that advance organizers were somewhat more effective for students at the concrete operations stage of development (Stone, 1983). Joyce and Showers (1988) determined that teachers who accompany presentation and written assignments with organizers will have consistent, although sometimes modest, effects of the learning of information and concepts. The use of study guides would usually be found at higher levels of education and not in the elementary school, although study guides are emerging as a learning strategy to be employed in the elementary school. The arrangement of study guide use as found in this study differed from the traditional pattern in which the textbook, not supplemental materials, was used as the primary source for daily planning and the overall articulation of social studies programs (Patrick and Hawke, 1982).

A concern about the quality of materials written describing minority groups was addressed by several writers such as Grant (1977), Gay (1977), Banks (1974), and Dunfee (1974). These authors expressed concern about the lack of researched, factual materials, as well as



a fear that the available materials perpetuated ethnic stereotypes. The development of the test to determine if the students learned from the experimental materials was an important part of this project. The materials, particularly the content and vocabulary, were difficult for use in the elementary school. The testing and evaluation of the materials provided a basis for determining if the materials were serving the intended purpose of enhancing student knowledge concerning the history of the native people of the Great Plains region. Gains were noted, although the gains were small due to the difficulty of the material.

#### Implications

One implication from the results of this study was that supplemental materials and resources can provide a more complete history of the Native American of the Great Plains region. Students who received specific instruction from curriculum materials designed for this study scored higher on an objective test over the material than students receiving no special instruction. The supplemental materials should complement textbook materials, not necessarily replace them. Another implication from the results of this study was that the materials would be most effective at the fourth grade level.

Another implication from this study was that if teachers are dissatisfied with content as written in textbooks, supplemental materials can be developed. Although admittedly time consuming, the special interests of teachers gleaned through heritage, travel, or study could be utilized to supplement available resources used in social studies instruction. Locally-developed supplemental materials would be particularly useful in developing a curriculum of state history.

An implication that could be drawn from this study was that the materials used in the study might be made more effective for fifth and sixth grade student use by some modification in the materials themselves.

Finally, an implication that could be drawn from this study was that it is difficult to determine the effectiveness of curriculum

materials. An appropriate testing situation, as well as an appropriate instrument, is difficult, particularly when the materials being tested present a totally new concept for students at the level being tested in the study.

### Conclusions

The results of this study appeared to support several conclusions. The first was that the use of accurate, factual, well researched materials concerning a specific ethnic group can enhance the learning of the standard curriculum for social studies in the elementary classroom. The material can be supplemental in nature and can complement those materials used regularly in the education process, as was determined by Patrick and Hawke (1982).

A second conclusion, deemed important by the researcher even though subjective, was that the history of cultural groups can become a subject area to be addressed in depth in the elementary school. This would be particularly true for the intermediate grades (4-6) because the students at these levels are beginning to use reference materials and can supplement the learning on their own initiative. The results of this study support this conclusion since all three grade levels showed gains as a result of exposure to the materials on a test that covered the content of the materials. The results of the test covering the content of materials concerning the native people of the Great Plains region also determined that such supplemental materials can be learned by students in the fourth, fifth, and sixth grades, although the fourth grade students showed the greatest gains. It could, therefore, be concluded that supplemental materials are a useful resource.

It could be further concluded that determining the value of materials, once developed, can be a difficult procedure. Although two types of testing were used in determining statistical significance for the materials used in this study, neither were deemed completely appropriate in assessing the value of the materials. A pretest posttest control and experimental group design was employed in the pilot study of this project and in the final study. The test instrument

was administered to another group of children in the intermediate grades to establish the control group. Statistical significance from the tests used indicated the same results from both the pilot and final study--that the materials were most appropriate for use in the fourth grades.

Due to the difficulty of the test over the materials, which included the understanding of vocabulary as well as knowledge, the instrument used to test the material may not accurately measure the knowledge gained from the materials. The material and the test were admittedly difficult.

In addition, the results of this study should not be generalized to the general population of intermediate grade students. The sample used for the study was small.

#### Recommendations

The following recommendations can be derived from the present study. One recommendation is that the study be replicated with control for teacher effect. The control for teacher effect could perhaps be accomplished through teacher rotation during the course of the study. It could also be accomplished through researcher explanation of the most effective teacher methodology used in the present study. The explanation of the most effective methodology could be resolved through inservice and follow up with the implementation teachers concerning the instruction to be utilized.

The replication of the study using a different assessment approach is also recommended. Testing after each lesson could be implemented to determine if the objectives had been met for that section of the materials or if reteaching of sections of the material was needed. Testing after each lesson would provide the teacher with a lesson-to-lesson assessment rather than assessment over the complete set of materials. Such a structure would require the development of a more detailed testing instrument.

Another recommendation is that the effects of materials modification should be investigated. The modification could include reducing readability levels and having the materials tested at lower

grade levels. The modification could also include a more detailed study guide, higher level readability, and testing at secondary levels.

Expansion of the materials would be another recommendation. The topics of reservation life and the status of the Native American people in today's society could be included in the materials.

Other methods of testing the materials would also be recommended. Although it was determined that the pretest posttest with a control group format was best for this study, other alternatives should be studied. Another measure, or numerical way, to assess the materials could be developed. The objective test using the multiple choice format did, however, aid the researcher in determining at which grade level the materials appeared to be the most effective.

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## APPENDICES

APPENDIX A  
MATERIAL DEVELOPMENT

### Material Development

The initial interest in the materials developed for and used in this study came from the ethnic heredity of the researcher. This ethnic heredity led to years of reading and interest in the subject of the Native American, as well as other minority groups.

The specific materials used in this study evolved from 5 years of intensive research of materials concerning the American Indian of the Great Plains region. Interviews were conducted with Indian people of Kansas, Oklahoma, Oregon, and Washington. They were questioned concerning information that native people would like for the general populace to know about their native culture. A survey of experts was conducted to determine what areas would be the most important to include about the native people of the Plains region. The experts contacted were all considered to be knowledgeable about the Indian culture of the region.

Writing the Overview History of the Native Americans of the Great Plains was the first step in the development of the materials. The Overview History provided a background for the development of a set of objectives for a unit of study concerning the Indians of the Great Plains region. After the objectives were determined, the study guide for students was written from the information provided in the Overview History. Charts were constructed with further explanations of the materials. Books, considered to be accurate and factual in their content, were gathered for student use.

Finally, a guest archaeologist was invited to speak to the students. The archaeologist provided background information that concerned the technique of excavation, the value of archaeological work, and the knowledge that can be gained from such work about life in the past. Samples of materials found through excavation in Kansas were furnished for students to examine and observe.

The references used to develop the Overview History were current at the time of writing. The final testing done in the study was conducted five years later, making it appear that the materials are not as current as they could have been.

APPENDIX B  
SURVEY OF EXPERTS



## Survey of Experts

A survey of experts was conducted concerning the areas that should be included in the study guide to be developed for use in the study. The people surveyed were considered knowledgeable and provided suggestions for the study. Results were compiled from the survey and used in the preparation of the material.

Those experts surveyed were: Mrs. Barbara Bowman, writer of the Potawatomi Indian people; Dr. Don Ashapenek, Mrs. Sandra Moore, and Dr. George Lauappe, Native American instructors at Haskell American Indian Junior College, Lawrence, Kansas; Dr. Richard Ross, Department of Anthropology, Oregon State University; Evan Ray Satepauhoddle and Sonny Glass, Native American counselor and director of Operation Eagle, Title IV education project, Bartlesville, Oklahoma; Mrs. Nadine Borger, former director of Chemeka Indian School, Salem, Oregon; and Ray Schulz, local authority on the Plains Indian cultures, Great Bend, Kansas.

SAMPLE

2650 Oxbow  
Great Bend, KS 67530  
May 25, 1982

I am developing a series of study guides for an Indian studies program of the Indian cultures of the Great Plains region for my doctoral dissertation. The program I am developing would be used in the elementary school, grades four through six. The purpose of the program will be to expand the knowledge of the diversity of the cultures that were found among the native people of the region.

I would appreciate your assistance in determining the priority areas that should be covered. A list of subject areas is enclosed. Would you, as one I consider an expert on this subject, please check the areas that you would consider important in such a guide, and return it to me in the enclosed stamped envelope.

Your assistance to me in my endeavor will be greatly appreciated.

Sincerely,

(Mrs.) Mary E. Paul

## SAMPLE

I would recommend that the following areas be included in an Indian studies program for the elementary school.

(Please check)

- \_\_\_\_\_ early big game hunters
- \_\_\_\_\_ important archaeological sites
- \_\_\_\_\_ bison hunting
- \_\_\_\_\_ early cultivation
- \_\_\_\_\_ characteristics of early settlement
- \_\_\_\_\_ early tools
- \_\_\_\_\_ subsistence
- \_\_\_\_\_ population distribution
- \_\_\_\_\_ the horse culture
- \_\_\_\_\_ the common heritage
  - \_\_\_\_\_ hunters
  - \_\_\_\_\_ women
  - \_\_\_\_\_ housing
  - \_\_\_\_\_ trading
  - \_\_\_\_\_ religion
  - \_\_\_\_\_ clothing
  - \_\_\_\_\_ social organization
- \_\_\_\_\_ other (please elaborate)

I sincerely appreciate your assistance and thank you very much for your time.

Mary E. Paul

APPENDIX C  
AN OVERVIEW OF HISTORY OF THE NATIVE AMERICAN  
OF THE GREAT PLAINS

## AN OVERVIEW HISTORY OF THE NATIVE AMERICANS OF THE GREAT PLAINS

### The Great Plains

The area geographically encompassed by the North American Great Plains includes the American heartland. It stretches from the foothills of the Rocky Mountains eastward to the 95th meridian west, and from northern Alberta, Canada, southward into Texas. It includes approximately 800,000 square miles. This area is a uniformly elevated steppe with geographical diversity in the land, such as: the Black Hills of South Dakota, the flat lake bed of the Red River Valley, and the Wichita Mountains in Oklahoma. Topographically, the landforms of the area include flatlands, tablelands, badlands, dunes, hills, stream valleys, and detached mountain masses (Jennings, 1978).

The Missouri-Mississippi River drainage system dominates the area flowing from west to east across the northern portions and southward along the margin of the eastern Plains to the Gulf of Mexico. Tributary streams feed the major drainage system crossing the Plains from west to east. The southernmost section is drained by the Red, Brazos, and Colorado rivers, while the Arkansas River system flows through the south central portion of the region.

The climate is produced by the interaction of three important air masses whose movements are primarily west to east...mild air from the Pacific has lost most of its moisture by the time it crosses the Rockies where it meets moist, warm, subtropical air pushing north from the Gulf of Mexico and cool, dry, Arctic air flowing from Canada southward. As a result, a continental climate dominates the region, which has a wide seasonal range in temperature. The temperature range increases from south to north. The winter months (December through March) may have temperatures well below zero, and it is not uncommon for temperature to exceed 110°F in the summer (June through August) (Jennings, 1978).

Precipitation ranges from 10-15 inches yearly in the western portion to 15-35 inches in the east. The moisture pattern strongly

influences the vegetation of the area. Forests were replaced by grasslands in the central Plains 10,000 years ago making the region suitable for habitation by large, gregarious herbivores. Open forests of deciduous and coniferous timber continue to cover the Rocky Mountain foothills, while the borders of the western area are covered with scrub cedar and juniper trees. In the west, historically, a short grass vegetation has dominated the region. Moving eastward, the vegetation includes mixed grasses including tall, bluestem prairie grass.

All of the region is the heart of the former range of the bison, which was dominant in the short and mixed grass areas. Archaeological records indicate that the bison was important to the Plains cultures for at least 10,000 years. Other animals and plants were available and used as food sources. Animals contributing to the aboriginal existence were several species of deer, elk, bear, antelope, and numerous small, fur-bearing animals (badgers, coyotes, wolves, prairie dogs, rabbits, and squirrels). Bird life in the region is specialized and some species such as the grouse, prairie chicken, and seasonal waterfowl were used as food by early inhabitants. The rivers provided a source of fish, and fish were used during some periods of time in some sections of the Plains as a food source.

Wild food plants, occurring naturally, included the prairie turnip, ground nut, ground bean, sunflower, Jerusalem artichoke, bush morning glory, and prickly pear. All were utilized as food stuffs. Fruits were gathered for food also. The fruits included wild plums, chokeberries, buffalo berries, and service berries (Lowie, 1963).

#### Prehistoric Man in the Great Plains

The prehistory of the Great Plains region covers the time period from 10,000 BC - 250 BC. During this period, prehistoric man first came to the Great Plains as the hunters of large game animals. When Columbus discovered North America, the continent was the largest area

in the world (other than Australia) that survived by a hunting-gathering subsistence.

The hunters were hunting the mammoth in the region 11,000 to 12,000 years ago. The early hunters moved about wherever game was found. There is little evidence from archaeological records to indicate that they returned to camping locations that had been previously used. The period of the mammoth hunters probably ended around 5000 BC (Wedel, 1961).

Archaeological sites, dates from 8000 BC, have shown that the mammoth was replaced by the bison as the object of the hunt. Sites in the northwestern Plains indicate the presence of early hunters. Many of the tools found in the sites indicated that skin working methods were used, much as they were in the fully developed hunting culture of the later periods. The bone tools changed little over many years.

Findings in Mummy Cave in northwestern Wyoming provided evidence of the intermittent residence of people over long periods of time, perhaps on a seasonal basis, rather than continuous, uninterrupted occupation. (Occupation of this type is defined as cyclical nomadism.) Mummy Cave contains 38 cultural levels with the deposits beginning before 7300 BC. The more productive layers begin to appear at around 3300 BC. A mountain-oriented, hunting-gathering lifestyle is evidenced by the remains found in the cave (Jennings, 1978).

Findings at other archaeological sites have led archaeologists to suggest that the people during this time period had a hunting-gathering subsistence. Seeds, roots, and vegetable food remains have been found. Bone refuse included a larger portion of small game. The inhabitants of the region during this time span appeared to have made a more thorough exploitation of the environment, in which all edible resources were utilized.

Most current theories (Reeves, 1973) concerning the time period of approximately 3500 BC (the Altithermal Period) would suggest that man did not entirely leave the Great Plains region during this time as was formerly believed. Current theories suggest that man moved

to favored areas of natural refuge. The food base for the people had to be expanded and diversified. During this period, the physiology of the buffalo changed from the larger size bison antiquous to the smaller bison (the species commonly called the buffalo). This change had an impact on the residents of the area.

The prehistory of man in the Great Plains region can be described as a progressive adaptation to the environment, which was often harsh and unpredictable. The hunters were important to the prehistory of the occupation of the region by man. The most successful prehistoric people of the area, however, employed a dual subsistence of hunting and gathering for their survival.

#### The Plains Woodland Period

The seasonal hunting of small game; gathering seeds, tubers, nuts, berries, and vegetable goods when available; and the hunting of the bison when and where the opportunity existed, continued in the early lifestyle of the Plains inhabitants into the final centuries of the pre-Christian era in some parts of the Plains region. The Plains Woodland period extended from 250 BC to AD 950 (Jennings, 1978).

During the Woodland period pottery-making had reached the Plains region. These wares, closely related to the pottery styles of the Mississippi and Ohio valleys at the edges of the Great Plains region, were most plentiful in the eastern and middle Plains from the Dakotas southward to Oklahoma and Texas. They were primarily found in the heart of the region. Most archaeological excavations suggest a simple creek-valley hunting and gathering subsistence economy. This was determined from the bone refuse of smaller mammals found in sites dated during this period. Maize (corn) horticulture was indicated by the refuse found near Kansas City. Mound burial sites were also found in excavations around the Nebo Hill (Kansas City) sites and have been dated during the Woodland period.

Nebo Hill (near Kansas City) has yielded an accumulation of village debris, storage pits, and an assortment of artifacts in



pottery, stone, bone, and other materials. Pottery wares were found. Imitation bear teeth made from bone, objects made from clay and stone, and pieces of obsidian were also found at these excavations. Locally distinguishing artifacts found near Kansas City were grooved axes, large corner-notched projectile points (commonly called arrowheads), cone-shaped flint disks, and tools made from deer bone. Burial was in small mounds erected over rectangular enclosures. A fairly stable community life based in part on hunting and gathering was indicated. The cultivation of maize and beans made their earliest dated appearance in the general Great Plains region during this time period at the sites near Kansas City (Hyde, 1959).

Further south, in the Oklahoma and Texas panhandles, a succession of human occupation can be dated back to AD 430. Complexes of human occupation have been dated for the first ten centuries of the Christian era, providing evidence of regular and repeated winter residence in the protected canyon areas (Eggan, 1955).

The north central section of the Plains was not influenced by the pottery, burial mounds, or beginning horticulture of the lower sections of the region during the Woodland period. Hunting, gathering, and communal buffalo driving continued through the final states of the Woodland period in the north central areas. Old Women's Buffalo Jump, an archaeological site in Alberta, Canada, depicted the widespread practice of communal hunting (Jennings, 1978).

Spring Creek Cave, a site in Wyoming, had findings that indicated that a shift in weaponry occurred during this period for inhabitants of the area. The projectile points (arrowheads) for arrows and lances became smaller (Jennings, 1978).

Mounds and earthworks, different from those of the central Plains cultures, occur in the Dakotas and Manitoba. Burial pits in this area were varied in size and construction. Log-covered subpits for burial were common. A distinction was found in the frequency of bison skeletons and skulls found in the pits. Skeletons and skulls of the bison were rarely found in burial mounds further south. These bones indicated the importance of the buffalo to the people of

the northern regions. Speculation by archaeologists and anthropologists lead to the opinion that the bison were more abundant in the northern, northwestern, and western Plains during the Woodland time period.

The Plains Woodland time period was important in the history of the region because of the first appearance of pottery in the area and the introduction of the cultivation of crops. Planting and harvesting occurred during this era where there had previously been exclusive hunting and gathering of food. Cultivation and food production, rather than food gathering, laid the basis for a more complex and efficient subsistence.

#### The Plains Village Period

The Woodland complexes in the east Plains led to the development of a settled, sedentary way of life. Communities developed. Communities were primarily found along the rivers and creeks of the tall and mid-grass prairies from the Dakotas to Texas. A dual subsistence economy was developed by the cultivations of the fertile river bottoms and the hunting of abundant game and wild vegetation found in the bottomlands and surrounding uplands. The inhabitants of this period have been called the Plains Village Indians and, until the nineteenth century, dominated the eastern areas of the region (Newcomb, 1974).

Several characteristics were common to nearly all Plains Village complexes. Common characteristics were: the construction of fixed multi-family lodges, generally larger and more substantially built than those of the previous cultures; residence for most of the year in fixed villages, often protected by ditches and stockades; numbers of underground storage pits; abundant pottery of varied and distinct character; and a wide range of artifacts made from stone, bone, horn, shell, and other materials (Wedel, 1961).

The bone hoe, usually made from a bison shoulder bone, was a particularly characteristic tool, lingering on to compete with the iron hoe of the white man. Another characteristic artifact of the

Village period was the small, triangular arrowpoints, with or without side notches, which were distinguishable from those of earlier periods.

The Plains Village housing complexes featured a variety of lodge structures. Some villages had earthlodges. The earthlodges were circular, cone-shaped structures that were roofed with earth. They were entered through a covered passage. Different tribal groups used different ways to construct their homes. Heavy posts served as the framework for the structures. The posts were held together by cords, or in some instances, skillfully notched to fit together for joining. No nails or pegs were used in the structures (Lowie, 1954). Some earthlodges were square or rectangular with deeply excavated floors. They featured entrance ramps and a main fireplace. Sizes varied considerably, a large earthlodge might be 50 feet wide with room for an extended family of 40 or more persons and their possessions (Newcomb, 1974). Many of the villages of earthlodges depicted careful planning by having the houses arranged in rows. Regularly spaced fortification areas appeared in the dry ditches and stockades that surrounded the earthlodge villages.

The grass house was the permanent communal dwelling of one of the more southern groups. Stout poles were bent inward and covered with thatch made of grass. The roof and walls were extensions of one another and reached to the ground (Wissler, 1941). The grass houses were not flimsy. They were built on a sturdy foundation of posts and were 15 to 30 feet in diameter and height. Sometimes they were plastered with mud. Traditionally, there was an entrance on the east and entrance on the west. The grass houses were often used for many years (Newcomb, 1974).

During the period dating from AD 1000 to 14,000, the villages became smaller, unfortified, and less compactly built. The houses were characterized by rounded corners. Glen Elder Reservoir sites in north central Kansas gave evidence of this characteristic. The sites reflected a small, scattered population that lived primarily

in single lodges. The people moved frequently and left decaying lodges and trash (Jennings, 1978).

Pottery changed during the Village period. Shell tempering was introduced in the pottery. Pieces of shell were mixed with clay and mud to produce stronger pottery. Mixing shell in the pottery probably represented contacts with the Indian cultures found east of the Plains region (Jennings, 1978).

In the southern Plains, bison bones were more plentiful in sites after AD 1000-12,000. This indicated that the buffalo populations had increased in the area or that more people were moving in and hunting the animal. More animals meant better hunting to supplement the semi-sedentary prairie economy of planting and gathering. Better hunting attracted people to the western grasslands of the area. A shift in subsistence economy (that of bison hunting) was found to be evident in the southern Plains. The cultures as far north as the Great Bend of the Arkansas River in Kansas have left artifacts linking the southern Plains cultures to other parts of the region. The artifacts indicated that trade was carried on among the groups of people who lived in the Plains region (Wedel, 1961).

Across the region, the Plains Village culture suggested the presence of many widely scattered communities, whose inhabitants were using more fully the resources of their environment. Subsistence was based on a river and creek bottom agriculture. Maize, beans, and squash were grown. Hunting was an important part of the food securing methods and was usually conducted by communal hunting methods. Fishing with curved bone hooks and harpoons was practiced by some tribal groups. There was also a dependence upon the gathering of wild fruits, roots, and berries. Natural food sources were found in all parts of the Plains during the Plains Village period (Jennings, 1974).

Community settlement patterns changed as time passed during the Village period. In some places, there were major readjustments in the native population distribution. Settlements were located, usually, on or near the larger waterways. Some communities may have

had hundreds of inhabitants. As time passed and hunting became more important, changes occurred in the housing structures. The earth-lodges of the earlier phases of the Village period gave way to grass-lodges and less permanent structures (Wedel, 1961).

It is likely that the Plains Village culture peaked during the period between AD 1500-1750. It probably peaked later in the northern sections than in the south. Agriculture was extensively practiced and from the size and profusion of storage pits found through the excavation of the sites of the Village period, crops were large and provided a surplus for barter and storage. Improved varieties of food plants, such as corn and beans, gave higher crop yields. Improved crop production made life possible in much larger communities (Lowie, 1963, Newcomb, 1974).

In the western Plains, west of the Village cultural territory and in the foothills of the Rockies, the late historic periods are characterized by scantily represented remains of the nomadic bison hunter. These people were later arrivals in the region as were many groups who were pushed in from the edges of the region. The people of the west were of diverse linguistic and cultural origins. The people found it advantageous to operate in accord with the nomadic bison hunting systems that were old to the long-time inhabitants of the western areas. It is not known which of these groups was responsible for the many stone tipi rings, boulder alignments, medicine wheels, and pictographs that add a measure of distinctiveness to the northwestern Plains. The many widespread buffalo jumps and pounds, with attendant ritual ornaments, were quite possibly the response to an accelerated influx of human groups. The inflow of human population was made possible by the introduction of the horse. The bison population may have peaked throughout the Plains during the late years of the Village period. It is very possible that climatically-favored localities of the northern Plains produced an abundance of bison unmatched at any other period in man's occupation of the Great Plains. Bison hunting in this area was practiced by

the individual and by large-scale communal hunts (Wedel, 1961, Newcomb, 1974).

It is clear that historic man's occupation of the Great Plains region was subject to constant cultural change that reflected, in part, adaptations to climatic and other fluctuations in the natural environment (Eggan, 1955). From the perspective of archaeology, the bison and primitive agriculture methods were responsible for early man's successful occupancy of the Plains region.

The bison supplemented other game animals and a seemingly abundant vegetable food source to provide subsistence in the earthen parts of the Plains region. Eventually, under appropriate environmental conditions, food-producing subsistence economies based on the growing of maize, beans, and squash were developed. This food production led to greater population masses and the development of communities. Trade relations among these communities and the western nomads became increasingly important. Trade developed as a result of horticultural products being exchanged for products from the hunt (Newcomb, 1974). The introduction of the horse greatly accelerated trade interactions between the nomadic bison-hunting tribal groups and the villages that specialized in corn, beans, and squash. The hunters bartered meat and hides for crops from the farming people. The introduction of the horse changed the cultures of the entire Plains region (Secoy, 1953).

#### The Horse Culture of the Great Plains

The horse was extinct in North America from the time of the Ice Age. The Native Americans obtained horses after the Spaniards settled in New Mexico in 1598 (Haines, 1938). The Spanish, in their exploration of the region that would be Mexico and the southwestern United States, brought with them quantities of horses for riding and pack work.

One Spanish colonizer reportedly brought 7,000 animals, which included 300 mares and colts when establishing ranches and settlements in the vicinity of Santa Fe, New Mexico, in 1598 (Ewers, 1974).

Local Pueblo Indians, as well as other individuals who were captured by the Spanish, were subdued and enslaved to work on the ranches and in the Spanish settlements. Spanish policy forbid the giving or trading of horses or guns to the Indians. The Spanish did, however, use the Indians as grooms, herdsman, and cattle workers. Whether deliberately, or by example, the Indians learned to ride horses. Due to the difficulty of ranching and caring for large herds on the open range, many horses strayed and were never recaptured (and became the ancestors of the wild mustang of the Western United States).

The Comanche Indians captured some of the stray horses and aided by those Indians who had escaped from the Spanish with a knowledge of the stock that they had been forced to care for, plus a riding technique, the equestrian revolution began. The animal and the knowledge about it spread to the Shoshoni and on to other tribal groups. The common horse culture was started.

The Pueblo Revolt in 1680 temporarily drove the Spanish out of New Mexico and placed much livestock, including several thousand horses, in Indian hands. The Spaniards reconquered the Indian people and restocked their herds, which multiplied, but they were unable to prevent the Indians from acquiring more horses. By 1700, nearly all tribes south of the Platte River had knowledge of the horse and by the mid-1700s, the mounted Apache and Ute were raiding the Spanish settlements to obtain additional horses. From New Mexico, the horses, as well as the knowledge of how to break and train them, spread through barter and theft from one tribal group to another northward (Newcomb, 1974).

Santa Fe and San Antonio had become major diffusion centers for the horse spreading northward by the eighteenth century. West of the Rockies, the animals moved toward the Shoshoni trading center and traveled either toward the northwest or eastward in Crow tribal territory. Another route ran east of the Rockies from Santa Fe onto the Plains where it joined the migration from San Antonio and eventually rejoined the western route at the major trading centers of the northern Plains. The Indians of the north, who had acquired

guns from the early French and English traders, bartered the weapons for horses brought in by the southern tribes (Farb, 1968).

The inhabitants of the region during this time were linguistically diverse. The Plains region were populated by more than 30 different groups representing at least six different language families. To effectively communicate, these groups developed a unique sign language as a common means of communication in their frequent contacts.

By 1770, the horse had spread from New Mexico to the northern portions of the Plains in Canada. This rapid diffusion ensured that the horse culture complex as adapted throughout the entire Plains region. Each group passed the pattern along without time for addition or change. A large body of common knowledge accompanied the diffusion and when one of the groups developed some innovation, the new idea was accepted by most of the other groups. This homogeneity, or sameness, caused early observers to assume that a common heritage covered the entire Plains population (Haines, 1976).

Drastic changes in the balance of power developed as a result of having access to horses and guns throughout the entire Plains region. The realization of the value of the horse, and the additional value of the gun, brought a period of turmoil in the area. Successive groups became supreme in supplying the horse or the gun, while at the same time developing strong alliances with other powerful allies (Secoy, 1953). Indian groups converged on the Plains from every direction and soon adapted themselves to an economy based on the bison as hunted from horseback (Underhill, 1953). The lands of agriculture were overrun and the Plains area became a whirlpool of varied and often conflicting cultures of Indian groups (Oliver, 1962). The stolen, bartered, bought, or captured horse was a cultural element in the heartland of North America and because of it, the way of life entirely change (Farb, 1968).

Mounted, the Indian people could pursue game efficiently, killing greater numbers of bison than they had ever dreamed. Killing greater numbers of bison yielded a surplus of meat and hides.



Mounted, the Indian people could pack and move quickly. They could trade conveniently with others. The distance for plundering and raiding with rivals increased (Eggan, 1968). Social structures changed with the added dimension of economic status. Recreation was affected because the horse became high stakes in gambling and horse racing became a popular sport. The horse was exchanged in gift giving and in marriage arrangements. So vital was the horse to the warrior that it was slain at the grave of the dead to serve the warrior in the afterlife. A natural alliance of man and beast developed. The horse created the culture that was encountered by the Anglo explorers in the nineteenth century and the picture of the mounted, mobile, fierce, proud warrior emerged (Haines, 1976).

Hunting the buffalo on foot was not the most productive method for feeding large groups of people. The lone mounted hunter could carefully approach a small herd of feeding buffalo and be reasonably sure of killing one of the slower animals. One good shot with his bow and arrow or one quick thrust of the lance, provided a substantial amount of meat. One good horse could double the amount of meat for an entire village, thus transforming life from occasional feast and famine to one where the food supply was relatively well assured. As a result, greater numbers of buffalo were killed each year with more hunters involved. The large communal hunts during the summer encampment was the most common method of hunting (Farb, 1968).

Although it is doubtful that the ancient method of driving the bison over cliffs was ever totally forgotten, hunting techniques improved with the acquisition of the horse. Mounted, groups of hunters could surround the herds of buffalo. The mounted hunters would cause the herd to mill about and could kill many animals at close range (Eggan, 1968). Mounted hunters could approach a herd and at a given signal, ride into the herd and begin their kill. The hunters preferred the bow and arrow (until the later acquisition of the repeating rifle) because of the effectiveness of the bow and arrow at close range (Ewers, 1958). Arrows could penetrate through the bison completely. Successful hunts were vital to the general welfare of

the groups, and most had special leaders who commanded the hunt. Warrior society policemen had the task of seeing that the hunts were properly maneuvered (Newcomb, 1974).

The women butchered the bison where they fell. All parts of the animal were used, much as they had been before the coming of the horse. In addition to having more food, the people had more hides to be tanned into leather and robes, or made into rawhide, a material that had many uses in an Indian camp. The tipis were stocked with supplies for the future. Such supplies included items such as jerky, a thin strip of meat that had been dried in the sun, and pemmican, a meat with berries pounded into it and covered with a coat of fat (Wissler, 1941).

The size of the tipi, or dwelling, was increased almost immediately with the acquirement of the horse (Secoy, 1953). It became the common dwelling, replacing the grass and earthlodges that had been used by earlier groups. Before the acquisition of the horse, there were limits on the weight of loads that could be transported by dogs, the only beasts of burden, or carried on the back of the individual (Ewers, 1958). With the horse, the people could build tipis 12 to 15 feet high, with more room for family, visitors, and the storage of possessions. Tipis overflowed with the new found riches and an economic revolution also took place. Women no longer toiled in the fields since gardening was not as profitable as hunting. Gardening was impossible to practice in a nomadic hunting society that was constantly moving to follow the buffalo herds. Groups abandoned their fields for the life of the nomadic hunter (Kroeber, 1939).

Mobility was also changed with the acquisition of the horse. A village of nomadic people, hereafter called a camp, often had to pack and move quickly. Moving could be caused to follow the herd or to escape an approaching enemy. All possessions went on the back of horses or on the platforms of the A-shaped travois. Before the horse, a camp could not expect to move more than 6 miles a day (Ewers, 1958). The weight of goods that could be accumulated was

limited to what the women could carry on their backs and to what dogs could pull on a travois. With the horse, a camp could travel as far as 30 miles a day with much larger loads. Both the number and quality of possessions came to depend on the number of horses owned by the individual. Several auxiliary devices aided in movement. One of these was the cradleboard, used for transporting an infant, either on the mother's back or in a willowbasket attached to the travois. A good horsewoman hung the cradleboard from her saddle.

Clothing was made of dressed buffalo skins. Many of the dresses and shirts were elaborately decorated with animal teeth, ermine skins, bone and porcupine quills. The craftsmanship demonstrated by the women as skin dressers was outstanding. The skins were not only used for clothing, but were processed in different ways for use as receptacles or containers. The parfleche, a leather envelope-like pouch, was used primarily for the storage of edibles (Newcomb, 1974). Leather was also used to make soft pouches with other various uses. Trunks were made and used for storage and the transport of possessions.

At times of group movements, the wealthier members of the group rode in the front of the processions. This was usually those with the greatest number of horses. The most important, or favorite, wife was mounted and followed by horses pulling the travois loaded with the family's many possessions. Those with fewer horses followed. The poor, those with one or no horse, came behind and carried their possessions on their backs or on a travois pulled by a dog.

The horse became the target, and the objective of, many raids (Secoy, 1963). The males of the tribes achieved wealth and notoriety, as well as proof of their manhood, by stealing a horse in a raid. The Comanches were masters at the raiding of horses. One early observer maintained that Comanche could crawl into a group of a dozen sleeping men, each with a horse tied to his wrist, cut the rope as close as 6 feet to the sleeper, and get away with the horse without waking one sleeping individual. The Comanches also gloried in large-scale raids, once traveling so far into Mexico on a raid

that it is believed that they reached the Yuccatan Peninsula (Capps, 1973). As the horse and intertribal raiding grew more intense, the Plains became an area of conflict with strongholds from which the bravest men set forth to prey on unsuspecting rivals. No law was universal for there were many peoples, each with their own law, preying on each other to obtain the horse (Farb, 1968).

The new mobility achieved with the acquisition of the horse brought about increased trading. Commerce between tribal groups had been carried on for many years, although commerce took months or years for exchangeable goods to get from place to place. After the horse came into use, trading was accelerated and the horse itself became a basic standard for exchange. One example of trade that developed to meet the needs of southern and eastern Indians was the trading of lodgepoles used as frames for the tipis. The poles needed to be 20 to 25 feet long, light enough to be carried on a horse, but strong enough to bear the weight of the increasing size of the tipi cover. Much of the southern territory was practically barren of trees, but straight poles grew almost ready-made in the northern Rockies. The poles, which came to be called lodgepole pines, became an important trade item greatly accelerated by the adaptation of the horse in the culture. One of the main intertribal trading centers was located in Taos, in the southern Plains, while far to the north, the villages of the Mandans, the Hidatsas, and the Arikaras became centers of equal importance to the northern tribal groups (Ewers, 1974).

The new lifestyle of the tribal groups demanded a flexible, adaptive kind of social structure, which was not found in the former unilateral kinship system (Eggen, 1955). Social structure was reorganized. Reorganization occurred as a result of the nature and the habits of the bison, the demands and effects of the adaptation to the horse culture, and the fierce competition between the tribal groups for horses, goods, hunting grounds, and trade (Farb, 1968).

Large-scale communal hunts for buffalo were necessary in the summer when the buffalo congregated in high herds (Eggen, 1966). At

other times of the year, the buffalo dispersed and so did the Indian people. Both the matrilineal extended family (an older man and his wife, unmarried children, married daughters and their husbands and children) and the patrilineal analogy of the extended family were common. Several of these small groups might camp together for mutual protection (Eggan, 1966).

The ratio of the sexes was altered in many tribes due to the hazards of war and the buffalo chase (Ewers, 1958). There was an abundance of females. The custom of polygamy extended families considerably. This practice was viewed both as a survival mechanism and an economic asset to the males of the groups. With polygamy, women were also assured of husbands. With extra wives, the hunter's need for assistance in dressing, tanning, and working the hides was guaranteed.

A kind of social organization called the composite tribe developed on the Plains. Wherever the composite tribe was found, it signified a breakdown of a previous culture and a subsequent readaptation of other cultural traits by a group of people. The breakdown could have been caused by a loss of population from migration or warfare, a disturbance of a resource base, or the abandonment of old cultural traits and the substitution of borrowed new ones. Whatever the cause, the composite tribe usually appeared after an intervention by another culture (Farb, 1968). A distinguishing characteristic of this type of organization was that the line of descent was vague because of the line of descent could be bilateral, through either the father's line or the mother's line. During most of the year, a number of families lived together in a band. Some groups united with other bands to form a composite tribe at the time of the summer encampment (Eggers, 1968). The individual's band membership tended to change and many individuals belonged to several bands during their lifetime (Eggan, 1955). Constant feuding often caused the individual to seek a new band.

The primary way to achieve identity with the groups was through sodalities, which were similar to brotherhoods (Farb, 1968). The

political significance of sodalities was that they united a group with a common purpose, whether it was ceremonial, social, or military. Among such groups, the warrior societies developed with their own hierarchies. The members of the groups were ranked according to age, as the individual grew older there was upward movement through the different societies. The warrior society existed for every male from the youngest to the oldest among several northern Plains groups. The sodalities filled a social void left by the absence of clans among the Plains groups. They brought unity to one of the most diverse collections of people on earth (Eggan, 1955).

Warfare became ritualized during the 1800's. Tactics consisted of forays and raids by small war parties. There were brief, indecisive conflicts (Lowie, 1954). Fighting was conducted to capture horses, which held high economic value. Fighting also served as a unifying force with the group, which was held together by only non-kin sodalities.

Bows and arrows, clubs, spears, and the shield were the weapons used in warfare and the hunt. Bows were made of wood or of horn, the type of materials determined by geographical area (Wissler, 1941). Many bows were strengthened by sinews glued on the back. The bow string was made of sinew. Arrow shafts were made of wood, straightened and rounded by being passed through a hole drilled in a piece of horn. Circular hide shields were used for defense. In battle, the warrior wore the shield strapped to his bow arm so that the hands were free for shooting arrows and using other weapons. The shields were thick enough to deflect an arrow. It is believed that the design painted on the shield was as important to the carrier as the shield itself. The design was given to the owner in his vision. The shield was usually kept covered when not in use because it was considered sacred.

The Plains culture was immersed in the vision quest. Active pursuit of the vision was required, and usually achieved, through isolation, fasting, and the practice of self-torture. During the period of the vision quest, the individual actively called on the

spirits to take pity on the individual's suffering and to appear in a vision. A successful vision supported a youth for the rest of his life as he was benefited with the help from a guardian spirit for protection and guidance. The spirit was usually an animal in the Plains culture. The entire horse culture worked toward producing visions and the men of the Plains used the vision throughout their lives when they needed encouragement. Visions differed from person to person and from tribe to tribe (Wissler, 1941). It was a resort to supernatural aid in a dangerous undertaking, one in which the ordinary skills of the individual were not sufficient to guarantee success. The culture itself offered many opportunities for dangerous undertakings (Steiger, 1974).

Raiding was one example of a dangerous undertaking and became a means of achieving status. It was a game where exploits were calculated by the danger involved. The counting of daring exploits, known as coup, became a ritual for the brave, with each new honor used as an excuse to recount older ones (Jennings, 1977). Each group had its own ranking for coup. In some, such as the Blackfeet, stealing an enemy's weapon was the highest honor. Other tribes considered touching the enemy without hurting him to be worthy of great achievement. Even killing the enemy was ranked according to the method in which it was done and the weapon that was used. These deeds were recorded by picture writing on the tipi or on buffalo robes. Among some groups, each participant in a coup earned an eagle's feather. The elaborate headdresses worn by some war leaders depicted the achievement of coup.

War honors, most commonly obtained in horse raids, played an important role in the Sun Dance ceremony. Coup was publicly declared by the men who cut the thongs to bind the rafters and the men who cut the center pole for the ceremony. The self-torture of the vows was made before undertaking a dangerous action, such as horse raiding, as an aid for self-return (Ewers, 1958).

The most sacred tribal rituals were colored by the Indians regard for, and preoccupation with, horses (Ewers, 1955). The horse

indirectly affected even religious rituals. The sacred ceremonial bundle was one example of religious significance to the individual owner. Horse payments were made to the owner of the sacred bundle if the bundle was sold. The payment guaranteed the transfer of power to the new owner.

The Plains horse culture began to rapidly disintegrate about 1850. The movement of white settlers westward across the Plains region after the Civil War sealed the fate of the Plains Indians and the horse culture. Treaty after treaty was broken as the lands occupied by the Indians were taken by settlers for acreage and precious metals. Striking at the food base of the native groups, the bison were destroyed. Tensions increased, and on June 25, 1876, the Battle of the Little Bighorn marked the beginning of the end of the horse culture and the Plains Indian culture. As a result of the Battle of the Little Bighorn and the death of General Custer, troops of soldiers pursued the native people of the Plains mercilessly, killing women and children, and burning the Indian camps. Survivors were herded onto reservations where miserable conditions further depleted their numbers.

The Ghost Dance spread throughout the remaining roaming natives during the late 1880's. This dance came from a belief in a native Paiute messiah who foretold the return of all dead Indians and the magical disappearance of the whiteman who would be driven into the sea by the Indians (Wissler, 1941). Army troops were sent to destroy the Ghost Dancers. The Ghost Dance was actively practiced by the Sioux. At Wounded Knee Creek in South Dakota, some 300 Sioux, most of whom were women and children waiting to surrender to the troops, were massacred and the frozen bodies piled in a common grave. Sitting Bull, the leader, was killed while being arrested (Lowie, 1963). Wounded Knee marked the end of the flamboyant Plains Indian culture as it had become after the adaptation of the horse. The picturesque culture was the creation of pressure and influence, it did not last very long.



The warlike culture attributed to the Plains tribes was actually what the culture had demanded. Once all the groups had acquired the horse and the gun, their existence had to be kept in motion or collapse. Horses were stolen to buy more guns, used to steal more horses, in a continuous cyclical motion. Defense and retaliation were endless (Secoy, 1953). As the herds of buffalo dwindled, additional strife was begun over hunting territories. Cultural causes--social, political, economic, and technological--can be found to explain the warlike nature so often ascribed to the people of the Plains.

However, because of the flowering of this culture, even for a short time period historically, the Plains Indian, war bonneted and astride his horse, became the epitome of all Indians everywhere. Western philosophy can be used to explain this phenomenon. The Indians of the Plains were the last natives of the continent to be conquered, many of the Indians defeated in a heroic fashion. The horsemen and warriors were some of the most skilled and daring riders the world had ever known. They exemplified the conqueror, not the conquered. It was probably inevitable that the Indian of the Plains region should become a part of the fighter tradition that is symbolic in the best western tradition.

It is immaterial that the culture was derivative, due to the dependence on animals introduced by the Europeans, or that it lasted only briefly. It is immaterial that some of the people, although only very few, did not actively participate in the culture but continued to practice agricultural methods. The stereotype of the Plains Indian will be difficult to erase.

APPENDIX D  
OBJECTIVES FOR STUDENTS

## Objectives for Students

1. The student will be able to describe the geographic region called the Great Plains.
2. The student will be able to tell why the first men came to the Great Plains region.
3. The student will recognize appropriate vocabulary and understand the meaning of a limited number of Indian words used in the descriptions of man's occupation of the Great Plains region.
4. The student will be able to describe important features of the time periods studied in relation to man's occupation of the region of the Great Plains.
5. The student will identify the change that occurred in the culture of the Native peoples with the introduction of the horse to the society.

APPENDIX E  
STUDY GUIDE FOR STUDENTS

The study guide was developed for student use during the time the study was conducted. It was the only material given to the students. It was developed in outline form (as recommended by Dr. Tom Hogg). It was developed in six major sections, each dealing with a specific area to be studied in the history of the Plains Indian culture. Vocabulary that was considered to be significant was included in the booklet. The students kept the study guide at the completion of the unit of study.

STUDENT STUDY GUIDE

THE HISTORY OF THE NATIVE AMERICAN IN THE GREAT PLAINS

by  
Mary E. Paul©

## WORDS TO KNOW

1. Continental climate--a climate with very cold winters and hot summers
2. Steppe--usually arid level area of land with wide temperature ranges
3. Mammoth--any of numerous extinct elephants
4. Cyclical nomadism--periodic residence of people over long periods of time, perhaps on a seasonal basis
5. Subsistence--the minimum of food and shelter necessary to support life
6. Archeological site--a land area that has been dug into to study the material remains of past human life
7. Influx--flowing in
8. Matrilineal--tracing the family line through the mother
9. Patrilineal--tracing the family line through the father
10. Jerky--a thin strip of meat dried in the sun
11. Pemmican--a meat with berries pounded into it and covered with a coat of fat
12. Composite tribe--a type of culture group formed after a breakdown of former habits, the line of descent are usually vague
13. Sodalities--a brotherhood or organization

14. Coup--a daring act of bravery
15. Travois--an A-shaped platform for carrying possessions
16. Parfleche--a receptacle made of skin and used for storage

## I. The Geographic Great Plains

- A. Boundaries
  1. West--Rocky Mountains
  2. East--95th Meridian West
  3. North--Alberta in Canada
  4. South--Texas
- B. Area--approximately 800,000 square miles
- C. Uniformly elevated steppe
- D. Geographical diversity
  1. Flatlands
  2. Tablelands
  3. Badlands
  4. Dunes
  5. Hills
  6. Stream valleys
  7. Detached mountain masses
- E. River systems
  1. Missouri-Mississippi
  2. Others
    - a. Red
    - b. Brazos
    - c. Colorado
    - d. Arkansas
- F. Climate
  1. Type
  2. Causes
    - a. Air masses
    - b. Temperature ranges
    - c. Precipitation
- G. Natural Foods

## II. Prehistoric Man in the Great Plains

- A. Hunters
  - 1. Large game animals
  - 2. Mammoth
  - 3. Bison
- B. Tools
  - 1. Bone hoe
  - 2. Arrow points
- C. Cyclical nomadism
- D. Bison species
  - 1. Bison Antiquious
  - 2. Bison Bison
  - 3. "Buffalo"
- E. Hunting and gathering society

## III. The Plains Woodland Period

- A. Time 250 BC - AD 950
- B. Pottery making
- C. Maize horticulture
- D. Crop cultivation
  - 1. Maize
  - 2. Beans
- E. Survival technique
  - 1. Food gathering
  - 2. Food production
  - 3. Hunting
  - 9. Warfare
    - a. Reasons
    - b. Weapons
    - c. Coup
  - 10. Religion
    - a. Vision quest
    - b. Ghost Dance

## IV. The end of the Plains Indian horse culture

- A. Settlement of white settlers
- B. Battle of the Little Bighorn
- C. Wounded Knee Creek Battle

## V. The Horse Culture

- A. Introduction of the horse
  - 1. Spanish
  - 2. Care and riding technique
  - 3. Diffusion centers of the horse
    - a. Santa Fe and San Antonio
    - b. Northern villages
- B. Weapons
  - 1. Guns
    - a. French explorers and traders
    - b. English explorers and traders
  - 2. Native
- C. Communication
- D. Life changes
  - 1. Food
    - a. Abundance
    - b. Jerky
    - c. Pemmican
  - 2. Economy
    - a. Status
    - b. Surplus
  - 3. Hunting
    - a. Individual
    - b. Communal
    - c. Jumps and pounds
  - 4. Dwelling
    - a. Tipi
    - b. Size



- 5. Clothing
  - a. Skin
  - b. Decorations
  - c. Craftsmanship
- 6. Mobility
  - a. Travois
  - b. Time element
  - c. Cradleboard
- 7. Trading
  - a. Time element
  - b. Lodgepoles
- 8. Social structure
  - a. Family lines
  - b. Composite tribe
  - c. Sodalities

#### IV. The Plains Village Period

- A. Time AD 950 - AD 1750
- B. Dual subsistence economy
  - 1. Cultivation
  - 2. Hunting
- C. Village complex characteristics
  - 1. Fixed multi-family lodges
  - 2. Residence for most of the year in fixed villages
  - 3. Village protection
    - a. Ditches
    - b. Stockades

- 4. Storage pits
- 5. Pottery
- 6. Artifacts
  - a. Stone
  - b. Bone
  - c. Horn
  - d. Shell
- D. Tools
  - 1. Bone hoe
  - 2. Arrow points
- E. Kansas archeological sites
  - 1. Glen Elder
    - a. Small, scattered population
    - b. Frequent moving
  - 2. Great Bend
    - a. Artifacts linking tribal groups
    - b. Trading
- F. Subsistence
  - 1. Agriculture
    - a. Maize, bean, squash triad
    - b. River-creek bottom planting
  - 2. Hunting
  - 3. Fishing
- G. Housing types
  - 1. Earthlodges
  - 2. Grasshouses
  - 3. Housing arrangement
- H. Community settlement patterns
  - 1. Locations
  - 2. Size
- I. Hunting methods

APPENDIX F  
CHART SAMPLES

CHART SAMPLE

CHART SAMPLE: Great Plains Archaeological Sites

CHART SAMPLE: Time Line Chart

APPENDIX G  
ORIGINAL TEST

## Original Test

1. The Great Plains Region covers about:
  - a. 100 square miles
  - b. 100,000 square miles
  - c. 800,000 square miles
  - d. none of the above
  
2. The river drainage system that dominates the Great Plains is the:
  - a. Missouri-Mississippi
  - b. Arkansas
  - c. Columbia-Snake
  - d. none of the above
  
3. The climate of the Great Plains is:
  - a. tropical
  - b. continental
  - c. coastal
  - d. none of the above
  
4. The vegetation of the area is controlled by:
  - a. wind
  - b. rainfall
  - c. river systems
  - d. all of the above
  
5. The geographical variety of the land is caused by the area being:
  - a. mountainous
  - b. a flatland
  - c. a uniformly elevated steppe
  - d. none of the above
  
6. The important historical periods of time that man has lived in the Great Plains region are:
  - a. Prehistoric
  - b. Plains Woodland--Plains Village
  - c. the horse culture
  - d. all of the above
  
7. Prehistoric man came to the Great Plains as:
  - a. farmers
  - b. hunters
  - c. explorers
  - d. all of the above

8. The tools of prehistoric man were made of:
  - a. bone
  - b. tree branches
  - c. metal
  - d. none of the above
9. Off and on residence on a seasonal basis is called:
  - a. settlement
  - b. cyclical nomadism
  - c. uninterrupted occupation
  - d. all of the above
10. The term buffalo is the common name for the
  - a. bison antiquious
  - b. mammoth
  - c. bison bison
  - d. all of the above
11. The most successful prehistoric people survived by:
  - a. hunting
  - b. hunting and gather
  - c. farming
  - d. all of the above
12. The Plains Woodland period found the people planting:
  - a. sunflowers and turnips
  - b. prickly pears
  - c. maize and bean
  - d. all of the above
13. An important happening for the people during the Woodland period was:
  - a. the introduction of pottery
  - b. horses coming to the region
  - c. hunting of small animals
  - d. none of the above
14. Cultivation of crops replaced gathering during the period known as:
  - a. Prehistoric
  - b. Plains Woodland
  - c. Plains Village
  - d. all of the above
15. The cultivation of crops and hunting of game together for survival is known as:
  - a. farming
  - b. dual subsistence
  - c. migration
  - d. none of the above



16. Plains Village complexes were characterized by:
  - a. fixed multi-family lodges
  - b. residence in fixed villages
  - c. abundant pottery and artifacts
  - d. all of the above
  
17. The most long-lasting tool of the Village period was the:
  - a. bone hoe
  - b. rake
  - c. shovel
  - d. all of the above
  
18. The early villages of the Village period show planning because of the:
  - a. arrangement of houses
  - b. fortification areas
  - c. stockades
  - d. all of the above
  
19. During the Village period the southern groups had houses made of:
  - a. wood
  - b. grass
  - c. mud
  - d. none of the above
  
20. Food-producing groups during the Village period lived by using:
  - a. maize-bean-squash hoe agriculture
  - b. the horse
  - c. frequent movement of the people
  - d. none of the above
  
21. The people who lived in larger villages during the Village period had houses made of:
  - a. earth
  - b. skin
  - c. wood
  - d. none of the above
  
22. The lodges during the Village period were:
  - a. circular, cone-shaped structures
  - b. covered with earth
  - c. entered through a covered passage
  - d. all of the above
  
23. Other houses during the Village period were:
  - a. square or rectangular
  - b. had deeply excavated floors
  - c. had entrance ramps and fireplaces
  - d. all of the above

24. The frames of the houses during the Village period were held together by:
  - a. nails and pegs
  - b. cords and notching
  - c. glue
  - d. all of the above
  
25. Houses were built for:
  - a. families living together
  - b. individuals only
  - c. couples
  - d. all of the above
  
26. The Kansas archaeological site that indicated trade between the peoples of the north and the south was the site at:
  - a. Great Bend
  - b. Wichita
  - c. Glen Elder
  - d. none of the above
  
27. The Kansas archaeological site that showed a small, unfortified village was found at:
  - a. Great Bend
  - b. Wichita
  - c. Glen Elder
  - d. none of the above
  
28. Food subsistence during the Village period came from:
  - a. maize, bean, and squash agriculture
  - b. hunting
  - c. fishing
  - d. all of the above
  
29. Larger settlements during the Village period were located:
  - a. in open areas
  - b. on or near large waterways
  - c. in the mountains
  - d. none of the above
  
30. During the Village period, agriculture was extensively practiced because of the evidence found at sites in the number of:
  - a. villages
  - b. storage pits
  - c. bones
  - d. none of the above
  
31. Life was possible in larger communities because of:
  - a. higher crop yields and improved production
  - b. greater numbers of animals
  - c. more people
  - d. all of the above

32. The numerous bison jumps and pounds in the north were possibly caused by:
  - a. the fast movement of many tribal groups
  - b. great numbers of animals
  - c. climatically-favored areas
  - d. all of the above
33. During the Village period, the bison was hunted by:
  - a. the individual
  - b. the community
  - c. the individual and the community
  - d. none of the above
34. Early man's success in living in the Great Plains region came from:
  - a. the horse
  - b. the bison and agriculture methods
  - c. hunting
  - d. none of the above
35. The Native American was introduced to the horse by the:
  - a. Spanish
  - b. English
  - c. Portuguese
  - d. none of the above
36. The Spanish captured and enslaved the Pueblo Indians to:
  - a. work on ranches and in the settlements
  - b. work as grooms and herdsman for the horses
  - c. work as herdsman for the cattle
  - d. all of the above
37. Many horses strayed and were never recaptured because of:
  - a. the difficulty of ranching
  - b. caring for large herds
  - c. open ranges
  - d. all of the above
38. The Pueblo Revolt in 1680
  - a. temporarily drove the Spanish out of New Mexico
  - b. placed several thousand horses in Indian hands
  - c. placed other livestock in Indian hands
  - d. all of the above
39. By 1700, the major diffusion centers for knowledge of horsemanship were:
  - a. Santa Fe and San Antonio
  - b. Wichita and Kansas City
  - c. Glen Elder and Great Bend
  - d. all of the above

40. The Indians of the north got guns from:
  - a. French traders
  - b. English traders
  - c. French explorers
  - d. all of the above
  
41. To communicate, the Indians developed:
  - a. a common language
  - b. a unique sign language
  - c. a common knowledge
  - d. none of the above
  
42. The horse caused the Indian to change his:
  - a. way of life
  - b. allies
  - c. hunting technique
  - d. all of the above
  
43. Hunting the buffalo from horseback made the food supply:
  - a. occasionally lacking in food
  - b. well assured
  - c. more vegetation directed
  - d. all of the above
  
44. The Indian hunters preferred to hunt with
  - a. bow and arrow
  - b. lances
  - c. guns
  - d. none of the above
  
45. Jerky was:
  - a. a type of food
  - b. thin strips of meat
  - c. meat dried in the sun
  - d. all of the above
  
46. Pemmican was meat combined with
  - a. fish
  - b. berries
  - c. vegetables
  - d. none of the above
  
47. The common dwelling of the Indians with horses became the:
  - a. grasslodge
  - b. earthlodge
  - c. tipi
  - d. all of the above

48. The only beasts of burden to carry loads before the horse was:
  - a. cows
  - b. dogs
  - c. buffalo
  - d. none of the above
  
49. With the horse, a tribal group could travel:
  - a. 5 miles a day
  - b. 15 miles a day
  - c. 30 miles a day
  - d. none of the above
  
50. A travois was
  - a. a type of tipi
  - b. an A-shaped platform for carrying possessions
  - c. an article of clothing
  - d. none of the above
  
51. The cradleboard was used to carry the infant and was
  - a. strapped to the mother's back
  - b. attached to a travois
  - c. hung from a saddle
  - d. all of the above
  
52. Indian clothing was made of dressed buffalo skins and decorated with:
  - a. animal teeth
  - b. ermine skins
  - c. bones and quills
  - d. all of the above
  
53. A parfleche was
  - a. a receptacle or container
  - b. made of skin
  - c. used for the storage of food
  - d. all of the above
  
54. The Indian tribe that was considered the masters at raiding to get horses was the
  - a. Apache
  - b. Ute
  - c. Commanche
  - d. none of the above
  
55. One example of trade that grew between the southern and eastern Indians and those who lived in the west was the trading of:
  - a. skins
  - b. lodgepoles
  - c. jewelry
  - d. none of the above

56. Large scale buffalo hunts were held in the
  - a. winter
  - b. fall
  - c. summer
  - d. all of the above
  
57. A matrilineal family is tracing the family through the
  - a. mother
  - b. father
  - c. son
  - d. none of the above
  
58. a patrilineal family is traced through the
  - a. mother
  - b. father
  - c. daughter
  - d. none of the above
  
59. One Indian woman could dress approximately:
  - a. 5 skins in a year
  - b. 10 skins in a year
  - c. 20 skins in a year
  - d. none of the above
  
60. A composite tribe has the following characteristics:
  - a. a breakdown of a previous culture
  - b. readaptation by the people
  - c. a social organization
  - d. all of the above
  
61. An important feature of the composite tribe is that
  - a. the line of descent is vague
  - b. the descent is traced through the father
  - c. the descent is traced through the mother
  - d. none of the above
  
62. Sodalties were similar to
  - a. a brotherhood
  - b. a club
  - c. an organization
  - d. all of the above
  
63. Sodalties united a group with a common purpose, such as
  - a. ceremonial
  - b. social
  - c. military
  - d. all of the above

64. Circular hide shields were painted in a design to reflect the owner's
  - a. family
  - b. vision
  - c. battles
  - d. all of the above
65. A daring act of bravery was called a
  - a. coup
  - b. vision
  - c. quest
  - d. none of the above
66. Deeds were recorded on the tipi or on buffalo robes by
  - a. feathers
  - b. picture writing
  - c. beads
  - d. none of the above
67. The spirit that was the most common for the Plains Indian from his vision was usually
  - a. an animal
  - b. the sun
  - c. the stars
  - d. none of the above
68. The warlike culture assigned to the Plains tribes was caused by
  - a. social causes
  - b. political causes
  - c. economic and technological causes
  - d. all of the above
69. The Battle of the Little Bighorn results in the
  - a. Civil War
  - b. death of General Custer
  - c. death of Sitting Bull
  - d. none of the above
70. The Battle of Wounded Knee Creek resulted in
  - a. the massacre of Indian women and children
  - b. the death of Sitting Bull
  - c. the end of the Plains Indian horse culture
  - d. all of the above

## Answers to Questions

- |     |   |     |   |
|-----|---|-----|---|
| 1.  | c | 49. | c |
| 2.  | a | 50. | b |
| 3.  | b | 51. | d |
| 4.  | b | 52. | d |
| 5.  | c | 53. | d |
| 6.  | d | 54. | c |
| 7.  | b | 55. | b |
| 8.  | a | 56. | c |
| 9.  | b | 57. | a |
| 10. | c | 58. | b |
| 11. | b | 59. | b |
| 12. | c | 60. | d |
| 13. | a | 61. | a |
| 14. | b | 62. | d |
| 15. | b | 63. | d |
| 16. | d | 64. | b |
| 17. | a | 65. | a |
| 18. | d | 66. | b |
| 19. | b | 67. | a |
| 20. | a | 68. | d |
| 21. | a | 69. | b |
| 22. | a | 70. | d |
| 23. | a |     |   |
| 24. | b |     |   |
| 25. | a |     |   |
| 26. | a |     |   |
| 27. | c |     |   |
| 28. | d |     |   |
| 29. | b |     |   |
| 30. | b |     |   |
| 31. | d |     |   |
| 32. | d |     |   |
| 33. | c |     |   |
| 34. | b |     |   |
| 35. | a |     |   |
| 36. | d |     |   |
| 37. | d |     |   |
| 38. | d |     |   |
| 39. | a |     |   |
| 40. | d |     |   |
| 41. | b |     |   |
| 42. | d |     |   |
| 43. | b |     |   |
| 44. | a |     |   |
| 45. | d |     |   |
| 46. | b |     |   |
| 47. | c |     |   |
| 48. | b |     |   |



APPENDIX H  
ITEM ANALYSIS OF INITIAL TEST FORM

Item Analysis for the Initial Test Form  
N-57

Item Number	Discrimination Index	Item Difficulty
1 (1)	.27*	21.0**
2	.07	31.5
3	.13	26.3
4 (2)	.47*	36.8
5	.13	8.7
6	.00	36.8
7	.20	40.3
8 (3)	.33*	61.4
9 (4)	.60*	33.3
10 (5)	.60*	36.8
11	.00	33.3
12 (6)	.67*	54.3
13	.07	12.2
14 (7)	.33*	33.3
15	.20	24.5
16	-.20	36.8
17	.20	45.6
18 (8)	.27*	24.5
19 (9)	.33*	14.0
20 (10)	.53*	42.1
21	.00	12.2
22	.07	35.0
23	-.13	54.3
24	.20	59.6
25	.20	61.4
26	.00	29.8
27	.13	45.6
28 (11)	.53*	57.8
29 (12)	.40*	24.5
30 (13)	.27*	17.5
31 (14)	.33*	29.8
32	.00	8.7
33 (15)	.47*	21.0
34 (16)	.40*	38.5
35 (17)	.67*	52.6
36 (18)	.33*	38.5
37	.20	22.8
38 (19)	.27*	28.0
39 (20)	.53*	33.3
40	.20	12.2
41	.20	35.0
42	.20	22.8
43 (21)	.53*	57.8

Item Analysis for the Initial Test Form  
N-57

Item Number	Discrimination Index	Item Difficulty
44	.20	75.4
45 (22)	.67*	43.8
46	-.07	24.5**
47	-.13	40.3
48	.00	10.5
49	.20	43.8
50 (23)	.60*	40.3
51	.20	15.7
52 (24)	.53*	33.3
53 (25)	.33*	15.7
54	.20	26.3
55	-.07	12.2
56	.07	31.5
57	.13	28.0
58	.13	35.0
59	.20	26.3
60 (26)	.46*	40.3
61	.20	22.8
62	.20	14.0
63	.20	22.8
64	.13	17.5
65	-.07	12.2
66 (27)	.60*	40.3
67	.07	36.8
68	.20	19.2
69	.20	28.0
70	.13	19.2

\* Items so marked were selected for the final test

\*\* Percent of students who answered item correctly

( ) Indicates item number on final test form

APPENDIX I  
RELATED OBJECTIVES AND QUESTIONS TABLE

## Question Numbers as Related to Objectives and Study Areas

Objective	1	2	3	4	5
Geographic Region	1,2				
Prehistoric		3			
Woodland			4,5	6	
Village		(16)	(13)	7,8,9,10, 11,12,13, 14,15,16	
Horse			(20) 22, 23,25,26 27		17,18,19 20,21,24

( ) Indicates that question had a secondary possible objective.

APPENDIX J  
REFINED FINAL TEST

## REFINED FINAL TEST

- \_\_\_\_\_ 1. The Great Plains region covers about
  - a. 100 square miles
  - b. 100,000 square miles
  - c. 800 square miles
  - d. none of the above
  
- \_\_\_\_\_ 2. The vegetation of the area is controlled by:
  - a. wind
  - b. rainfall
  - c. river systems
  - d. all of the above
  
- \_\_\_\_\_ 3. The tools of prehistoric man were made of:
  - a. bone
  - b. tree branches
  - c. metal
  - d. none of the above
  
- \_\_\_\_\_ 4. Off and on residence on a seasonal basis is called:
  - a. settlement
  - b. cyclical nomadism
  - c. uninterrupted occupation
  - d. all of the above
  
- \_\_\_\_\_ 5. The term buffalo is the common name for the
  - a. bison antiquious
  - b. mammoth
  - c. bison bison
  - d. all of the above
  
- \_\_\_\_\_ 6. The Plains Woodland period found the people planting:
  - a. sunflowers and turnips
  - b. prickly pears
  - c. maize and bean
  - d. all of the above
  
- \_\_\_\_\_ 7. Cultivation of crops replaced gathering during the period known as:
  - a. Prehistoric
  - b. Plains Woodland
  - c. Plains Village
  - d. all of the above
  
- \_\_\_\_\_ 8. The early villages of the Village period show planning because of the:
  - a. arrangement of houses
  - b. fortification areas
  - c. stockades
  - d. all of the above

- \_\_\_\_\_ 9. During the Village period the southern groups had houses made of:
- wood
  - grass
  - mud
  - none of the above
- \_\_\_\_\_ 10. Food-producing groups during the Village period lived by using:
- maize-bean-squash hoe agriculture
  - the horse
  - frequent movement of the people
  - none of the above
- \_\_\_\_\_ 11. Food subsistence during the Village period came from:
- maize, bean, and squash agriculture
  - hunting
  - fishing
  - all of the above
- \_\_\_\_\_ 12. Larger settlements during the Village period were located:
- in open areas
  - on or near large waterways
  - in the mountains
  - none of the above
- \_\_\_\_\_ 13. Agriculture was extensively practiced during the Village period because of the evidence found at sites in the number of:
- villages
  - storage pits
  - bones
  - none of the above
- \_\_\_\_\_ 14. Life was possible in larger communities because of:
- higher crop yields and improved production
  - greater numbers of animals
  - more people
  - all of the above
- \_\_\_\_\_ 15. The bison was hunted during the Village period by:
- the individual
  - the community
  - the individual and the community
  - none of the above



- \_\_\_\_\_ 16. Early man's success in living in the Great Plains region came from:
- the horse
  - the bison and agriculture methods
  - hunting
  - none of the above
- \_\_\_\_\_ 17. The Native American was introduced to the horse by the:
- Spanish
  - English
  - Portuguese
  - none of the above
- \_\_\_\_\_ 18. The Spanish captured and enslaved the Pueblo Indians to:
- work on ranches and in the settlements
  - work as grooms and herdsman for the horses
  - work as herdsman for the cattle
  - all of the above
- \_\_\_\_\_ 19. The Pueblo Revolt in 1680
- temporarily drove the Spanish out of New Mexico
  - placed several thousand horses in Indian hands
  - placed other livestock in Indian hands
  - all of the above
- \_\_\_\_\_ 20. By 1700, the major diffusion centers for knowledge of horsemanship were:
- Santa Fe and San Antonio
  - Wichita and Kansas City
  - Glen Elder and Great Bend
  - all of the above
- \_\_\_\_\_ 21. Hunting the buffalo from horseback made the food supply:
- occasionally lacking in food
  - well assured
  - more vegetation directed
  - all of the above
- \_\_\_\_\_ 22. Jerky was:
- a type of food
  - thin strips of meat
  - meat dried in the sun
  - all of the above
- \_\_\_\_\_ 23. A travois was
- a type of tipi
  - an A-shaped platform for carrying possessions
  - an article of clothing
  - none of the above

- \_\_\_\_\_ 24. Indian clothing was made of dressed buffalo skins and decorated with:
- a. animal teeth
  - b. ermine skins
  - c. bones and quills
  - d. all of the above
- \_\_\_\_\_ 25. A parfleche was
- a. a receptacle or container
  - b. made of skin
  - c. used for the storage of food
  - d. all of the above
- \_\_\_\_\_ 26. A composite tribe has the following characteristics:
- a. a breakdown of a previous culture
  - b. readaptation by the people
  - c. a social organization
  - d. all of the above
- \_\_\_\_\_ 27. A daring act of bravery was called a
- a. coup
  - b. vision
  - c. quest
  - d. none of the above

APPENDIX K  
ITEM ANALYSIS OF FINAL TEST FORM

## Item Analysis for the Ginsl Test Form\*

N-90

Item Number	Discrimination Index	Item Difficulty
1	.21	23.3
2	.21	38.3
3	.08	84.4
4	.29	37.7
5	.08	44.4
6	.50	31.1
7	-.04	38.8
8	.46	22.2
9	.17	13.3
10	.38	40.0
11	.38	58.8
12	.54	31.1
13	.33	31.1
14	.38	32.2
15	.54	46.6
16	.29	31.1
17	.63	46.6
18	.38	62.2
19	.33	36.6
20	.04	42.2
21	.38	46.6
22	.42	44.4
23	.00	24.4
24	.54	48.8
25	.25	21.1
26	.50	31.1
27	.25	16.6

\* Date compiled from the test results of the initial pilot study.