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ABSTRACT

This resource guide was prepared for the teachers of academically talented children in grade four. As part of the curriculum materials developed for Special Class Demonstrations, this guide indicates a level and depth of study which was found to be rewarding and satisfying for gifted students. Because of the pace at which nearly all special class children acquired the information presented in basic curriculum materials, new goals and new approaches were conceived. The orientation for social science was essentially humanitarian, but the content was arranged to enable students to distinguish between what is known and what is believed--between evidence and hypotheses. Although the content of this resource guide is the Chumash Indians, the questions are arranged for the study of any of the California tribes. The choice of this particular cultural group enabled the curriculum writers to be specific about the purposes, problems and techniques which were used to involve gifted children in the scientific study of groups of people. The first section of the guide indicates a social science framework for the intermediate grades which emphasizes the concepts and methods of anthropology. Main sections in the guide are: Social Science Framework; Intellectual Processes; Objectives; Introduction of the Unit; Content and Techniques; Evaluation; Bibliography; and Appendices. (Author)

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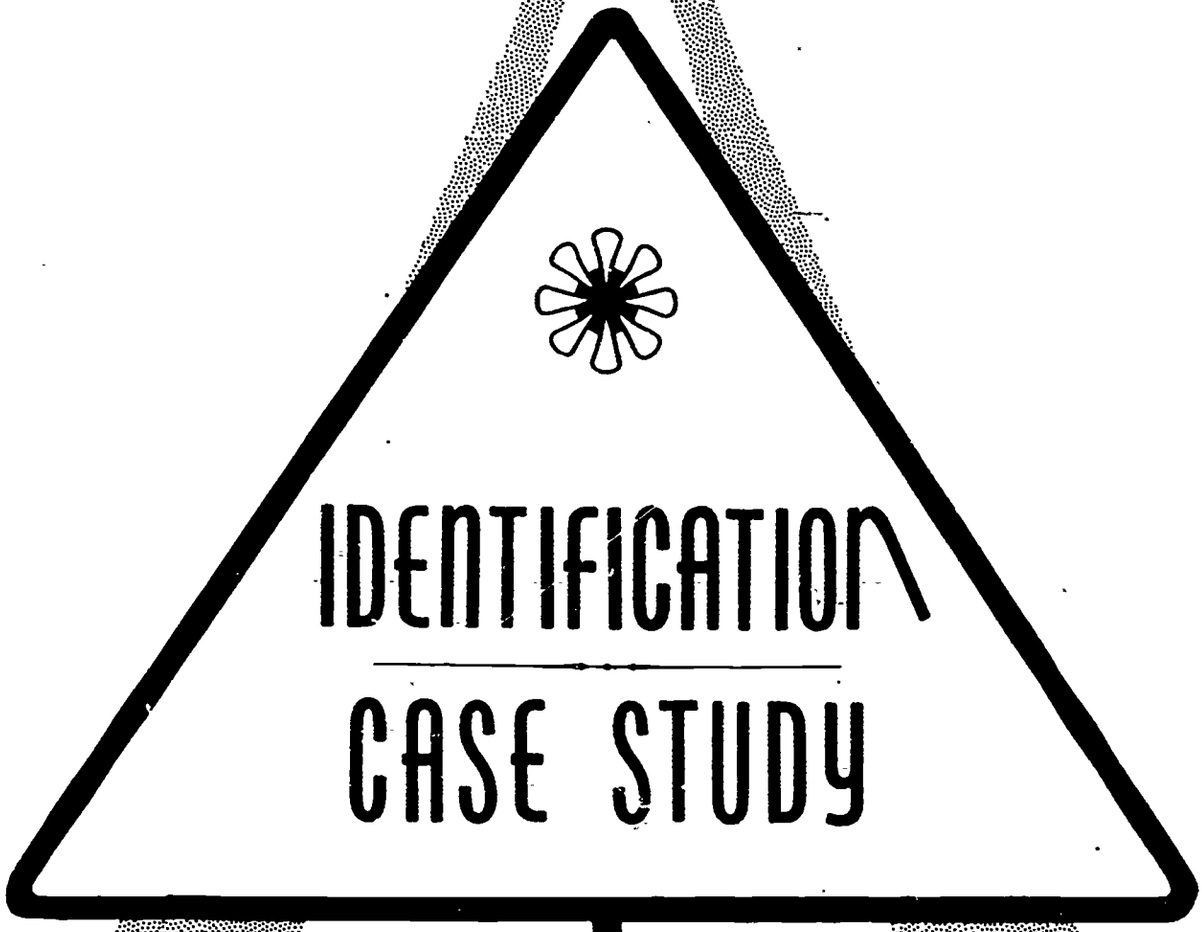

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HOW THE ANTHROPOLOGIST STUDIES MAN

The Chumash Indians

WORKING DRAFT

- SOCIAL SCIENCE -

HOW THE ANTHROPOLOGIST STUDIES MAN:

CHUMASH INDIANS

A Resource Guide for Teachers of Fourth Grade Gifted Students

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FOREWORD

This resource guide was prepared for the teachers of academically talented children in grade four. As part of the curriculum materials developed for Special Class Demonstrations, this guide indicates a level and depth of study which was found to be rewarding and satisfying for gifted students. Because of the pace at which nearly all special class children acquired the information presented in basic curriculum materials, new goals and new approaches were conceived.

The orientation for social science was essentially humanitarian, but the content was arranged to enable students to distinguish between what is known and what is believed--between evidence and hypotheses. Nearly all pupils came into fourth grade demonstration classes with hobbies which revealed specialized interests. Children who identified their major interests as paleontology or marine biology, herpetology or geology, were regarded as ready to learn the distinctive approaches of the different disciplines that make up the social sciences. The material was designed to involve these children, to a limited extent, in the methods of investigation in human relationships.

By this process of curriculum development any of the disciplines from the state framework might have been selected: geography, history, political science, economics, anthropology, psychology, or sociology. Philosophy is inherent in the way each topic develops in the classroom--the teacher's own ontology or view of reality; the value system of the school community; and the epistemology implied in the methods used to obtain knowledge. Philosophy was not considered as one of the disciplines to be emphasized; less complicated hypotheses were desired. The decision to orient the study of Indian life in early California to anthropology was based on the extensive contributions from the field to the understanding of how culture evolves in pre-technological groups of people.

Although the content of this resource guide is "Chumash Indians ", the questions are arranged for the study of any of the California tribes. The choice of a particular cultural group enabled the curriculum writers to be specific about the purposes, problems, and techniques which were used to involve gifted children in the scientific study of people. The first section indicates a social science framework for the intermediate grades which emphasizes the concepts and methods of anthropology. This unit, together with others in progress, form an example of curriculum planning for gifted students which involves them in studies of pre-historic, historic, and contemporary peoples.

Another consideration which preceded the writing of this material was the nature of the learning processes which would be incorporated consciously into the children's activities. The possibilities for choice among those used by project teachers were the following theoretical constructs: Bloom, Taxonomy of Educational Objectives: Cognitive Domain; Bruner, Processes of Education; or Guilford's structure of the intellect. The latter was selected for its emphasis on productive thinking and for the usefulness of Guilford's "Operations" dimension as a framework for the learning process, as distinguished from the learning product. A summary of the Guilford model is included in the second section of this guide.

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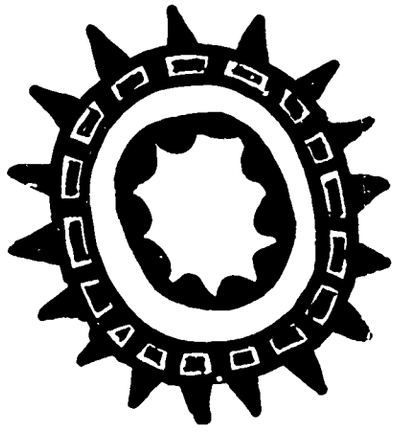

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SOCIAL SCIENCE FRAMEWORK

The purpose of this publication is: (1) to present a procedure for curriculum development in the social sciences, (2) to provide an outline or series of topics oriented to anthropology, and coordinated with the state framework, and (3) to illustrate the level at which gifted children can function intellectually as they study a specific group of people. Although the Chumash Indians were native to Santa Barbara and Ventura Counties, the questions, the activities, and the intellectual processes suggested in this material are adaptable to studies of other California Indians.

This resource guide was prepared for special classes of academically talented children. The topic, Chumash Indians, was selected from the state framework for social science at the fourth grade level[1]. The suggestions for the teachers' development of this content with gifted classes were devised to follow the Guidelines in Social Science[2], prepared by the Lompoc Talent Development Workshop of 1964. Essentially the procedure for writing this and other units was as follows:

1 The topic for study would follow the state sequence at the regular grade level but would be extended horizontally and in depth to challenge rapid learners.

2 One of the social sciences would be selected for orientation, or point of view; and the generalizations, the methods of investigation, and the resources of that discipline would be emphasized[3].

3 As a means of teaching children more effective ways to deal with knowledge, some recent and accepted structure of intellectual functions would be implemented.

Anthropology, particularly cultural anthropology, seemed an obvious and appropriate choice of the social science to be emphasized when children studied prehistoric residents of the Lompoc area. The study of a non-technological culture, now extinct, provided an excellent opportunity for children to learn how an anthropologist conducts his work and why it is important to him. From this point of view the children discovered how a human community pursued the spiritual and cultural aspects of life, as well as the more immediate physical needs. This unit of work enabled students to interpret more intelligently the news events from undeveloped countries, and provided the teacher with frequent opportunities to tie past events to present circumstances.

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1 California State Department of Education, "Social Studies Framework for the Public Schools of California," State Curriculum Commission. Sacramento: June, 1962.

2 California Talent Development Project, "Report of the Talent Development Workshop," Lompoc Unified School District. Lompoc: June, 1964.

3 California State Department of Education, "Report of the State Central Committee on Social Studies." Sacramento: November, 1959.

Outline of Content*

Anthropology as a Social Science

1 Comparative study of man

- Evolution and present characteristic as a biological form
- Various modes of organizing group life
- Utilization of the natural environment

2 Specialists and what they do

- Anthropological linguists - study the numerous unwritten languages of the world
- Archeologists - study prehistoric groups by unearthing and studying remains of their activities
- Cultural anthropologists - investigate cultures and modes of organization, reconstruct prehistoric life and presuppose essential characteristics of human social life

3 Scope of the Research

- Preliterate societies
- Major civilizations

4 Contributions to the humanities

- Concept of culture as its major theme
- Strands of commonalty in human group life
- Techniques of research: long term observation, participation in the society under study

Biological Development

1 Age of earth - belief on the part of some scholars that man, plants, and animal forms evolved through 1½ billion years.

2 Age of man - belief on the part of anthropologists generally that man's development spans several million years but is very short compared to the age of earth.

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* Scope and sequence in anthropology were prepared by Ruth Hadley, Special Consultant, California Project Talent.

3 Nature of evidence - fossil remains which illustrate progressions of refinement in man

- Large brain
- Upright posture
- Manipulative hands
- Keen vision
- Anatomic structure permitting speech

Cultural Heritage

1 Cultural change through adaptation to new conditions

2 Cultural development through selection from the contributions of other civilizations

3 Accumulation of Old World experience of 5000,000 years, or more

- Invention of languages
- Production of stone tools and probably other less durable artifacts
- Development of primitive clothing
- Control of fire
- Domestication of dogs

4 Dawn of Neolithic times, 9,000 to 10,000 years ago

- Domestication of food plants and animals
- Population increases in societies that learned to farm
- Establishment of permanent towns
- Provision for additional security and leisure in organized societies
- Development of cultural refinements as man became assured of food supply -- science, pottery making, liturature, organized philosophy, mathematics, weaving, metallurgy, religion, legal codes, political institutions and economic organizations

5 Transition from Neolithic to modern times marked by acceleration

Concepts and Vocabulary

1 Physiogomy

- Origin
- Appearance

2 Geographical implications on culture

- Terrain -- mountains, desert, jungle
- Natural barriers
- Routes of communications -- land and water
- Flora and Fauna

3 Levels of development

- Hunters, fisherman
- Food gatherers (type of houses)
- Semi-Nomads (animal centered culture, non-domesticated)
- Semi-Permanent Settlers, Farmers (domesticated animals, utilization of natural environment)

4 Religion (cultural need)

- Earth centered
- Anthropomorphic
- Polytheistic
- Monotheistic
- Festivals

5 Language Development

- Spoken (traffic of speech)
- Written -- glphs, syllables, alphabet, legends and myths, history, art, music, literature, math and science

6 Modes of organizing family life

- Marriage
- Patriarchy, Matriarchy

- Clan
- Woman's work and art
- Men's work and art
- Children's plac· and work

7 Mores and Customs

- Adjustment to converging cultures
- Cross trading

8 Government

- Ruling class
- Methods of enforcement
- Taxes
- War and weapons
- Social Organization
- Crime and Punishment
- Justice

9 Crafts and craftsmen

- Pottery
- Baskets
- Weaving
- Metallurgy
- Architecture
- Calendar
- Games
- Paper, writing and literature
- Medicine

10 Economy

- Diet of peoples
- Types of shelter
- Clothing and adornment

Scientific Methods in Anthropology

One reason for approaching the social sciences from the point of view of view of one discipline at a time is that gifted students can become involved in a limited way in the methods of scientific investigation which specialists have developed. The techniques of archeology were observed by Lompoc Special Classes when excavations were being done at La Purisima Concepcion Mission. Historical museums throughout California have exhibits which show how the remains of Indian cultures are recovered and studied. Modes of investigation, employed by anthropologists, which gifted students might attempt are the following:

- Techniques used to recover artifacts of past cultures.
- Comparisons of the culture in different ethnic groups.
- Sequence in the development of cultures, including radiocarbon dating.
- Studies of cities and their evolution.
- Identification of changes in culture.
- Studies of the causes of cultural change.

The children will need to become aware of the challenge inherent in scientific studies of people -- the complexity of social interaction, the variability between people, the necessity for prediction as probability. A study of probability in the mathematics class is helpful at the time the class begins to consider the scientists who study people. The content of history and geography, which may need to be defined by group discussion and consensus, will be used frequently and will provide a background for studies of modern California.

A sequence or procedure for the investigations may be formulated by the class, under guidance of the teacher. Or the study of an ethnic group may be conducted with some group organization at the end of the unit to clarify the steps which were taken and which could serve as guidelines for future studies. The procedure which follows is appropriate for problems in athropology, although somewhat different from the procedure students learn to use in the physical sciences.

- Gather information
- Organize information
- Select relevant concepts
- Explain the relationship between concepts (formulate hypotheses, principles, conclusions or generalizations)
- Correlate, or interrelate, sequences
- Relate present to past

Proposed Topics for Intermediate Grades

Few teachers will want to emphasize anthropology to the extent this scope and sequence suggests -- perhaps only those who have major or minor strength in this discipline will choose to orient more than one unit of study to anthropology; other blocks of content will be oriented to social sciences. The outline which follows indicates some possibilities for helping students integrate the generalizations inherent in anthropology with social science content over a three year period.

Grade Four Theme: California -- Its Relationship to the Western States, the Nation, and the World

1 Chumash Indians

- Compared to Hokan Group
- Compared to modern Lompocians

2 Ainu of Northern Japan

- Compared to California Indians (Chumash)
- Compared to Japanese of today
- Modern California compared to modern Japan

Grade Five Theme: The United States -- Its Growth and Development; Its Future as a World Power; and Its Relationships with Canada

1 Apache or Hopi Indians

- Compared to Iroquois
- Compared to Spaniards

2 Early English Settlers on East Coast

- Compared to Indian group
- Compared to Spaniards

Grade Six Theme: Overview of Global Geography of the World, and Study of Life in Latin America

1 Mayan Indians

- Ancient Mayas
- Current conditions in Maya Land

2 Aztec Indians

- Period of 1000 AD to 1525 AD
- Current conditions in Central Mexico

3 Incas

- Period from 900 AD to 1537 AD
- Current conditions in Andes area including Chile

Generalizations from Anthropology

The end result of scientific investigation in anthropology is an appreciation that man is what he is from the interaction of the environment and the human organism. Some generalizations which were formulated initially by anthropologists for the state framework were selected and adapted for Special Classes in the Lompoc Demonstration Center.

- Man is a product of his culture. How he thinks, acts, and feels about himself and others is a reflection, in part, of his society.
- Human language is a tool for the transmission and invention of culture. Art and music also transmit culture.
- Anthropologists have no absolute measure of the excellence or inferiority of culture.
- A major problem today is the harmonious coexistence and interaction of divergent cultures of the world.
- Ethnic groups can be identified on basis of customs, language, and characteristics.
- Populations do not remain isolated, and modern conditions tend to accelerate cultural change.
- The three main humanoid stocks are Negroid, Caucasoid, and Mongoloid. Artificial division of Homo Sapiens into races by anthropologists is for convenience of description and classification. Races merge imperceptibly into one another.
- Physically, human beings are more alike than different. Differences between members of the same stock differ more greatly than differences between persons of different groups.
- Environment has profound effects on the development of every individual. When he is deprived socially, society as well as the individual loses.
- Race problems are cultural problems which result from conflict between ethnic groups. Cultural diversity has value and can add to richness of life. Nearly all human beings are capable of participating in and making contributions to any culture.

INTELLECTUAL PROCESSES

How students learn to deal with knowledge has emerged as one of the basic considerations in the planning and the evaluation of curricula for mentally gifted children. Typically, the children in special classes have a startling accumulation of information on many topics, or attain factual knowledge quickly as new studies absorb their energies. Teachers are confronted with a dual challenge, the rapid mastery of basic content, and the extra time which subsequently becomes available to go beyond the established scope and sequence of the curriculum. The learning which takes place in special classes can and should differ qualitatively as well as quantitatively from regular classes. Academically talented children can learn that data are merely the means to productive ends--that appreciations are cultured both intellectually and aesthetically, that discovery of knowledge is but the first step in the intellectual process.

One of the models for learning which became available during the last decade is J. P. Guilford's "Structure of Intellect", a construct which shows the relationship between various factors of human intelligence.[4] Many people whose major professional interests are learning and teaching see his structure as applicable to the school setting because his framework is comprehensive as well as definitive.

The research on this model was inspired originally by J. P. Guilford's observation that bright people with similar intelligence quotients were highly unique in their intellectual functioning. The construct is tridimensional, revealing what they term the three faces of intellect: (1) the operations or processes of thought, (2) the contents or materials of thought, and (3) the products or forms which result from the thought process (Page 10).

This resource guide focuses on the different kinds of thinking processes that gifted children can develop as they study this topic or others in the social sciences. In this guide the teacher's theoretical emphasis is Guilford's dimension, operations, or what he calls the major kinds of intellectual activities: cognition, memory, divergent production, convergent production, and evaluation. That teachers of gifted students can function effectively within this framework was demonstrated repeatedly in the centers of California Project Talent. The conscious application, on the part of the teacher, of a well conceived theory of learning resulted in the development of important kinds of thinking power in students.

Since the Guilford structure was implemented only recently and in limited areas, his operations categories are summarized below for those who may be unfamiliar with them. How these thinking processes fit into social sciences is shown in the section, "Content and Techniques", where the third column, Intellectual Process, indicates the teacher's opportunity to trigger specific kinds of intellectual activity. No teaching

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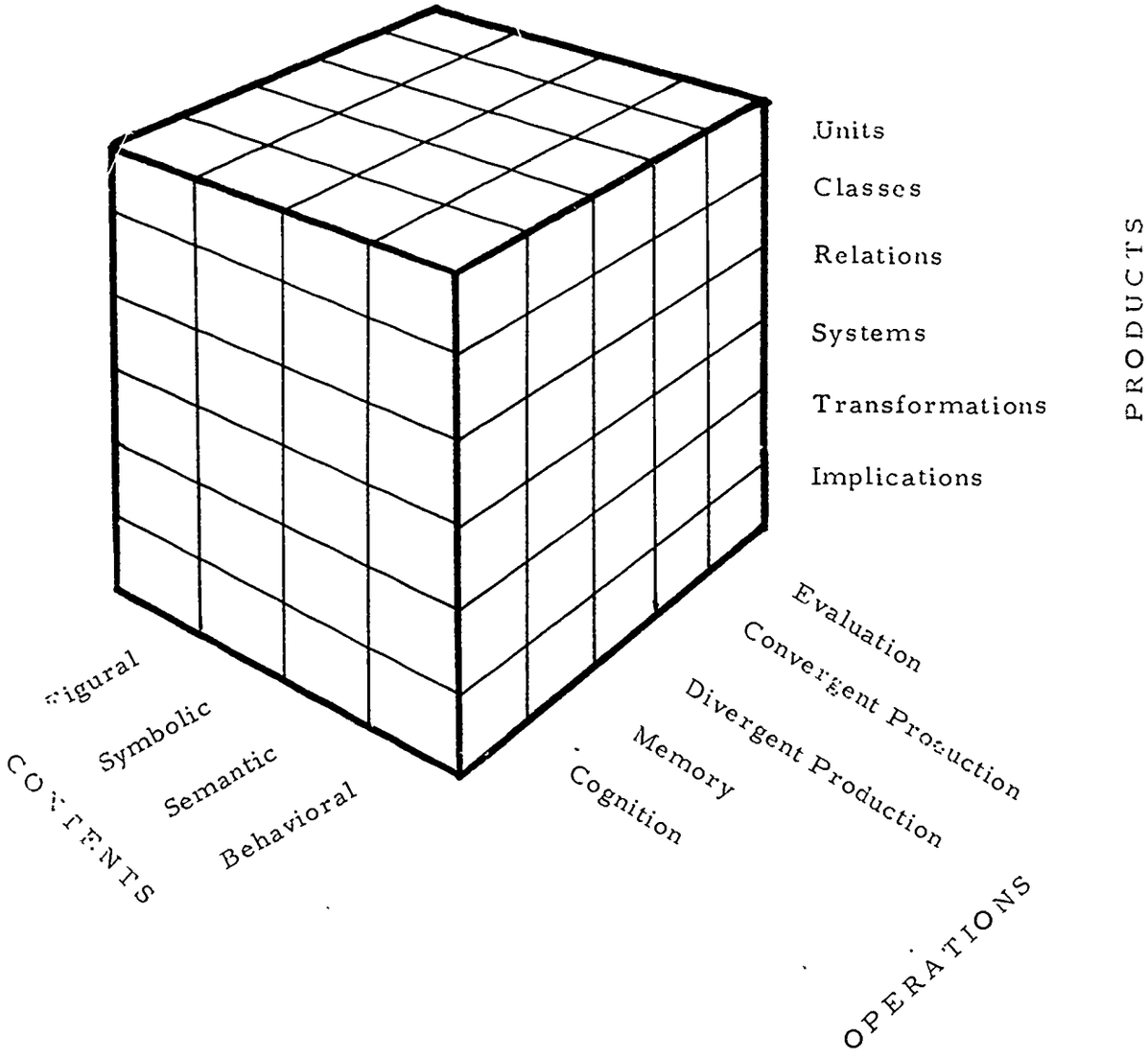
[4] J. P. Guilford and P. R. Merrifield, "The Structure of Intellect Model: Its Uses and Implications," Monograph No. 24, Reports from the Psychological Laboratory, University of Southern California. (Excerpts may be reproduced, by permission of the authors.)



Theoretical model for Guilford's "Structure of Intellect"

Department of Psychology
University of Southern California
October 1961

proposal or guide is a substitute for the perceptive interaction of a skillful teacher with an intellectually endowed student group. The Guilford operations are offered as a framework for the teacher who wishes to involve his class in the use of information to generate new ideas and to judge them intelligently.

Operations

In the present context operations are the five kinds of intellectual activities or processes by which the student deals with basic information.

Cognition means comprehension, understanding, discovery, rediscovery, or awareness in the intellectual sense. Teachers, from Plato to Skinner, have tried to develop lines of questioning which lead students to the brink of an idea, an answer, or a conceptualization. Although these two teachers conceived the learning process differently, both saw the need to involve the learner in the process. Recently many researchers have been concerned with the level or quality of the cognitive experience and have developed methods which encourage inquiry and/or discovery on the part of students. Most teachers try to anticipate and provide for the kind of understanding which assures that key concepts or significant facts will be remembered. Who is more likely to recall, perhaps five years hence, the meaning of artifact--the child who is given the definition in lecture, or the child who associates the term with a vital experience such as unearthing an arrow during a "dig"?

Three perpetual limitations--time, energy, and material resources--haunt the professional existence of most teachers. He who instructs the very bright learns to identify and to counteract some of the more tempting solutions to these limitations. Stated briefly the following observations pertain to the special classes, when teaching at the cognition level.

Restatements of information do not necessarily indicate cognition. Most children who are identified as mentally gifted remember words easily and verbalize readily; many can recall words or rules without the multiple cues which most children require. The tests which most commonly are used to identify the academically talented are heavily weighted with recall and memory items. One point to remember when planning curricula for the gifted is the familiar admonition against verbalizing--cognition is the process of understanding.

The second observation which seems pertinent is that gifted children are highly dissimilar in cognitive abilities. In any specific intellectual function, special classes may be expected to show a greater range of variability than a typical class of age-grade peers.* The teachers observe the learning that is taking place while the social science lessons progress so that when finished they know which individuals understood the important concepts.

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* Special classes include children who meet the MGM criteria in California: I.Q.'s of 130 or above on an individual test such as Binet or WISC. Thirty or more points represent the IQ range in the typical special class--a discrepancy comparable to the IQ range from 70 to 100.

The third point is that information understood is not always information remembered. Discovery methods of teaching are highly effective with most children and most content; but discovery is a cognitive process in the Guilford framework and is the beginning, rather than the end, in the education of the academically talented.

Memory involves the retention of knowledge in the form in which it was learned, together with the ability to select the information needed. The preceding paragraphs implied that the quality of the cognitive experience could improve retention. Certainly the nature and extent of the learner's involvement influences the availability of that knowledge. Most of the tests which identify children for special classes sample memory abilities at many points. The Stanford-Binet Intelligence Scale, for example measures the memory for designs, bead chains, digits, names, sentences, and stories. A high proportion of the instruction time in schools and colleges involves the student in memory operations. Very few pupils appear in programs for gifted children who do not show superior retention and recall abilities.

Many teachers of superior students have found ways to involve them directly in learning about the learning process--in learning how to organize information for effective retention, for example. One fifth grade teacher of a special class taught the Guilford processes and the children expressed some unique and rather private experiences about the ways they learn best. When children become relatively independent in the memory operation class time may be used, not to acquire content per se, but to function in those categories which use the information or knowledge already acquired.

The blueprints for special classes in socience should allow children the opportunity to generate hypothesis, to try some of the processes by which knowledge in specific fields is acquired, or to make some tentative judgments on what is known, or not known, in the social sciences. One fourth grade teacher of special classes launched her social and physical science program with the problem, "How Do We Know?". The children studied three sealed boxes, each containing an unknown object or material, for about two weeks, during which time they had some basic experience in the limitations of the senses, the methodology of the physical sciences, and in asking some epistemological questions. To summarize, cognition often precedes memory and both are prerequisites to the productive and evaluative thinking which gifted students relish.

Divergent production is closely related, in the Guilford model, to creative thinking. This is the process in which the individual generates new ideas or materials with emphasis on variety or quantity in his responses.

Children high in this ability may be expected to show sensitivity to problems and also to have the ability to pose many possible solutions. In addition to fluency in thinking they show flexibility; that is, they readily depart from conventional or habitual patterns to the original and the untested. In this operation the emphasis is on imaginative, spontaneous, and fluent self-expression--with judgment and criticism usually deferred to another time and another kind of intellectual involvement. On the matter of developing creativity in children, one teacher's venture in divergent thinking was as follows:

- Reinforce divergent behavior by recognizing originality; react meaningfully to what the child is trying to produce.
- Provide materials and situations which have the potential for manipulation and discovery.
- Teach the techniques that are needed to assure a satisfying experience.
- Value unique production--work which shows how the child sees the world and how he feels about others.
- Extend originality, initiative, and creative behavior to all possible activities--mathematics, social science, literature, physical activities, and art.
- Separate "idea generating" from "critical judgment" situations; be sure pupils know whether divergent or convergent production is requested.
- Teach pupils to identify the essential areas of conformity and adherence to conventions, especially those which cost little or nothing in the productivity of the individual.
- Schedule a regular period when children have the opportunity and the responsibility for activities of their own choosing.
- Create an atmosphere which nurtures constructive and expressive behavior.
- Teach children to live richly; to hold both hands out to new experiences; to tune and play the senses; to learn that pleasure comes with bringing together the right words, or colors, or compounds.

Convergent production is the operation, or thought process, in which an individual makes use of given information to generate a single correct, or best answer. Like divergent production, this process is productive thinking--a new answer is generated, unique at least to the individual who produces it. This operation, unlike divergent production, is likely to be predetermined by the data, or by the setting from which the problem emerged.

The child who operates well in the convergent area may be a good data collector or an hypothesis tester and may not necessarily demonstrate superior production in divergent thinking. When the student solves a problem in mathematics or logic, he may be engaged in a convergent operation if he devises an acceptable process which leads to the one correct answer. On the other hand he may use the steps he learned previously to practice a series of long division examples, in which case the intellectual operation is memory, primarily.

An example of convergent thinking activity in the social sciences might be the process by which a student arrives at a generalization. Supposing the teacher has decided to try to bring the class, through a series of lessons, to the generalization from anthropology, "The culture in which a person is reared exerts a powerful influence on him". Over a period of days the teacher will have assigned for reading, or made

available some material by a cultural anthropologist whose writing concerns the topic under discussion. Biographies in which the person's cultural background emerges as significant may be reported and discussed in the class. The information students are exposed to may be structured to include the religious and aesthetic influences. The student who extracts the pertinent information and formulates the generalization is doing convergent thinking, while those who participate and understand are probably operating at the cognition level. Students who take only factual information from such an experience are operating at the memory level.

Evaluation is the process of making judgments, based on some criterion or set of criteria. Decision making, based on some consistent standards such as correctness, suitability, adequacy, or desirability is involved. Evaluation may follow a brainstorming session, when at this later time the course of action might be determined, the most promising hypothesis might be selected for further research, or some conflict might be resolved.

Recently Guilford[5] described the function of evaluation as the regulator of all the other operations. Evaluation helps in the selection of information an individual tries to remember, in his decision to pursue or to suspend problem-solving efforts, or in the retrieval of the appropriate bits of stored information he needs to achieve cognition. For example, the recognition of a problem (cognition) might be accompanied by the decision, based on individual goal satisfaction as the criteria, to search for new information (cognition), and to form various hypotheses (divergent thinking) which could explain the phenomenon or indicate a solution. Related information might be recalled (memory) and rejected or retained for further consideration (evaluation). New data might be gathered (cognition) as the store of known information (memory) was found inadequate (evaluation). At some point a satisfactory solution (evaluation) might be determined (convergent thinking) and further research abandoned (evaluation).

Whether the teacher uses the Guilford construct or some other framework for the intellectual processes children will use in school, the conscious effort to raise the level of children's thinking is vital. The teacher's ability to distinguish between cognition and memory enables him to know when a pupil is answering with information learned previously, or when he is engaged in the process of discovering new information or relationships. Such discrimination on the part of the person who teaches gifted students is particularly important because many of these students come to the school with most or all of the knowledge and skill a typical lesson requires. The teacher's conscious use of both divergent and convergent processes in classroom instruction should help students to learn when a situation requires idea generating, brainstorming, hypthesizing, or fluency and flexibility of thought; or when the situation requires synthesis, closure, definition, or some solution predetermined by the nature of the task. Constant evaluation takes place in a bright pupil's stream of thought. His teachers can help him evaluate his own production and the work of his peers with increased discrimination and appreciation.

Guilford emphasized the operations dimension in his own publications

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[5] J. P. Guilford, "Models for Human Problem Solving," Mimeographed report, University of Southern California, 1964.

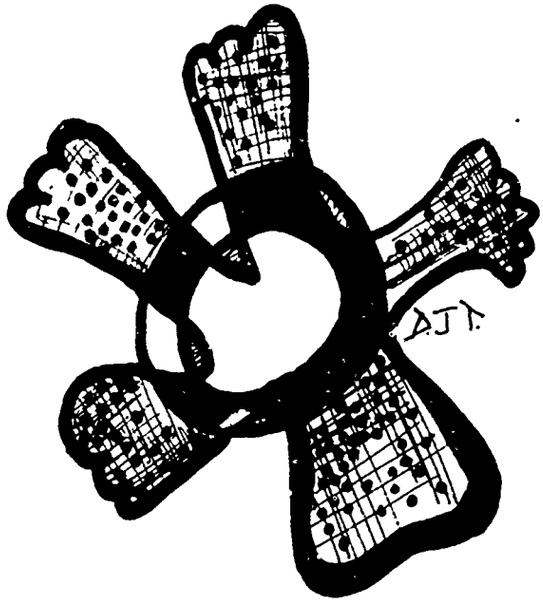
and lectures. These operations were explained in previous paragraphs both as processes by which the level of children's thinking could be extended and as a framework for understanding pupil learning as it took place. Only the operations categories are identified in this resource guide. The application of one facet of intellect seemed appropriate as a beginning, rather than the simultaneous use of all 126 cubes in Guilford's model. To place the discussion in context, however, the two other dimensions in the Guilford structure are defined in the paragraphs which follow.

Products

The products are the forms which information takes as a result of an operation, or combination of the operations. The Guilford research identified units, classes, relations, systems, transformation, and implications. Teachers who have already become familiar with the application of the operations or processes may wish to examine and apply this second dimension, products. To plan for these six types of outcomes probably is less difficult than to control the dynamic interactions of the first dimension, operations.

Contents

The contents, or material, with which students deal intellectually is identified in the Guilford structure as figural content, symbolic content, semantic content, and behavioral content. The unit of study which follows was designed to include many experiences within each of these classification. The teacher may wish to study the contents dimension in one of the Guilford references. During the preparation of this resource guide, the decision was made to involve the teacher in only one new dimension of the model initially.



Teacher's Notation of Goals

OBJECTIVES

This approach in the development of social science curricula for intellectually gifted children can be illustrated in the following statement of objectives for the unit.

Social Science Content: Generalization--Anthropology is the study of Man; how his culture evolved through interaction with his environment.

Intellectual Content: The thinking processes available to each student will be extended as he functions in learning situations which require the five Guilford operations.

- Cognition of selected concepts
- Memory of significant information
- Divergent production of inferrences, hypotheses, graphic arts, and literary expression
- Convergent production of generalizations which will serve the individual student in further scientific study of Man
- Evaluation procedures to help him distinguish between what is known and what is knowable

Affective Content: The attitudes and the motivations of students will be influenced toward observations which minimize prejudice and toward communication which reflects acceptance of all ethnic groups as members of the human community. Certain of the goals outlined by Krathwohl[6] will be emphasized and student interaction will be observed as the class studies the culture of an extinct people.

- Attending to the forms a people use to reveal their culture
- Responding with enjoyment to the arts or artifacts of a culture which is different from one's own
- Valuing the heritage of a written language
- Organizing the standards of authenticity in published resources toward the end that scholarly material will be preferred to undocumented opinion
- Revising judgments in the light of evidence

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[6] David R. Krathwohl, Benjamin S. Bloom and Bertram B. Masia, Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook II: Affective Domain (New York: David McKay Company, Inc., 1956)

INTRODUCTION OF THE UNIT

The teacher's purposes during the initial phases of this study include the following:

- To learn what the children already know about local Indian culture, the methodology of the social sciences, and the work of the anthropologist
- To stimulate student interest in the investigation of life in an old and primitive culture
- To establish specific problems or areas of curiosity on which to begin the work.

Some alternative proposals for initiation of the unit include the following:

- Visit a local museum or the site of an archeological "dig" or
- Gather material a culture uses; discuss what can be assumed about their way of living or
- Discuss the children's own families, why they came to the community--ancestry, climate, geography or
- Study "Juana Better Than Nothing". This story from The Channel Islands of California is reprinted in Appendix A. The following example of a lesson plan, designed to introduce the study of the Chumash Indians, may be adapted to any of the California tribes.

Lesson Plan

Material: Study Sheets: JUANA BETTER THAN NOTHING -- THE LOST WOMAN OF SAN NICOLAS

Preparation: Read the title. Locate San Nicolas Island.
Study for word recognition: "manequauna" (Spanish pronunciation), stenographer, Juana Maria (Spanish pronunciation)
Read the first paragraph.
Study for word meaning: San Nicolanos, Captain Nidever, fifties (1850), romance and pathos, human devestators, curio-hunters, otter-exterminators.

"Read the story of the lost woman and find out why the author returned to San Nicolas Island." Probably a group of children will need teacher direction to read this selection, so a temporary subgroup may be formed. Some of the remaining group will finish early and will need alternate work.
(Reading time: 5 to 30 mins.)

Discussion Questions:

Memory - How long did Juana Maria live alone on San Nicolas Island?

Convergent - Why do we not know for certain?

Memory - When Captain Nidever returned to the island, how did they find out that the lost woman was still alive?

Compare his description of the kind of person he expected to find, with his description of Juana Maria as he came to know her.

Cognition - What is meant in the story by "catched shags"? (List best guesses, consider context and use references, consider time and place of authorship, stop short of consensus.)

What was the author's attitude toward the lost woman, how did he feel about her? Show evidence for your answer.

Divergent Thinking - Make a list of the adjustments Juana Maria had to make when she was left alone on the island. Make a second list of the adjustments she had to make when she went to live at the Santa Barbara Mission, Most of your answers will not be found in the story.

Why was Juana unable to converse with the other Indians? (Consider numerous tribes, changes in language, diverse dialects, lack of transportation, and other factors.)

Cognition - What are some other words, other than <u>adjustments</u> that might be used to describe how she changed? (adaptation, orientation, conformity, compromise, etc. Distinguish between adjustment and adaptation; distinguish between the biological and the sociological meanings of adaptation.)

Evaluation - Is this a true story? How could it be varified? Is this an accurate picture of Indian ways of living at that time? How do we know? (Discuss the methods of the historian, primary and secondary sources. Discuss the methods of investigation used by anthropologists and find out some of the kinds of information children already know.)

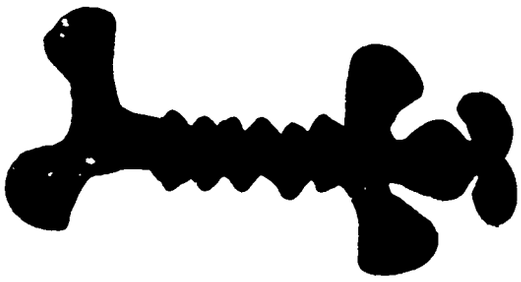
Divergent Thinking - What are you curious about that the story did not tell? (Record ideas from group.)

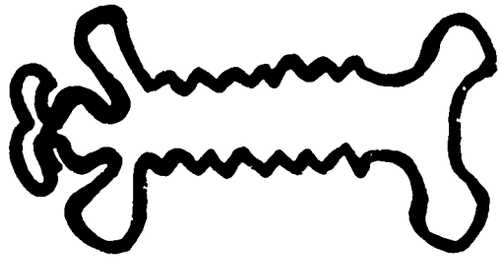
Activities to Follow: Depending upon the extent to which the teacher has realized the objectives of the initiation phase of the unit, follow-up activities may be introduced, as needed.

- Reread the story for cues or evidence of the way Juana's people lived. List your ideas in one of two columns: What We Think, What We Know or
- Make a picture or diarama of the site where the lost woman lived on San Nicolas Island or
- Select appropriate scenes from the story for dramatization. Divide into groups and present the favorite scenes.
- Assume you are one of Captain Nidever's men. You dislike all Indians. Write a paragraph describing the lost woman's home site.

Teacher's Critique

The teacher will evaluate each lesson in terms of the original objectives for initiation of the unit. Do I have a general idea of the range of information children already have? Have I spotted the children with special interest in current events, social problems, social or empathetic talent? Have I spotted the pupils with obvious special needs in motivation and/or study skills? Do I know enough about the class and the content to proceed? Are most of the students eager to pursue this topic? Have I recorded the immediate questions which have stimulated this interest? What did we try that fell flat and should be avoided - at least for the present?



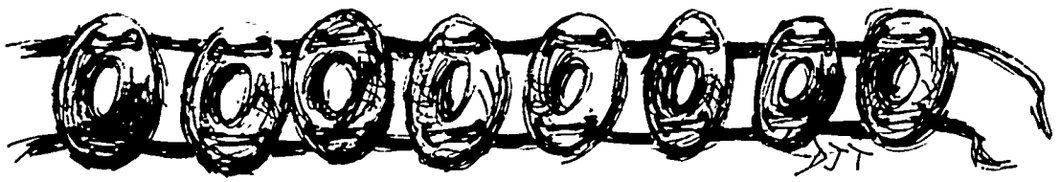


CONTENT AND TECHNIQUES

The main part of this resource guide is a series of studies which direct the students toward the major theme of the anthropologist: Cultures evolve from the interaction of people with their environment.

The column headed problems states a question around which a variety of activities can be organized. Some teachers are skilled in eliciting questions from the students; these teachers may want students to formulate the major study questions. For the most part the questions suggested in the first column represent one possible arrangement of the content. Usually the teacher will want to design a sequence of discussion questions to develop the ideas implied in each of these problems. The second column, concepts and terms, includes both the specialized vocabulary the children will need in the study of this particular culture, but also those labels which identify classes of things or ideas generally known to anthropologists. The third column, techniques, offers some possible approaches with a class and some of the activities which have the potential for students to begin to understand the processes and the language of anthropology.

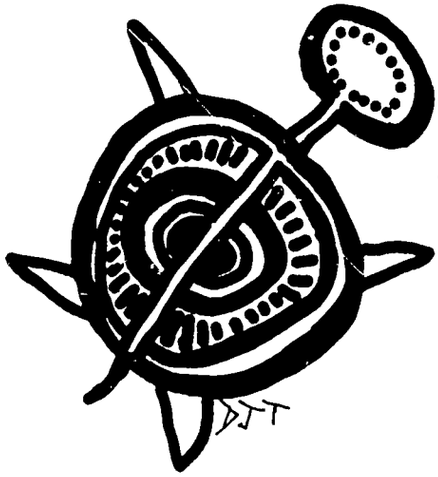
Across the page the fourth column, headed intellectual process, again represents an opportunity for the teacher to consciously plan and direct the thinking operations of most students to higher levels than might be attained by incidental or undirected approaches. Children who perform only in memory-convergent tasks can be identified and encouraged in cognitive-divergent activities. In column five, resource or assignment, the books, films, or study prints which are relevant to a particular topic are listed. These sources to be read and other possible assignments will need to be selected according to the reading competence and the independence in study habits the different members of the class have attained. No distinction was made in this resource unit between teacher's and children's references (Bibliography). Special classes at fourth grade level have been found to include children who can read all of these sources with confidence and competence. The material was examined for suitability in elementary schools. Column six, teacher critique, includes the kinds of questions the teacher will ask himself when a lesson is finished.



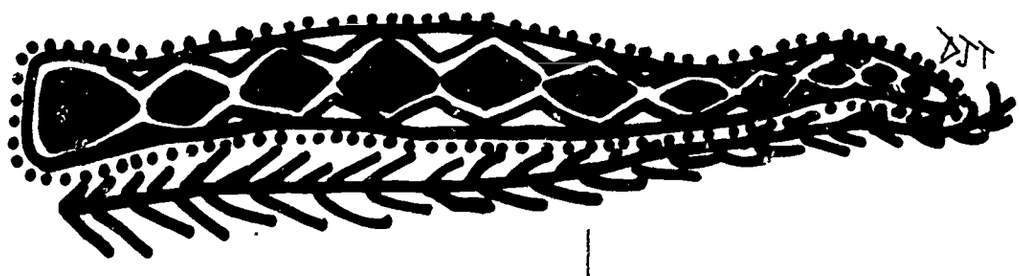
PROBLEM	CONCEPTS & TERMS	TECHNIQUES
Why do we study people? Man?	human humanity	Discuss the necessity for making decisions, the fun of exploring new places and discovering new knowledge, the difficulty in studying people.
What activities set man apart from other creatures?	communication language society philosophy art & literature	Tabulate activities which provide necessities (prepare food) in one column and activities which provide nicities (play musical instruments) in another column. Add a third column for areas of disagreement (form governments.)
How many ways can we approach the study of man?	history geography economics sociology political science anthropology social science	Discuss what students remember about the content of history and geography -- lead into other branches of social science.
How does the anthropologist work?	observation (over an extended period of time) participation (in the group)	Study pictures of excavations. Discuss various approaches to the study of anthropology. Compare geography and anthropology. Consider what can be learned about a group of people by living among them.

INTELLECTUAL PROCESS	RESOURCE OR ASSIGNMENT	TEACHER CRITIQUE
Cognition Divergent thinking	Bartlett, The Study of Society	Which children showed particular interest in the discussion of social questions? Who participated?
Cognition Memory Evaluation	Read, "The Talking Dog" by Henry R. Fea Appendix B	Did pupils identify the theme of the story? -- Man is part of the human family and should not identify with the animal world. Did each realize he did not need to agree with the author? The teacher? The class?
Memory Cognition Divergent thinking	Grant, Rock Paintings Of The Chumash, pp. vii-ix, 24-28	List the branches of social science that were named by students. Note whether any was discussed at the cognitive level -- e.g. Which of these terms were understood as laymen might use them? Specialists?
Memory Cognition Convergent thinking	Curtis, Arroyo Sequoit Bartlett, The Study of Society, Pp. 272-327	Did students understand that anthropologists study groups of people living today?

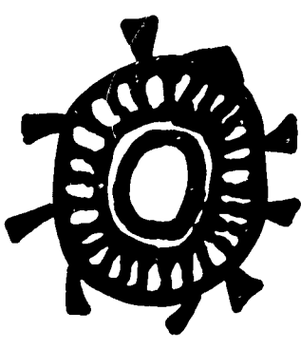
PROBLEM	CONCEPTS & TERMS	TECHNIQUES
What determines where people settle?	geographical features terrain climate vegetation (flora) animal life (fauna) marine life	Discuss why the students' families came to this community. Ask how this valley (area) looked 200 years ago? Paint the background of a mural to be continued as the unit progresses.
Where might the native Indian tribes have lived in ancient times?	natural barriers	Locate rivers, desert, mountains. Consider needs: possible sources of food, shelter from weather, protection from enemies.
Where did the Chumash Indians live?	hunters and fishermen food gatherers semi-nomads semi-permanent settlers	Study physical maps of the Chumash region (tri-county.) Speculate on the stability of habitat; on the level of development of the Chumash. List possible types of social organization, arrange in sequence. (Class may not name these, may include others. Reserve judgment.)



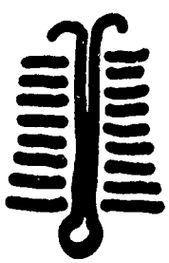
INTELLECTUAL PROCESS	RESOURCE OR ASSIGNMENT	TEACHER CRITIQUE
Memory	Reference reading: native flora and fauna.	Record any leads for local resource personnel within parent group.
Divergent thinking Evaluation	Compile a list of plants and animals you consider edible which were found in the locale 250 years ago.	Do children already know which vegetation is natural? Whether animal life has become more or less abundant now? Marine life? Do pupils new to the locale need further study?
Divergent thinking	On an outline map of your county locate a mythical Indian tribe. Write a paragraph speculating how they obtained and prepared food.	How well did students relate past knowledge of Indian life to the new problem? How accurate are their concepts about American Indians? Note misconceptions.
Cognition	Grant, Rock Paintings Of The Chumash, Pp. 3-7	Was pupil interest in the topic extended; freedom to speculate utilized, which students participated?
Divergent thinking	Map - "Land of the Chumash", Appendix C	
Divergent thinking		

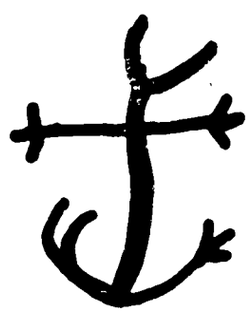


PROBLEM	CONCEPTS & TERMS	TECHNIQUES
How do we acquire knowledge about primitive cultures?	culture language artifacts glyphs legends historical records	Discuss the meaning, evidence of culture. Review the meaning of primary, secondary sources in history. Read diaries and discuss when they were written, authenticity, accuracy.
How did the anthropologist acquire his knowledge about the Chumash?	ethnological record archeological record cultural anthropologists anthropological linguists archeologists	Invite an anthropologist from a nearby college to talk to the class. Read diaries and discuss when they were written Start a time line to be continued throughout the unit.
What tools did the Chumash Indians have to obtain their food and prepare it?	ethnological record archeological record	Discuss the anthropological findings described in resource material. Hear and discuss diary descriptions of tools. Exhibit a traveling collection of Chumash tools. Display and discuss study prints of tools, or visit a local museum or collector.

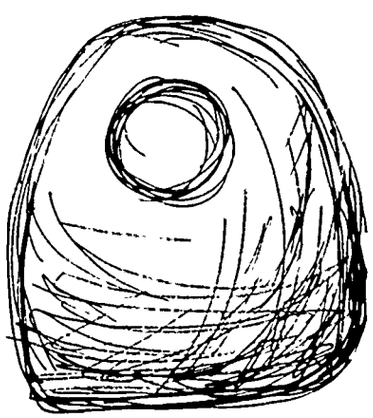


INTELLECTUAL PROCESS	RESOURCE OR ASSIGNMENT	TEACHER CRITIQUE
Cognition Memory Evaluation	Grant, Rock Paintings Of The Chumash, Pp. 8-12 Heizer, The California Indians, Pp. 176-194 Lovelace, What Cabrillo Found Pp. 126-152 University of Calif., Academy of Pacific Coast History, Pp. 185, 193, 203 (Vol. 2) Fages, A Historical, Political, & Natural Description of California	Which books are within the reading abilities of which students? Did students understand the contributions of history to present studies of past culture?
Cognition Memory Evaluation	Heizer, The California Indians, Pp. 176-194 Keesing, Cultural Anthropology, Pp. 1-9, 46	Did all students arrive at concept of "anthropology" as a scientific approach to social questions?
Cognition Memory	Grant, Rock Paintings Of The Chumash, Pp. 47-58 Curtis, Arroyo Sequoit Ewell, Chumash Indians Exhibit: E 70 * Film: M 635 Study Print: SP 646	Do students distinguish between "what is known" and "what is inferred"?

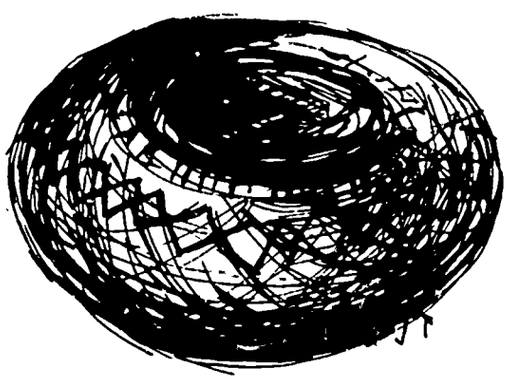




*Exhibits, Films, & Study Prints are available from Educational Service Center, Audio-Visual Library, Santa Barbara County Schools

PROBLEM	CONCEPTS & TERMS	TECHNIQUE
How did the Indians adapt their diet to available food? 	adjust adapt	Review the geographical characteristics of the area in which the Indians lived. Discuss how the Indians could eat and survive, and how they could survive in the same area in which some pioneers starved to death. Prepare a display of the food in the area. Read diaries describing what the Indians ate.
Could the Indians obtain all edible plants and animals found in the area with the tools they had developed?	basket mortar and pestal water baskets carrying baskets oak bowls steatite bowls parching tray flint knife cooking slab	Review the food list that was compiled earlier. Check each item that could be obtained and consumed without tools or preparation. Label other items with the specific tools that were known to be used in securing or preparing food.
How complete is our knowledge of the Chumash diet? 	evidence inference radiocarbon method (of dating)	Compare the historical and anthropological remains of the Chumash culture. Cite the reasons discrepancies in historical accounts exist; why there are gaps in anthropologist's knowledge of the Chumash. Discuss the advantages shared by nineteenth century investigators. Compare with advantages shared by twentieth century investigators; accumulation of knowledge, new scientific techniques.

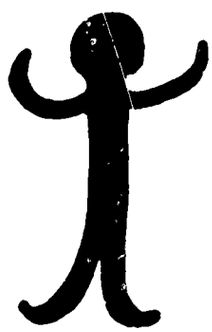
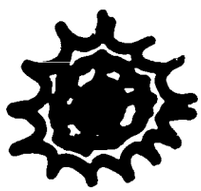
INTELLECTUAL PROCESS	RESOURCE OR ASSIGNMENT	TEACHER CRITIQUE
Memory	Orr, Customs of the Canalino, P. 56	Did students understand the necessity for preoccupation with food supply?
Convergent thinking	Curtis, Arroyo Sequoit Baity, Americans Before Columbus, P. 153	Were these experiences adequate to gain an understanding of the arduous tasks involved in obtaining basic necessities?
Memory Cognition	U. C., Academy of Pacific Coast History, Vol. 2, Pp. 185, 193, 203 Bolton, Anza's California Expeditions, Vol. 1, Pp. 357-366	Would class time have been more profitably spent in involving students in the processes of basket making or acorn meal preparation?
Memory Convergent thinking Evaluation	Study Prints; SP 644 & 645 Grant, Rock Paintings Of The Chumash, Pp. 68-91 Appendix F	Were students able to generalize that stone implements are less likely to deteriorate underground than are fiberous materials--that some artifacts may not have survived?
Evaluation	Grant, Rock Paintings Of The Chumash, Pp. 68-91 Appendix F	Do students appreciate the function of inference in the scientific reconstruction of past cultures.



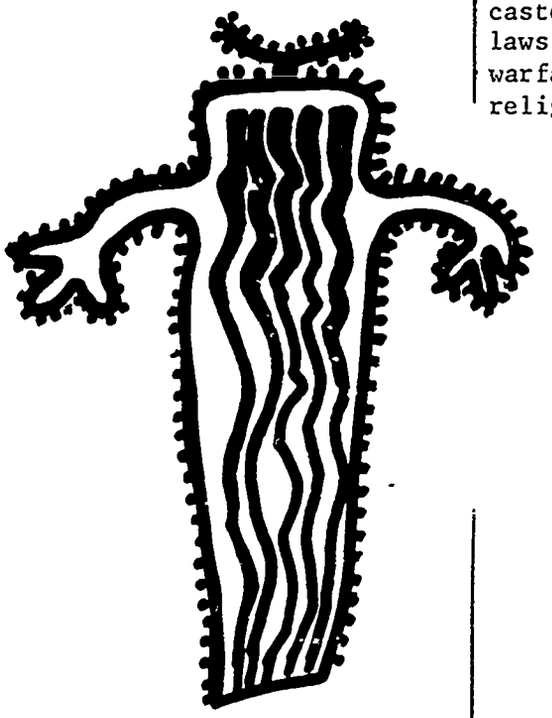
PROBLEM	CONCEPTS & TERMS	TECHNIQUE
How did the Indians construct their houses and what did they use for materials? 	architecture tule carrizo thatch whalebone	Discuss the raw materials found in the Santa Barbara area. Consider what types of materials the Indians might have used to make their houses; how guesses might be varified. Consult resources and identify discrepancies about Chumash homes. List resources on housing and evaluate each for authenticity.
How could the Indians survive without imported material or modern tools?	forage	Discuss the actual construction of the houses based upon your reading and your knowledge of the raw materials, available to the Indians. Design a shelter (home) from the material in your locale, 200 years ago. Keep in mind the tools you have.
What were some standard accessories within each house? 	artifact comal mano	Discuss and list the activities which would need to be conducted in a Chumash home, the actual items common to each household. Construct a diarama to show the interior of model house. Paint the buildings in a Chumash village on the mural which was begun earlier.

INTELLECTUAL PROCESS	RESOURCE OR ASSIGNMENT	TEACHER CRITIQUE
Memory Divergent thinking Cognition	Film: M 635 Bolton, Anza's California Expedition, p. 361 Geiger, The Indians of Mission Santa Barbara, Pp. 9-10 Underhill, Indians of Southern California, Pp. 7-10	Have students discovered the importance of belief, opinion, interests of the person who records culture?
Memory Convergent thinking Divergent thinking	Study Prints: SP 647 Orr, Customs of the Canalino, Pp. 53-54	Which students choose and enjoy handiwork? Which show unusual perception or talent in special relationships?
Divergent thinking Cognition Cognition	Geiger, The Indians of Mission Santa Barbara, Pp. 9-10 Underhill, Indians of Southern California, Pp. 7-10	Which students voluntarily check resources to assure accuracy in paintings, designs, or murals?

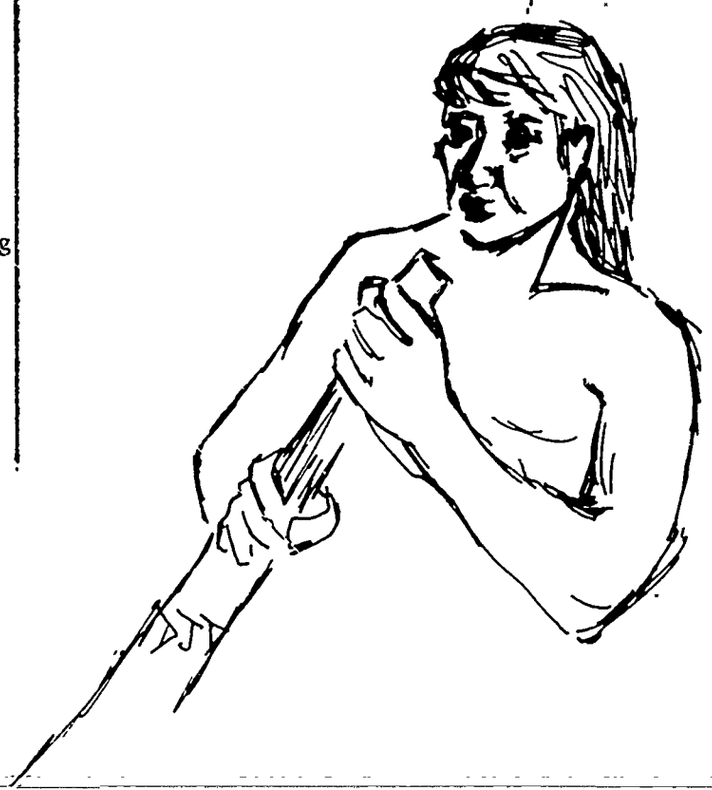
PROBLEM	CONCEPTS & TERMS	TECHNIQUES
How did the people organize their domestic environment?	matriarchy patriarchy	Discuss the regulations regarding families. (Domestic roles of family members.)
Why were the Chumash not a nomadic people?	nomadic potraros	Formulate a list of the foods most likely used, due to the three kinds of evidence: Food available in the area, archaeological findings, ethnological reports. View film on the food of the California Indians and compare with those shown. View study prints of the food of the California Indians.
Why is language important to anthropologists?	linguists	Discuss language as a means of communication, as evidence of interaction between groups.
Where was Chumash spoken?	isolation interaction	Discuss the tribal areas as related to language.

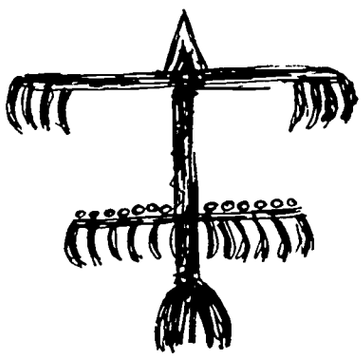
INTELLECTUAL PROCESS	RESOURCE OR ASSIGNMENT	TEACHER CRITIQUE
Cognition	Underhill, Indians of Southern California, Pp. 7-10	Do students relate their own domestic role to the other culture discussions? Is the need for status on the part of other family members recognized?
Memory Convergent thinking	Rogers, Prehistoric Man of the Santa Barbara Coast, Pp. 367-419	Was each student able to formulate this list independently?
Memory	Film: M 636	
Cognition	Study Prints: SP 646	
Cognition Memory Divergent thinking	Heizer, The California Indians, Pp. 88-94 Write a letter to the King describing the area.	Do children apply what they know of the limitations of our scientific records to avoid judgments about the sophistication of the Chumash language.
Cognition Evaluation	Map - "Lands of the Chumash" Appendix C	Do students recognize language patterns as evidence of past migrations?
		

PROBLEM	CONCEPTS & TERMS	TECHNIQUE
Why is little known about the Chumash language?	pictograph rock paintings erosion vandalism	Discuss lack of written language
How does Chumash compare with other languages?	neophyte dialect	Discuss the Chumash language study sheet. Leave space to add any vocabulary encountered through study. Discuss what may be inferred from the relationship among different language groups (from an anthropological point of view.)
How was the culture perpetuated?	customs mores tribal government caste arrangements laws - taxes warfare - weapons religion	Review the elements of culture. Compare this list with Campbell Grant's account of Chumash culture. Discuss the difference between customs and culture, mores and morals. Compare primitive and present ways of training or educating children.

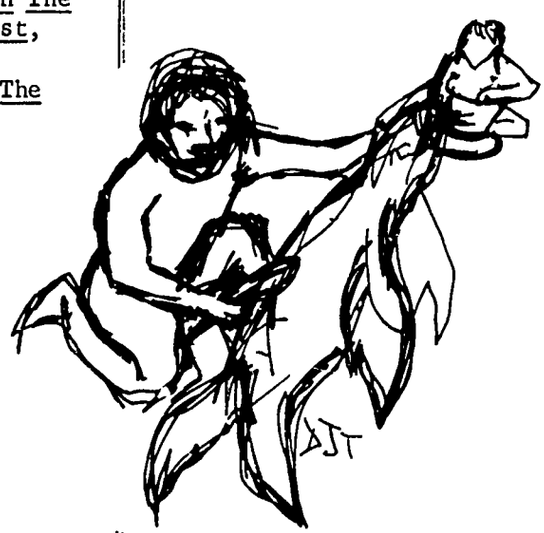


INTELLECTUAL PROCESS	RESOURCE OR ASSIGNMENT	TEACHER CRITIQUE
Convergent thinking	Orr, Customs of the Canalino Pp. 55-56 Grant, Rock Paintings Of The Chumash, Pp. 104-107	Do students value the graphic art of extinct peoples?
Cognition	Add diacritical markings to show pronunciation of Indian words. Heizer, The California Indians Pp. 88-94 Grant, Rock Paintings Of The Chumash, Pp. 59-60	Did students develop interest in linguistics--the science of language?
Divergent thinking	Grant, Rock Paintings Of The Chumash, Pp. 28-73	Can all students tell in their own vocabulary--what is culture?
Memory		
Cognition		
Convergent thinking		



PROBLEM	CONCEPTS & TERMS	TECHNIQUES
How did their religion stablize and perpetuate the Chumash culture? 	shamanism charmstones ceremonials puberty rites toloache cult superstition medicine man medicine tube effigy	Read a story to the class. Discuss the shaman and his duties: relationship between religious and medical functions, sources of power over political heads, lack of differentialtion between natural and supernatural, tendency for shamen and chiefs to preserve the status quo, shaman as artist. Plan an art lesson: 1. Student selects an animal, a plant, or an artifact from the environment of the Chumash. 2. Represent the selection in as many stylized forms as possible, using pastels on gray or black paper.
What kind of entertainment did the Chumash have?	pole and hoop shinny sticks gambling sticks dice bone whistles headdresses	Organize the class into committies, each to make and demonstrate a Chumash game or a musical instrument.

INTELLECTUAL PROCESS	RESOURCE OR ASSIGNMENT	TEACHER CRITIQUE
Cognition	Hoffmann, The Charmstone Falk, Tohi, A Chumash Boy	
Memory Convergent thinking Evaluation	Rogers, Prehistoric Man On The Santa Barbara Coast, Pp. 387-389 Orr, Customs of the Canalino, Pp. 47-50	Did students understand the power of superstition over a people?
Cognition Memory	Orr, Customs of the Canalino, Pp. 54-55 Lovelace, What Cabrillo Found, Pp.150-156 Rogers, Prehistoric Man On The Santa Barbara Coast, Pp. 415-419 Grant, Rock Paintings Of The Chumash, Pp. 39-42	Observe the appeal (or lack of it) that this type of activitity generates in this type of class.

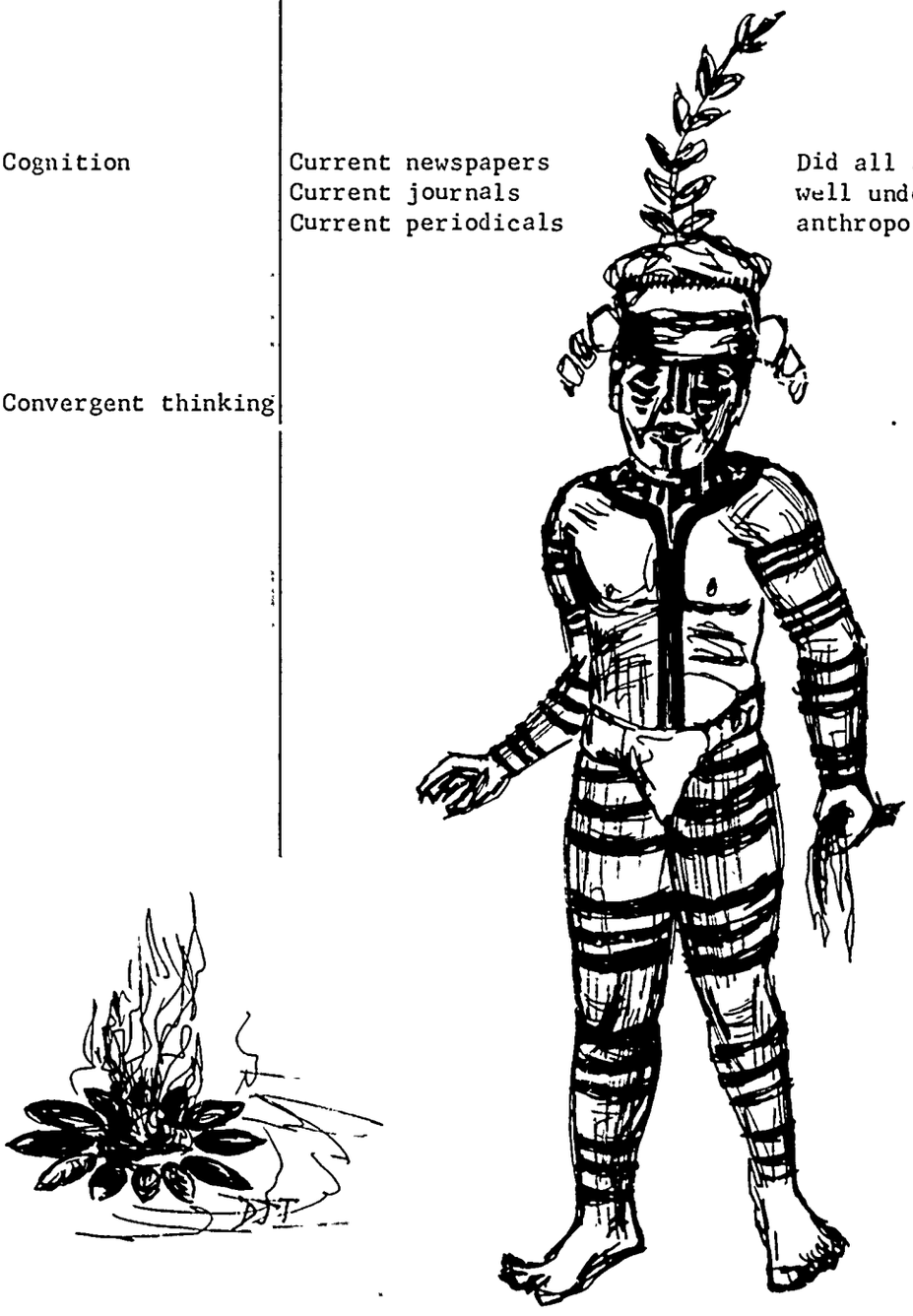


PROBLEM	CONCEPTS & TERMS	TECHNIQUES
What were the burial customs of the Chumash people?	ceremonial pipes	Students prepare and read diaries of burial ceremonies to the rest of the class. Discuss the relationship of burial customs to religious beliefs. Locate and paint the burial grounds on the mural. Discuss the relationship of burial customs and climate; terrain.
How was the community organized?	ruling class crime and punishment weapons	Discuss the number of homes in a village, family organizations to social organizations. Paint the villagers at various activities and add them to your mural.
How did the Chumash react to the influx of other Indians?	trade	Discuss why Indian adventurers were followed by traders.

INTELLECTUAL PROCESS	RESOURCE OR ASSIGNMENT	TEACHER CRITIQUE
Cognition	Rogers, Prehistoric Man On The Santa Barbara Coast, Pp. 376-385	Do students evaluate the sources of their information?
Convergent thinking	Grant, Rock Paintings Of The Chumash, Pp.44-46	Do they discuss strange cultural practices with objectivity and respect?
	Fages, as translated by Priestly, Pp.33-34	
Memory	Bolton, Anza's California Expedition, Chp. XLVIII P. 362	
Memory	Orr, Customs of the Canalino, Pp. 45-46, 50-51	Did students understand the need for community organization, protection of individuals?
Convergent thinking	Grant, Rock Paintings Of The Chumash, Pp. 71-73	Do the children appreciate the function of a common language for communication with contemporary culture; the function of written language for communication with future scholars?

PROBLEM	CONCEPTS & TERMS	TECHNIQUE
How did the Chumash culture fare during the influx of Westerners?	gentile	Read about the mission life of the Chumash. Estimate the population of Chumash tribes at the beginning of the mission period.
Why does so little remain of the Chumash culture?	museum microfilm photography time capsule	Discuss modern attempts to record and preserve culture for future generations. Review the methods of scientific investigation used today by cultural anthropologists; archeologists. Formulate a statement or generalization which defines the central concern of the anthropologist.

INTELLECTUAL PROCESS	RESOURCE OR ASSIGNMENT	TEACHER CRITIQUE
Cognition Evaluation	Heizer, The California Indian, Pp. 465-474 Geiger, The Indians of Mission Santa Barbara, Pp. 40-43 Lovelace, What Cabrillo Found, Pp. 151-154	Did students raise issues concerning the appropriateness of Western indoctrinations?
Cognition Convergent thinking	Current newspapers Current journals Current periodicals	Did all students arrive at a well understood delineation of anthropology as a social science?



Teacher's Notes

EVALUATION

The most important evaluation of what students learn from a unit of study is observed by the teacher as the daily work progresses. Evidence is seen of what the children are learning about anthropologists (how they explore human groups), culture (how it evolves), environment (how it consists of geography, history, and society). When the class--meaning most of the individual students--understand and use these terms in written and oral discussion, the teacher chooses or devises an opportunity to establish the relationships between these terms as the anthropologist conceives them. In other words, the teacher elicites the major generalization--the students' own statement of the relationship between the concepts under study. As indicated in the objectives, the teacher will seek closure of the major theme of the unit: Anthropology is the study of Man; how his culture evolved through interaction with his environment.

Culminating Activities

During the last phase of the unit different kinds of activities are planned to help students review and relate what has been learned. The intellectual content in the memory and cognition categories is easily checked with teacher devised tests. The children's ability to think convergently can be observed during the discussions when information is summarized, when conclusions are drawn, and when generalizations are formulated.

Evaluation is inherent in all culminating discussions, both as a technique for the teacher and as a thought operation for the students. The teacher may want to contrive a "dig" by burying broken or used artifacts from his own or some other contemporary culture. How the students plan the excavation and the conclusions they draw from their "find" will indicate what has been learned about methods of investigation in anthropology. One class may prepare a dig for the next class anticipating the procedure of investigation as they select the materials and arrange the problems.

An appraisal of each child's progress as a divergent thinker requires that each have the opportunity for some form of creative production near the end of the period of study. Painting a mural or producing a puppet show are examples of activities which provide for creative thinking. Evaluation of creative production is difficult for the teacher because outcome cannot be fully arranged in advance and because the operation is unique by definition. The student himself holds the answer book; the teacher must observe and reinforce his worthy efforts.

Changes in attitude, listed in the objectives as affective content, are difficult to observe if the teacher's goal is change in each student. One feasible device is a check list which contains the names of class members and a column to cover each of the goals: (1) attention to cultural forms, (2) enjoyment of arts, (3) appreciation of the written language as a heritage, (4) preference for authentic and scholarly resources, and (5) judgmental revisions based on new evidence.

Puppets and Marionettes

Most children in special classes acquire the information and the concepts of a unit very rapidly and largely through their own reading. They have time, interest, independence, and ability to plan and conduct procedures which check or test information. Also they have the talent to express the attitudes and values they gain through writing, music, and art. Puppetry meets the childrens' need for a tangible product. They learn to write dialogue, to project a character, to paint backdrops, and to cooperate in a project that one student cannot accomplish along.

Two fourth grade classes in the Lompoc Demonstration Center culminated their studies of historic and modern California with puppet shows. Mrs. Dorothy Wagner's group called themselves the "Many Marionettes Company". Every pupil made a marionette and was assigned to a committee that wrote its own script, prepared its own backdrop, taped its own musical background, and staged one of seven acts. The script ran 23 pages, in addition to songs and dances. The culmination project took about two weeks, besides the additional performances the group was asked to perform. Mrs. Wagner was able to evaluate her students on creative production and on the growth in affective goals: attitudes, appreciations, preferences and judgments.

Their first act depicted life in a Chumash Indian village. These selections reveal the children's understanding of how boys and girls were taught.

Little Fawn: I would like to know how to make arrows.

White Stag: Before we hunt I will give you a short lesson on arrow making. It is a long hard job but one every Indian boy must learn. Let me tell you what you will need. You will need a branch of a tree--straight and strong. Our best arrows are made of obsidian.

Little Fawn: See, I have a piece of black obsidian. Grandfather gave it to me for my first arrow.

White Stag: You are lucky. Tomorrow come to me with a piece of deer antler and strong rock that fits snugly to the ground.

Little Fawn: What will we do with these things?

White Stag: The antler is used to chip away at the arrow until it is pointed and sharp.

Little Fawn: How do I get the feathers for my bow and arrow?

White Stag: Look for the feathers of an eagle. You will need the wing feathers. When I teach you how to fasten your sharp arrow to the shaft then I will also show you how to fasten your eagle feathers to the shaft.

Little Fawn: Now tell me how to make the bow.

White Stag: My young friend you want to learn everything in one lesson. We will talk about the art of making the bow another time.

***

High Water: We have gathered many acorns here. There are not many left. Mother, I see some acorns over there. They are bigger than the ones here. May I go over there?

Mother: Oh, no, you must not go over there. That is not our tribe's land. We must stay on our own property. No Indian ever trespasses on another Indian's property. Young daughter, we must always respect that right.

High Water: Let us sit right here and grind some acorns into meal for our supper. When we have ground some you may take it to the water to leach it. Why do we leach the acorn meal, Mother?

Mother: We leach it to get the strong taste of tannin out of the meal.

Blue River: Leaching is hard work, Mother, specially when it has to be done so often.

High Water: Mother, what shall we do with all of the acorns that we don't use?

Mother: We will take them with us and store them so that we don't run out of acorns next winter.

Blue River: I will start cooking now.

Mother: Go get the cooking basket I covered with fresh tar yesterday. Mix the acorn meal with water, pat it into little cakes and lay them on the hot stones to bake.

High Water: Yes, but what should I do with the tar-covered basket?

Mother: Fill it with water and then get some of the fish that haven't been smoked. Put the fish in the water and then drop hot stones into the basket until the water boils.

High Water: We'll let the fish cook until the men come home from the hunt. When they get here we will eat.

Mother: Fine, we'll make baskets while we wait. Get some more of the long thuie straws, about this long.

(They sit and weave.)

Blue River: Why do we put the designs on the baskets?

Mother: So they look pretty.

High Water: Where do we get the colors that we put into the designs?

Mother: We gather many things that have color--berries, seeds, bark, and even mud.

High Water: Why do we make so many different sizes and shapes of baskets?

Blue River: I know the answer to that one. Let me tell her, Mother. The long, thin, pointed baskets are for leaching the acorn meal, and of course we have the cooking baskets that are covered with tar.

In the second act the players discuss the changes affected by mission life. They reveal their own understanding of the protective attitude of the priests, the goals of the Spanish government, and the complaints of the Indians.

Portola: Father Serrs, do you plan to give the wine to the Indians?

Father Serra: No, Portola, NO NO. We need some wine for our church ceremonies but most of it will go back to Mexico. It will bring in some money to be sent back to our Mother Country of Spain. The King wishes for us to make him some money.

Portola: Yes, Father, and it is surely true that the Indians of California are not rich like the Aztecs and Incas of South America.

Father Serra: True, true, Portola, they have nothing but a few shells and some acorns.

Portola: The King of Spain would not welcome a shipload of those. Tell me, Father, have many Indians come into the mission?

Father Serra: They come one by one but they are peaceful and eager to learn.

Portola: Do you feel that you will need some of my soldiers stationed here at the Mission?

Father Serra: If conditions remain as they are we would not need them, but we know that other Spaniards have been attacked by Indians and I would feel safer if we had a few soldiers stationed here. We have fixed up some fairly comfortable quarters for soldiers and one fine room for you, Governor Portola.

Portola: Fine, fine --

Father Serra: Yes, your room is our finest. It has a window with parchment, a bed with a cowhide blanket, chests, and your own fireplace. I'm sure you will find it very comfortable.

Portola: I see that you scarcely limp Father Serra. Is your leg recovered?

Father Serra: Yes, it is much better. Pedro helped me to heal it. That Pedro can do anything.

Portola: Good, Pedro must be a fine boy.

Father Serra: He is very smart--he is helping us to learn the Indian language and he learns Spanish very easily.

Portola: Let's go see this Indian Pedro of yours.

***

Indian girl: Pedro, since the Padres came we have no time for ceremonies. I get tired of working all the time and all of these clothes. They are so hot and so heavy. Do you think we should have to wear them?

Indian boy: Yes, Nina, I think we were better off when we were free to wander and hunt and look for acorns I do not like these clothes either, but the Padres say we must cover our bodies. When I want to work the shirt gets in my way.

Indian girl: And the Padres will not let us look for shells to make beads and pretty things--they say those things are foolish and sinful.

Indian boy: Many of our tribe have died from white man's diseases. Our gods did not give us those diseases and besides the Padres will not let our "magic" cure the diseases. They try their own magic and it does not work. All they think about is work.

Father Serra: Nina! Pedro! What are you talking about?

Indian boy: Oh, nothing, Father.

Father Serra: That was a lot of chatter for nothing. Nina, my child, it is sinful to waste God's valuable time. God wants to see the work of our hands.

Boy & girl: Work, work, work, work, nothing but work. (At the side.)

Boy & girl: (Looking at Father Serra) Yes, Father!

Father Serra: Pedro, we need new piata. You must make it very strong. We have to break the donkey in the corral.

Indian boy: Father, what does break mean?

Father Serra: It means to make him tame so we can ride him and so he will carry loads for us. Nina, get some grain. You know we must prepare corn meal for your supper. (Nina goes out.)

Summary

A procedure for curriculum development was devised which (1) oriented gifted children to the content and method of a particular social science, anthropology; (2) extended the opportunity for intellectual growth through the use of a theoretical construct, Guilford's operations; and (3) provided examples of materials and activities which challenged gifted students and enabled them to organize standards of documentation.

When this topic, Chumash Indians, was taught in special classes three teachers selected most of the activities in the study sequence and adapted them to their own programs. Even in fourth grade some pupils did not reach a ceiling in the difficulty level of the reading materials. These teachers reported that all pupils learned the nature of the anthropologist's work and became interested in the evidence of Chumash culture.

The conscious use of a theoretical structure to plan learning activities was successful for both classroom and student teachers. One teacher extended the Guilford operations to other curriculum areas. Another teacher reported that her class developed what she called "thinking power" to an extent she had not experienced previously in gifted groups.

A professional marionette company visited two of the schools. Marionette productions were used in two classes to culminate the unit. One group made marionettes of paper mache and folded newspapers. Another class made the wood dowling version of marionettes designed by Emily Greene, special consultant to the project. Children wrote their own scripts, designed and painted backdrops, produced audio tapes and composed their own songs for puppet dancers.

Unusual insights were revealed in the scripts children wrote. In one dialogue between two Mission Indians they complained about the lack of time for dancing and walks in the forest; they complained about the long hours they worked to make clothes that were uncomfortable to wear. All of the special classes spent the usual block of time to study prehistoric California, but all achieved depth in content and creative production beyond expectations for regular classes.

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APPENDIX A

JUANA BETTER THAN NOTHING - THE LOST WOMAN OF SAN NICOLAS *

My first visit to San Nicolas was inspired by read[illegible]ld Captain Nidever's account of the "lost woman" who, having been deserted, lived there alone for twenty years. She died back in the fifties; but Nidever's account of her hut and her life illumined the wind-swept island with a gleam of romance and pathos, to me at least, and I made three trips in all to it. But the winds, the human devastators-the curio-hunters, the otter-exterminators, and others,- and mostly the flying sand, had doubtless long ago wiped out the evidences of her occupation.

In the museum of the Vatican is exhibited, or was a few years, ago, a singular suit of pelican and gull skins about which a tale, true and affecting, has been woven. It was sent to Rome by one of the Mission Fathers on the Pacific Coast as being related to the attempts to Christianize the natives of that coast. According to Nidever, one of the old and respected sea captains of Santa Barbara, the Mexican Government decided to remove the inhabitants of San Nicolas Island to the mainland, doubtless to better their condition, as they were being decimated by warlike tribes from the northwest, and to give them the consolation of religion.

The vessel sent out for them was a small schooner named the BETTER THAN NOTHING, under the command of Captain Sparks, an otter-hunter, who knew the Channel Islands well. The BETTER THAN NOTHING crew, and doubtless Mexican soldiers from the mission, rounded up the San Nicolanos, and the vessel was about to sail, when a woman began to cry that she had left her child, a baby, ashore in the hurry. There were several versions of this. Some say that the skipper of the BETTER THAN NOTHING deliberately sailed off; others that it was blowing so hard that he was obliged to put out to sea. I can well understand this, as a worse place to land a boat, or to lie, does not exist than the spit at San Nicolas.

The poor woman protested that she must return, but her language possibly was not understood, and as the anchor was being lifted, and she realized that her infant was to be deserted, she drew back and they left without her. One story has it that she went aboard the vessel and later leaped overboard. Be this as it may, she was left - though she ran back secured the child, and hurried down to the beach, crying, "MANEQUAUNA"; but they did not understand her, and sailed.

There is no doubt that Captain Sparks intended to return; but after the seven or eight San Nicolanos had been landed at Santa Barbara, the schooner sailed for San Francisco and was lost. Time went by, months merged into years, and the lost woman of San Nicolas became lost in reality. The story became a legend. The woman at first must have been nearly crazed at being deserted. After this came a revulsion of feeling, and she must have avoided the otter-hunters who went there, an easy matter to do on an island so large as San Nicolas. Some one must have seen the woman, or her house, at some time in 1850, or thereabouts, Padre Gonzales

of the Mission of Santa Barbara requested Captain Nidever to go to the island and search for the woman.

Captain Nidever made three trips and searched the island from end to end, but failed to find the woman. On the third trip, still urged by the good padre, he took several Santa Barbarenos, a number of Indians, and Mr. Charles Brown, or Carl Ditman, as he was also known. Some years ago Mr. D. W. Thompson, of Santa Barbara, wishing to obtain the exact facts in the case, visited Brown, then a very old man, with a stenographer and took down his statement.

Captain Nidever was positive that the woman was eluding them; so on the third trip he started at the southeast end, at the spit, and arranged his men in a line, several hundred feet apart, but all in speaking distance, and at the word of command they marched slowly forward scrutinizing every foot of the island, with the result that they suddenly came upon the hut of the woman. The statement of Brown is as follows:

> "I went round the head of the island and found traces of the woman; went back and told the old gentleman that the woman was alive. He said it must be some of our Indians. I said, 'Our Indians have got bigger tracks than that.' He said, 'Well, if you think she is alive, let us hunt for her, and take all the men ashore.' We went up to the head of the island. There was a kind of hill in the middle. I put my Indians a couple of hundred yards apart. I did not know what kind of woman she was, thought she might bite or scratch. We went from one side of the island to the other, and could not see the hill, and she was sitting on the side of the hill watching us. When we got across to the Indians, I said, 'There's nothing here, let's go back.' There was a basket and some feathers. She catched shags and had a coat made without sleeves, nicely covered with sealskin. I said to the Indians, 'You go to the hill and scatter the feathers and things in the basket, and if she is alive she will find them.' The same day we found them all gathered up and put in the basket."

On the following morning Brown persistently continued the hunt. Toiling up the hill, when he was about half-way up he caught sight of her. She was carrying something heavy, and rested at intervals as she ascended. Presently he came in sight of "three huts made out of whale bone." Perceiving that here was the woman of whom he was in search, he raised his gun with his hat on it as a signal to the Indians to join him hastily, as he did not know but she might "bite or scratch." He thus continues his narration:

> "She had a brush fence, about two feet high, to break the wind, and right in front of me she sat facing me. The sun was coming in her face. She was skinning a seal before I came up to her. The dog, when he noticed me, began to growl. Thinking she might run I stepped round her, and she bowed as if she knew me before, and when the Indians came up they all kneeled."

The poor creature, when she saw beings of her own color and race, "held out some of her food" to them. She exhibited no fear, and at a

sign went without demur with her captors, if such they can be called, though she afterwards gave them to understand that she would not have joined them if they had not found all her primitive belongings. "I took everything she had," he says, "and she took a big seal head in her basket, and that was all."

The Nidever-Brown party remained at the island a month, and while they could not understand the woman (nor could the Indians), they obtained a fair idea of her life alone for twenty years or more on windswept San Nicolas. She had abundant food to eat in the abalones, fish, and all the shell fish eaten by natives. She built herself a house or home by standing whales' ribs in the sand, covering the top with brush. She was skillful in weaving from grass fibre, and made baskets from it. Of course she had a selection from thousands of mortars and pestles made by her people for thousands of years, which were strewn over the sands - and in diminished numbers are occasionally to be seen today. There were dogs on the island, and she had their companionship. She killed seals at night by stealing up to them and striking them with stones. From them she made sinew fish lines, and from abalone shells she manufactured hooks after the fashion of her people; first forming a round piece of shell, boring a hole in it and breaking a piece out, leaving a hook. Certain roots found on the island constituted a food. She was skillful in catching birds; and doubtless in the long time she became hardened to the life and suspicious of the otter-hunters; hence she hid from them when they landed.

As soon as she was captured, she adapted herself to their way of living and played about like a child. Brown says she was very tenderhearted and built a screen for a young otter so that the sun would not injure its eyes. She was alarmed at the rough weather on the way across the channel and tried to tell the sailors to appeal to the wind gods to reduce the sea, or something of the kind. Captain Brown said she recognized all the islands and had names for them.

When they landed at Santa Barbara she displayed much fear at men on horseback, and when she saw cattle she fell upon her knees. They assumed that she had been born on San Nicolas, and had never been away from the island, or even heard of the Spaniards. All her relatives had been taken to San Pedro, where all had pined away and died years before; hence she could not speak to any one, and while the padres of the mission summoned Indians from all the adjacent missions none could be found who could understand anything she said, and the only native word uttered by her that is remembered was "MANEQUAUNA"; what it meant no one could tell. An old woman who had been raised on one of the islands was at last found who could guess at the meaning of some of the strange words used by the woman; but nearly all her requests were made by signs. She was taken to the Mission of Santa Barbara and christened Juana Maria; to this the crew of the schooner added "Better than Nothing," and by that name she was known.

Captain Nidever cared for her, and she appeared perfectly happy. She had a childlike nature, and spent much of her time going around in the evenings with Mexicans from house to house, dancing. So fond of this pastime was she that she danced, according to Nidever, when any one went to see her. So much of a curiosity was the "Lost Woman" that Captain Nidever was offered a large sum to let her become part of a show. But the old Captain refused; he purposed that she should be happy the remainder

of her life, and to his credit, be it said, she was. He fed and clothed her.

They estimated that she was about forty-five years of age when they found her. The new food she was obliged to eat at Santa Barbara did not agree with her, and in about six weeks she was taken sick, and died. Captain Nidever gave the padres her dresses of bird skins, her awls, wooden knife, lines, and grass bottles; the bird skin dresses were sent to the Pope with an account of her life.

On the east end of San Nicolas I found on my first visit a number of whale ribs thrust into the sand, which may have been left there by any of the collectors who visited the island since the time of Juana Maria. As I roamed along the shore, which was carved into extraordinary shapes by the wind, I could not divest my mind of the pathetic picture of this lone woman on San Nicolas; and as the wind howled and hissed through the rigging at night I could understand how the lone Basque herder believed that it was the protesting voices of the dead, of men murdered by warring men from the north, of women deserted and forlorn.

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* Campbell Grant refers to the schooner as Poer es Nada or "Worse Than Nothing". See his account of Juana Maria in Rock Paintings of the Chumash, Appendix A. Pp. 129-132.

APPENDIX B

THE TALKING DOG

Henry R. Fea

Hugo was on his way home from school when he met the man. Sadsack was with him. Hugo was a hungry boy. He looked into all of the store windows as he went along and wondered what he should buy with his fifty cents. He wanted something good and filling. Sadsack looked into all the garbage cans as he went along. Sadsack was a hungry bull terrier. He wanted something good and filling.

The man was standing in an alley off of Pine Street. He raised his hand and waved to Hugo. Hugo went over. Sadsack went along.

"Look, Bud," the man said to Hugo. "Would you like that your dog could talk?"

"Sadsack can talk," Hugo told him. "Speak! Sack," he said.

Sadsack sat up and barked.

"There!" Hugo said to the man.

"No, I mean really talk, use words and stuff," the man said, "Work out your arithmetic problems for you and read your homework to you."

Hugo laughed. "Dogs can't do that," he said. He started to walk away.

"No, I mean it," the man said. He looked up and down the street, then he lowered his voice. "I got some pills here, guaranteed to make any dog talk," he said.

Hugo did not say anything. With his fingers he turned his fifty-cent piece over and over in his pocket.

"How much money you got?" the man asked.

"Fifty cents," Hugo told him.

"Look," the man said. "It so happens that I like you, see? And I'm going to let you have this box of pills cheap. I'm going to let you have this box of pills for just fifty cents."

Hugo did not want the pills but he did not like to hurt the man's feelings so he gave the man his fifty cents and took the box of pills. He did not really think they would make Sadsack talk.

He ran down the street until he turned the corner and got onto the vacant lot next to Murphy's Hardware. Then he stopped and opened the box. The pills were round and red. There were ten of them. Sadsack was whining and chewing at the leg of Hugo's pants. Hugo was sure Sadsack wanted to

see what Hugo was looking at.

"O.K.," said Hugo. "I bet they're not good, but we'll see." He held one of the pills above Sadsack. Sadsack sat up and begged. "Catch!" Hugo said. He placed the pill on Sadsack's nose.

Sadsack knew what to do. He tossed his nose, and the pill flew up in the air. When it came down Sadsack caught it in his teeth and ate it. He made a face.

Hugo laughed. "Guess it didn't taste very good, huh Sack?" he said. "I'll race you home," he yelled to Sadsack.

Hugo almost won. Sadsack did not catch up with him until almost to the gate.

It was bedtime that night when it happened. Hugo's favorite television program was over. He was supposed to go to bed when it finished, but the show that came after it seemed so good he wanted to sit up and see it, too.

Hugo looked across to where his mother sat reading. "How's about me staying to see this one?" he said.

His mother looked over her book and her eyes were stern. She didn't say anything, but Hugo nearly always went when she looked like that.

"Aw, gee!" Hugo said. He got up very slowly. Then he went to the back door to put Sadsack out for a run. Hugo grumbled all the way to the back door. "Come on, Sack," he said.

"Aw, gee! Do I HAVE'TA!" someone said. The voice seemed to come from behind Hugo. Hugo thought the words seemed to come from Sadsack. There was no one else there. Hugo was standing with the kitchen door open and he was cold. He looked around. There was no one there. He looked at Sadsack. Sadsack was standing in the middle of the kitchen looking as though he did not want to go out.

Hugo laughed. "For a minute I thought you said something," he said.

"I did," Sadsack said. "I said I didn't want to go out in the cold."

Hugo stood there with his mouth open. The door was still open.

"All right. I'll go," Sadsack said. "Only don't call your mother and blab the whole thing to her about me talking. You know she'll just make a big fuss and we don't want that." He rushed out the door and went growling around the side of the porch.

Hugo waited until Sadsack came in, then he went up to bed without a sound. He did not want to make any noise because he wanted to think about Sadsack talking. Wasn't it wonderful the way Sadsack could talk? He guessed the man had been telling the truth all the time. Now he and Sadsack could have such good times. And Sadsack could help him with arithmetic.

When they were getting ready for bed Sadsack spoke again. "How about me sleeping on the bed, too?" he said. "It gets hard on this old blanket."

"Mom wouldn't like it," Hugo told him. "You know she'd put you outside."

"Aw gee, whizz!" Sadsack said. "I don't get to do anything!" He grumbled away, but he curled up on the blanket and closed his eyes.

Hugo did not want Sadsack to go to sleep. He wanted to ask Sadsack some questions.

"Can you do arithmetic?" Hugo said. Then he held his breath and crossed his fingers while he waited for Sadsack to answer. Hugo had always had trouble with arithmetic and he did hope that Sadsack would be able to help.

"Ah! That old stuff," Sadsack said. "Who wants to talk about that stuff?" He stretched and yawned. "Let's talk about what we can do next Saturday," he said. "I think we should go down to the river bank and hunt for rat holes and you can dig some out with me if you want to."

Hugo wanted to be nice to Sadsack, but he didn't feel quite comfortable with Sadsack the way he had before Sadsack could talk. "We can go to the river if you like," he told Sadsack, as he jumped into bed, and settled the pillow behind his head. "I can fish and you... ."

"Oh, that old fishing. Always fishing, fishing, fishing,... ." Sadsack said. "Why can't we hunt for rats the way I want to?"

"O.K." Hugo said. He did not think it would be much fun to hunt for rats, but if Sadsack wanted to do it... . He was beginning to wonder if it was such a wonderful thing to have a dog that talked. It had seemed a good idea the way the man explained it, but if Sadsack was going to be always wanting his own way and not wanting to be helping with anything that was really fun -- Hugo suddenly wondered what other plans he would have to change. He had a terrible suspicion. He sat right up in bed. "Sack," he whispered, "are you asleep?"

"What's the matter?" Sadsack asked. He groaned and rolled over on his blanket. "This floor is hard," he said.

But Hugo wanted to know. "Sack," he said, "do you want to go skating when the river freezes?"

"Skating! Skating!" Sadsack sounded very annoyed. "Certainly not!" he said. "Who wants to rush up and down, up and down, on those silly skates? Let's go chase cats if we have time for anything."

Hugo lay awake long after his mother and father had come upstairs to bed. He lay awake while Sadsack's breathing grew louder and louder, until Sadsack snored. He lay awake while the moon came out and the moonlight streamed across the bed. Hugo was trying to decide what to do about Sadsack. He wasn't going to like it one bit having Sadsack this way. Hugo had thought always that Sadsack had liked doing the things Hugo did. Was he selfish, never considering what Sadsack might like to do? Hugo turned over on his bed. What should he do now? The man had given him a box of

pills. What would happen if he did not give Sadsack any more of the pills? Would Sadsack stop talking and start barking again?

The next morning Hugo was still thinking. He still did not know what to do about Sadsack. He was very quiet as he sat at the kitchen table eating breakfast. He gave Sadsack small pieces of toast under the table just as he always did. But this morning Sadsack looked very cross. His jaw was set tight and his eyes bulged more than usual. Hugo could hear him growling under his breath.

As soon as Hugo's mother went out of the room Sadsack growled, "Stop giving me those little bits and give me a whole slice. Cant'cha see I'm hungry?"

Hugo was afraid his mother would hear, and there was no telling what she would do if she learned that Sadsack talked. Sadsack might tell her all sorts of things. He might tell her that Hugo had been talking to a strange man. She had told Hugo not to do so. And she warned Hugo never to take any strange medicine, or to give it to anyone. She had asked Hugo not to spend his money foolishly. Besides that, there might be lots of things that Hugo had forgotten that Sadsack might still remember. He had to keep Sadsack from talking to his mother, so he shoved a whole slice of toast under the table.

"That's better, Sadsack snarled, "only next time put more jam on it."

When Hugo's mother came back to the kitchen she scolded him for eating his toast so quickly and would not let him have another piece.

Hugo knew what he must do. He sneaked upstairs while Sadsack was waiting in the hall. He opened the bank he had been saving for Christmas. He took out a whole dollar. Then he sneaked down the back stairs. He got out the back way without Sadsack seeing him, and he ran as fast as he could to the alley off of Pine Street.

The man wasn't there.

It was a bad morning. The arithmetic was worse than usual. Hugo could not keep his mind on it. He kept thinking about the pills. The man would just have to be there at noon, Hugo told himself, and he would just have to tell Hugo what to do. At noon he was the first boy out of the class. He ran all the way to the corner.

The man was there.

Hugo ran up to the man. He held out the dollar. "Here," he said to the man. "What do I do to stop my dog from talking?"

The man looked at the dollar. "It just so happens that I have one box left," he said. "Just one box of pills to stop dogs from talking. And it just so happens that I am selling them cheap, because I like you, see. One dollar," the man said. He handed the box of pills to Hugo.

Hugo ran to the vacant lot next to Murphy's Hardware. He opened the

box. The pills looked just like the ones that the man had sold to him yesterday. He hoped they were different though. They've just got to be different, Hugo thought to himself. Then he saw Sadsack.

Sadsack was running across the lot to meet him. Sadsack looked annoyed. He started talking before Hugo could say anything. "Why did you sneak off this morning?", he said. "I never get to go anywhere," he said, "not even to school."

Hugo did not answer Sadsack. He was thinking hard. He hoped that he could fool Sadsack into taking a pill, and he surely hoped these pills worked. Then he thought of a way. "CATCH!" he said, quick and loud, so it would not give Sadsack time to think. Then he tossed one of the red pills into the air.

Sadsack looked up. There was the pill, shining in the sun and coming down toward his nose. He caught it in his mouth. "Ugh!" he said. He made a face as he swallowed it. "I always have to take some nasty tasting stuff," he grumbled. "What's this old pill for, anyway? I bet other dogs don't have to take such stuff."

While Sadsack grumbled Hugo started to run for home. He could hear Sadsack grumbling along behind him...then there wasn't any grumbling...then there was only the sound of Sadsack breathing through his nose as he ran.

When they reached the gate Hugo opened it. "Go ahead, Sack," he said.

Sadsack ran through the gate. He looked happy and his tail wagged.

"Would you like to come to school with me this afternoon?" Hugo asked him.

Sadsack looked up at Hugo. He laughed with his mouth open and his tongue out. His tail wagged. Then he barked.

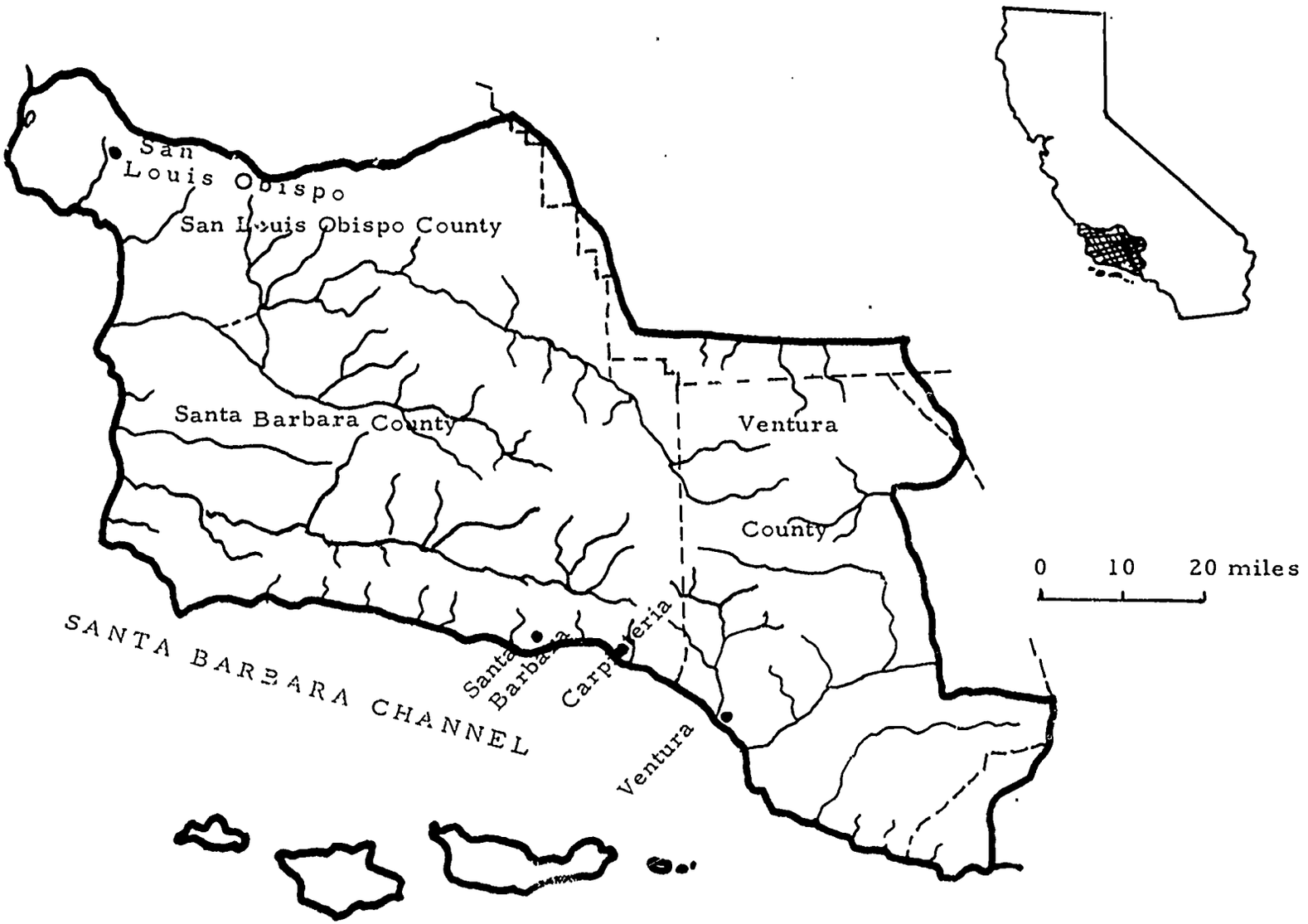
Hugo held his breath. He could feel his heart beating fast. Then he asked the question. "Can't you talk any more, Sack?" he asked.

Sadsack jumped around, and looked happy and barked.

Hugo fed Sadsack a whole hamburger under the table during lunch. Sadsack did not say anything because his mouth was full of hamburger, besides, he could not talk any more.

Appendix C

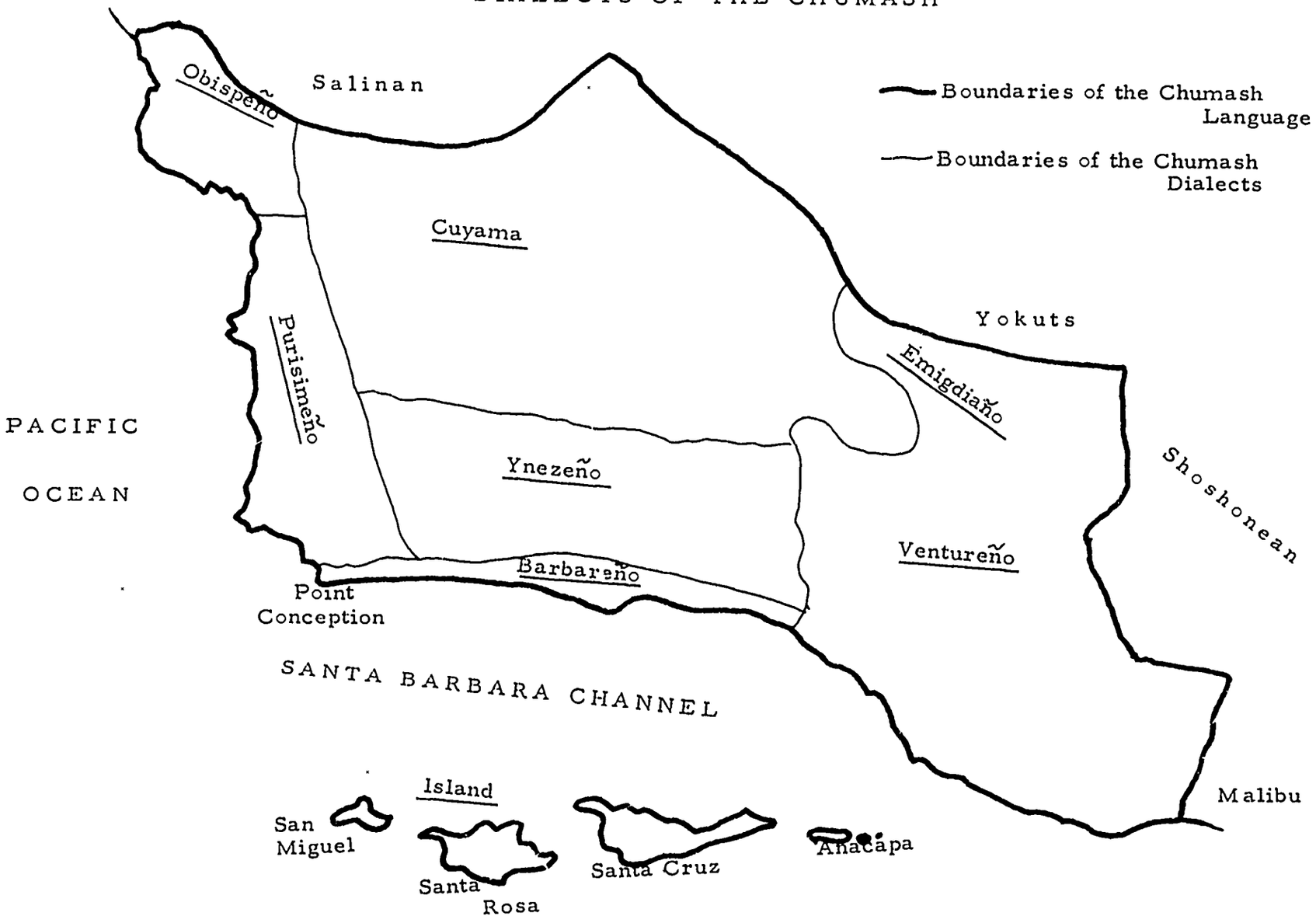
LANDS OF THE CHUMASH



(After Kroeber, 1925)

Appendix D

DIALECTS OF THE CHUMASH



(From Reports of the University of California Archaeological Survey #61, pp. 11 and 28.)

APPENDIX E

LANGUAGE OF THE CHUMASH

Chumash [1]	Spanish	English
piukh-pan	mal	bad
khus	oso	bear
akhi'ma	negro	black
lejuhe	el pecho	breast
tomol	lancho o canore	canoe
temi	capitan, o principal	chief
chipucu	el codo	elbow
acteme	el pie	foot
me-psuma'vish	bueno	good
huachaja	la mano	hand
nucchu	la cabeza	head
a'p-h	casa	house
shna-khala'mo	isla	island
pistocu	la rodella	knee
kippejuie	la purna	leg
oho-ikh	hombre	man
pu-u-u	mosquito	mosquito
mi-polomol	montana	mountain
shtu'huigh	llover	rain
ta-sen	rojo	red
a'lish	sol	sun
tono·omo	el muslo	thigh
apa	la aldea	village
o	aqua	water
o-uokh	blanco	white
e'neke	mujer	woman

Chumash words still in common use in the area are: [2]

Cachuma	Mugu
Castaic	Nojoqui
Cuyama	Ojai
Hueneme	Piru
Lompoc	Sespe
Malibu	Sisquoc
Matilija	

1 Adapted from Academy of Pacific Coast History, and Campbell Grant, The Rock Paintings Of The Chumash, P. 60

2 Campbell Grant, The Rock Paintings Of The Chumash, P. 60

Dios casoco upalequen alaipai quiaenicho opte; paquinini uch quique etchuet cataug itimi tiup caneche Alaipai. Ulamugo ils ulalisagua piquiyup quinsceaniujcop uqui amog canequi sucutanajun jtiaqmayiup oyup qui uti leg uleyop stequiyup il auteyup. [1]

Chumash [2]	Spanish	English
pa-ka	uno	one
icko'mo	dos	two
mas-ex	tres	three
cku'mu	quatro	four
yiti-paka	cinco	five
yiti-ckomo	seis	six
yiti-masex	siete	seven
mala'wa	ocho	eight
tspa	nuive	nine
kel-co'mo	diez	ten

1 The Lord's Prayer, translated into Chumash by the Franciscans. Taken from Geiger, The Indians of Mission Santa Barbara, Pp. 3-13

2 Campbell Grant, The Rock Paintings Of The Chumash, P. 60

APPENDIX F

FOOD CHART

Sea Mammals	Land Mammals	Reptiles
Porpoise	California Mule Deer	Turtles
California Sea Lion	Gopher	Crabs
Harbor Fur Seal	Squirrel	Frogs
Guadelupe Fur Seal	Otter	Snakes
Whale	Rabbits	Lizards
	Valley Coyote	
	Mice	
	Rats	

Fish	Birds	Plants
Shark	Pelican	Wild Onions
Sea Bass	Loon	Manyainta Berries
Halibut	Grebe	Wild Cucumber
Mackerel	Cormorant	Prickly Pear Fruits
Rock Bass	Sea Gull	Coast Live Oak
Sting Ray	Raven	Scrub Oak
Mussels	Hawk	Yucca
	Duck	Seeds, dates, flowers
	Goose	Elderberries

Preparation of Acorn Mush *

1. Place acorns in a bucket of water overnight so they can be easily shelled the next day.

2. Remove the shells from the acorns.

3. Grind the shelled acorns using the mortar and pestle so the particles are about uniform size and just large enough to be contained in a fine strainer.

4. Heat water in a pan. Place acorn flour in a strainer and pour cold water over it so that it soaks through the flour. Then repeat with boiling water. Do this process ten times. NOTE: THIS PROCESS LEACHES OUT THE POISONOUS TANNIC ACID CONTAINED IN THE ACORNS.

5. Taste the flour after the last leaching to see if it is bitter. Tannic Acid will cause the mixture to taste bitter if any of it remains. If it is still bitter, continue leaching according to Step 4.

6. Place the flour in a pan of boiling water and cook and stir until it forms a thick mush that smells like cocoa. This mush can be tasted by the students if they have prepared it according to the directions.

* Taken from Bleeker, The Mission Indians of California, Pp. 31-48