DOCUMENT RESUME

ED 049 151 SO 001 108

AUTHOR	Beyer, Barry K., Ed.; Penna, Anthony N., Ed.
TITLE	Concepts in the Social Studies.
INSTITUTION	National Council for the Social Studies, Washington, D.C.
REPORT NO	BULL-45
PUB DATE	71
NOTE	101p.
AVAILABLE FROM	National Council for the Social Studies, 1201 Sixteenth Street, N.W., Washington, D.C. 20036 ($2.25)
EDRS PRICE	EDRS Price MF-$0.65 HC Not Available from EDRS.
DESCRIPTORS	*Concept Formation, *Concept Teaching, Critical Thinking, *Curriculum Development, Elementary Grades, *Fundamental Concepts, Geography Instruction, History Instruction, Inductive Methods, Inquiry Training, Secondary Grades, *Social Studies, Spiral Curriculum
IDENTIFIERS	*Illinois Curriculum Program

ABSTRACT

These selections were chosen to give practical, understandable answers to several questions concerning concept teaching. What are concepts? Why teach them? How can concepts be taught? What are the implications of teaching? Here concept teaching implies: 1) developing the learners ability to conceptualize; 2) evolving more complex conceptualization; 3) teacher articulation of concepts, and being aware of previously learned concepts; 4) developing inquiry-teaching strategies; 5) evaluating teaching through the learners concept application; and, 6) using many types of media and personal experiences. With changes in the framework of the traditional social studies classroom and curriculum using sequential topically organized courses or a spiral curriculum organization, a concept-oriented curriculum can be facilitated. It is necessary, however, to limit the number of concepts to be learned, and to limit the amount of content for the purpose of depth studies. In this way concept learning can be facilitated at any grade level. Parts of the Syracuse University Social Studies Curriculum and the Illinois Curriculum are reproduced for illustration. (VLW)

Concepts in the Social Studies

Edited By
Barry K. Beyer
Anthony N. Penna

Bulletin No. 45
NATIONAL COUNCIL FOR THE SOCIAL STUDIES

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An Affiliate of
National Education Association
1201 Sixteenth Street, N. W.
Washington, D. C. 20036

Price $2.25

The National Council for the Social Studies is a National Affiliate of the National Education Association of the United States. Membership is open to any person or institution interested in teaching the social studies. Each member receives the yearbook, a subscription to *SOCIAL EDUCATION,* and occasional other publications. Dues are $12.00. For further information, write to the Executive Secretary, 1201 Sixteenth Street, N.W., Washington, D.C. 20036.

Library of Congress Catalog Card Number 76-150353

Foreword

One of the characteristics of nearly all of the major efforts to reform social studies education of the past decade has been the continuing concern for those basic organizing ideas that lie at the heart of the substantive components of the social studies curriculum. This concern has gone in many directions and has taken a variety of forms: the search for and identification of concepts; the effort to explore various dimensions of concepts; the attempt to search out the ways children form, attain, and extend concepts; the sequencing of conceptual learnings on a continuum of complexity; and the experimentation with teaching strategies that are most useful in helping learners develop an understanding of concepts. The term "concept" itself has been the object of a considerable amount of inquiry, with some disagreement among authors concerning its precise meaning.

This bulletin brings together the thinking of some of the most prominent scholars and teachers who have addressed themselves in recent years to concepts and conceptual approaches. The names of the authors will be familiar to readers who have an acquaintance with recent professional literature. The essays are based on sound scholarship and at the same time are written in a way as to make their content immediately applicable to curriculum development and to teaching the social studies. The four sections of the bulletin speak directly to fundamental questions relating to concept teaching: What are concepts? Why teach concepts? How can concepts be taught? What are the implications of concept teaching? Certainly a clarification of these basic questions should contribute immensely to improved social studies education.

Writing for the publications of professional organizations carries, as does value, its own reward. Nonetheless, the National Council for the Social Studies wishes to express thanks and appreciation to the editors, Barry K. Beyers and Anthony Penna, and to the authors who contributed to this 45th Bulletin of the Council.

John Jarolimek, *President*
National Council for the Social Studies

Introduction

There has been much talk in recent years about teaching concepts in social studies. Yet, there has been little action. Despite all that has been said and written on concept-teaching, only a few constructive attempts have been made to teach students conceptually. As a result, little purposeful teaching of concepts takes place in our social studies classrooms today.

Many reasons account for this failure. Chief among these reasons, however, is the fact that much of what has been said and written about concepts and concept-teaching confuses rather than clarifies. Before we can engage in meaningful concept-teaching we must understand precisely what it is we are trying to accomplish. This means that we must develop clearly defined answers to at least four vital questions:

1. What are concepts?
2. Why teach concepts?
3. How can concepts be taught?
4. What are the implications of concept-teaching?

We have organized the selections included here to deal with these four questions and thus perhaps cut through some of the vagueness that exists regarding concept-teaching in social studies. From the countless existing reports, articles, and statements by researchers, educationists, social scientists and teachers, we have selected those which in our judgment offer the most useful definitions of concepts, the clearest rationale for teaching concepts, some practical teaching strategies, and discussion of some of the more significant implications of concept-teaching for students, teachers, and schools alike.

We have made no attempt here to interpret these selections or to explain what they mean, for, as Neil Postman and Charles Weingartner have already pointed out so well (*Teaching As a Subversive Activity*, New York: The Delacorte Press, 1969), making sense out of what is here – meaning-making – is properly the responsibility of the reader himself.

We have, however, done several things to facilitate this meaning-making. The selections which follow are arranged in such a way as to relate to the questions outlined above. Moreover, they are arranged in sequence so that each builds on or reinforces – or sometimes challenges – those that precede.

The selections included here are not the only sources on concepts and concept-teaching, of course. Nor are they especially theoretical. They are, in our judgment, however, quite practical because the purpose of this publication is to deal in readily understandable terms with some of the practical questions about concept-teaching that bother most social studies teachers. If we have chosen well, perhaps the ideas presented here will help clarify the nature of concepts and concept-teaching and suggest ways by which the teaching of concepts can become a reality in our social studies classrooms.

Barry K. Beyer
Anthony N. Penna

Carnegie-Mellon University
December 1970

Contents

PART I

What Are Concepts?

Before we can engage in teaching concepts we must clarify precisely what a concept is. The selections that follow attempt to generate by definition and example a more precise meaning for the term *concept*. A practical definition of this term should evolve from these selections.

In the first selection Richard F. Newton deplores the present state of confusion about the use of the term *concept*. He cites definitions by psychologists and social scientists, however, which may eliminate much of the present ambiguity. He concludes that their definitions point out the hierarchical and interrelated nature of many concepts. Selections which follow use concepts from different social science disciplines to illustrate the nature and meaning of concepts. Barry K. Beyer diagrams a concept of decision-making in order to illustrate the characteristics of concepts in general. Zoe A. Thralls shows how a concept classifies the common features of objects and occurrences. An excerpt from a report of the Illinois Department of Public Instruction describes the nature of open-ended and closed concepts from history. The selection by Verna S. Fancett summarizes the outstanding features of concepts.

The remaining two selections are excerpted from the work of two curriculum centers. The report of the Syracuse Social Studies Curriculum Center identifies and describes concepts from the various social sciences which may be used as a basis for organizing social studies instruction. The staff of the Carnegie-Mellon University Social Studies Center, whose report concludes this section, not only identifies and describes selected social science concepts but also classifies them according to their utility for learning. Identification, description, and classification of concepts are essential prerequisites for meaningful concept-teaching.

RICHARD F. NEWTON*

Concepts, Concepts, Concepts

It seems that periodically certain bits of jargon sweep through the field of education with the fervor of a raging forest fire. Such was the case with the phrase, "progressive education." The "child-centered curriculum" was, and still is, twisted and distorted to justify many questionable practices. To paraphrase a line from *My Fair Lady*: Educators don't care what they do exactly so long as they pronounce it correctly. Today we once more are adopting a new word for our vocabulary – *concept*. One need only look at some of the new teacher's editions of classroom texts to appreciate how acceptable this word has become. In most cases the word is used with an almost systematic ambiguity, and is rapidly reaching the point at which it will become almost useless for any meaningful discourse. Before we reach that point, however, we should make a determined attempt to rescue it from the linguistic morass into which educators too frequenty wander.

Since psychologists are quite often rather precise in their use of the language, it might be well to start with them. Robert M. Gagne in a recent article writes that ". . . concepts are prior to principles and in this sense are simpler than principles. To learn a principle, one must have previously learned the concept of which it is composed."[1]

Jerome S. Bruner works from another approach and states. "The working definition of a concept is the network of inferences that are or may be set into play by an act of categorization."[2] He seems by the word *network* to define a concept as a *relationship* rather than an entity unto itself. . . .

Byron C. Massialas and C. Benjamin Cox in a recent book are quick to point out the misuse of the word *concept* in educational literature. They go on to state that ". . . concept may legitimately refer to a logical structure which groups objects or phenomena within one class or

* Richard F. Newton, "Concepts, Concepts Concepts," in *Social Education* 32:41-42. January 1968.

category."[3] The words "logical structure" may easily be interchanged with Bruner's "network of inferences." In sociology the concept "social stratification" may veridically be called a network of inferences which, in turn with other concepts, leads to the formulation of the principle that all human behavior is ultimately predictable. In this sense, "A concept . . . is a cognitive abstraction."[4]

Massialas and Cox use the term *concept* from the point of view of a social scientist. Herbert Feigle continues in this same vein, but clarifies it a bit more by explaining that ". . . the social scientists, like the natural scientists, strive to discover high-level theories which will explain many facts with a few simple concepts."[5]

This process might be applied to the various postulates underlying the theoretical construct of a democracy. Underlying the basic concept, one might have an elected head and a representative assembly. These then become the facts, or pieces, of our network of inferences, which lead to the concept of a democracy.

McLendon is rather clear on this point and writes, "A concept classifies particulars that have relatable features, for example, *mountains, multiple causations, democracies, trades, elections,* and *cultural transmissions.*"[6] That is, if we find that government "X" has the particulars of a known democracy and that the particulars of government "X" relate in the same pattern as those of the known democracy, then we may say that our government "X" is a democracy. This is to say that the particulars fulfill our criteria; they form the network which we call the concept of democracy.

At this point it should become clear that concepts differ in the size of the areas they embrace. While some cover a wide spectrum, others cover a relatively small field. It is not proper, however, to infer that there is any relationship between the magnitude of a concept and the complexity of it. In effect, it becomes even more complex when one realizes that a concept may be part of another even larger concept. What one eventually has is a hierarchy of concepts, all of which may be inter-dependent.

Returning to our example of a democracy, it is clear that a democracy is a concept, but an executive head of state is more than a fact, *per se;* it, too, is a concept. The same may be said for a judicial or legislative branch of government. The concept that we call a democracy is the interrelations between these branches, or functions. Thus one can, if so inclined, literally create a flow-chart of concepts under our original concept – *democracy. . . .*

The term *concept* takes on a very limited definition when used in the context that we have been using it, a definition that is quite

different from the sidewalk usage the term too often receives. The "network of inferences" definition seems to be the one most widely accepted. But even with this, problems exist; namely, no one is clear on the idea of a hierarchy of concepts. It is too easy to infer from the general literature that all concepts are on the same plane of sophistication. This is simply not true. Some are very simple and may be comprehended by anyone, while others defy explanation. The problem is that too many people outside of the tight world of psychology and scholarly education have picked up the word *concept* and misused it to the point of absurdity. . . .

FOOTNOTES

[1] Robert M. Gagne, "The Learning of Concepts." *The School Review*, 73:195, Autumn, 1965.

[2] Jerome S. Bruner. *A Study of Thinking*. New York: John Wiley and Sons. 1956. p. 224.

[3] Byron G. Massialas and C. Benjamin Cox. *Inquiry in Social Studies*. New York: McGraw-Hill Company, 1966. p. 47.

[4] *Ibid.*

[5] Irving Morrissett, editor. *Concepts and Structures in the New Social Science Curricula*. West Lafayette, Ind.: Social Science Education Consortium. 1966. p. 19

[6] Jonathon C. McLendon. *Social Studies in Secondary Education*. New York: The Macmillan Company, 1965. p. 48.

ZOE A. THRALLS*

Developing Geographic Concepts

The term *concept* may be applied to a class or group of objects, occurrences, situations and/or ideas which have certain qualities or characteristics in common. Thus, we have a *concept* when we recognize a group of objects, occurrences, situations and ideas which have a resemblance or common elements. To such a group we give a name or label. The name or label refers to the common elements or characteristics and ignores the details in which the object, the situation, or the idea differ. For instance, the term *river* refers to a large natural flowing stream of water. Specific rivers such as the Congo and the Mississippi differ in details, but both are rivers; that is, both are "large natural flowing streams of water." Both have many characteristics common to all rivers. The term "metal" or "metallic" is the name or label that we may give to all objects which have certain common characteristics, although they may vary from a penny to a stove, or even a mountain of iron. Honesty, interdependence, or conservation are all concepts or certain groups of abstract ideas.

Cronback, in his *Educational Psychology*, says: "A concept has two aspects. It is, first, a classification or discrimination. The person recognizes what events or objects the concept applies to. Second, it is a set of associations. Once a thing has been classified, we call up many associations about the class. Is the egret a *bird*? If so, then it probably lays eggs, has feathers, makes a nest, follows migration habits and has a mind less keen than a mammal."[1]

In geography, for instance, if a country such as Tibet is a high plateau, we recall the various associations we have with the term "plateau." It is an extensive, nearly-level area of elevated land. It may be surrounded by mountains or bordered by steep scarps on one or

* From Zoe A. Thralls, "The Importance of Developing Geographic Concepts," *Journal of Geography*, 59:279, September, 1960. Reprinted with permission.

more sides. It is probably arid or semi-arid. The population is usually relatively sparse. Some questions also arise in our minds (What type of plateau is it – intermontane, piedmont or continental?) as we try to extend our concept of "Tibet as a plateau." The moment that we are able to classify an object, event, or situation, we have a basis for thinking about it and extending its meaning to us. . . .

FOOTNOTE

[1] Lee J. Cronback, *Educational Psychology*, Harcourt, Brace and Jovanovich, Inc., New York, 1954, p. 281.

BARRY K. BEYER*

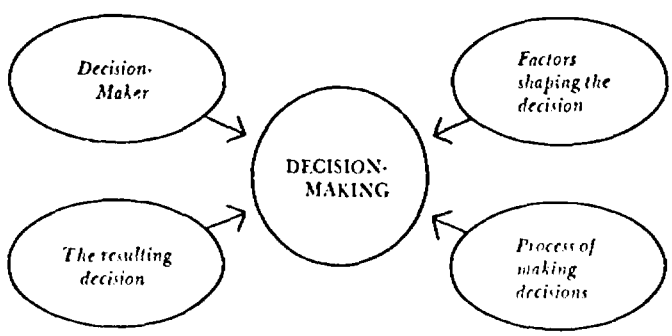
A Concept of Decision-Making

A concept is a mental image of something. The "something" may be anything – a concrete object, a type of behavior, an abstract idea. This image has two basic dimensions – the individual components of the concept as well as the relationships of these components to each other and to the whole.

One way to describe a concept is by a word or phrase which conjures up the appropriate image. *War* is a word which suggests a particular mental image about a type of violence or conflict. *Dog* suggests a mental image about an entirely different concept. *Indian* and *culture* and *decision-making* and *spatial interaction* suggest still other concepts. The list is almost unending.

Concepts, however, are *not* mere words themselves. Words are only labels used to suggest concepts. Because they are so imprecise and usually mean different things to different people, words cannot thoroughly describe a specific concept. Neither can simple definitions. Concepts are much more complex than that.

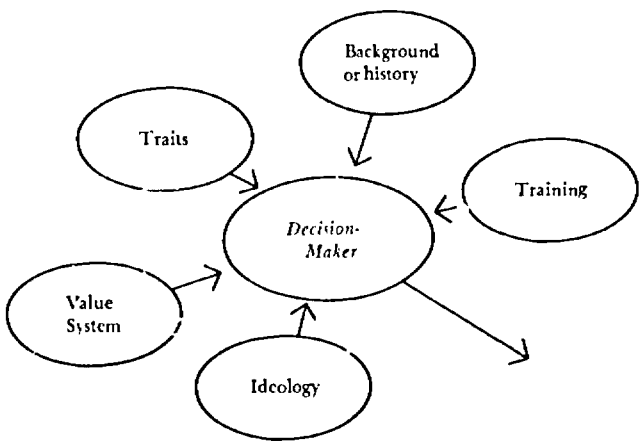
A concept of decision-making, for instance, is a complicated interrelationship of many elements. A mental image of decision-making might be diagrammed as follows:[1]



* From Barry K. Beyer, *Inquiry in the Social Studies Classroom: A Strategy for Teaching*. Columbus, Ohio: Charles E. Merrill Publishing Co., 1971.

What this image suggests is that when a political scientist thinks about decision-making, he thinks about *who* makes the decision, *what* factors are considered in making the decision, *how* the decision is made and the resulting *decision* itself. The combination of these four elements forms a concept of decision-making.

Yet each of these elements is itself a composite of a number of other elements. When, for example, this political scientist thinks of a "decision-maker," he is concerned about its individual traits (it may be a person, a group or an institution) and its background, training, value system and ideology. His conception may be represented as follows:



When he considers the "factors shaping decisions," he may think about the information used, the influence of outside events, the expectations of the decision-maker's clientele or constituents, the ideology of those involved as well as their frames of reference and the goals of the institution represented.

Furthermore, when he thinks about each of these items he probably considers even other more specific aspects of each of them. For example, he would most certainly include in the category of "information used" such things as sources of this information, types of information (such as hard data, personal opinion or advice, and precedent) and the various alternatives available. In this same way, each of the elements which constitute this particular concept of decision-making may similarly consist of a number of other interrelated factors. Taken together these

constitute a concept of decision-making that may be diagrammed as in Figure I.

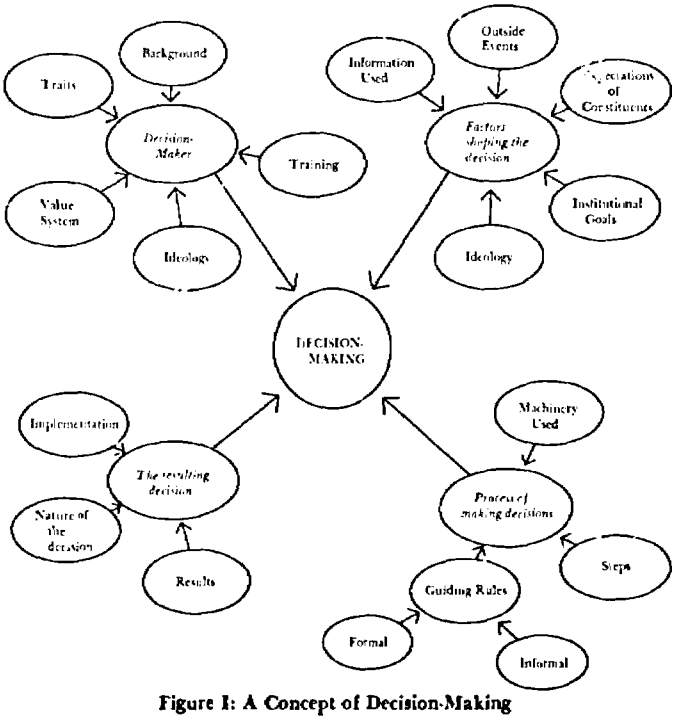


Figure I: A Concept of Decision-Making

This diagram represents a mental image of a concept — the concept of *decision-making*. It is not the only way such a concept may be imagined. Different people might conceptualize it differently because of the way they go about it, the questions they ask while they do it, the nature of the data used and the degree of intellectual inquiry they employ. Some might not include all the elements included here. Others may well include many more or quite different elements. Nevertheless, this is one way to conceptualize decision-making.

FOOTNOTE

[1] Based on a set of analytical questions reported in Edwin Fenton *et al., A High School Social Studies Curriculum for Able Students: Final Report of USOE Project — HS 041 and H-292.* Pittsburgh: Social Studies Curriculum Center, Carnegie-Mellon University, 1969, p. 28.

ILLINOIS CURRICULUM PROGRAM

Concepts in History*

A concept consists of the uses that are made of a term or verbal sign. Let us consider some historical concepts, for in this way we shall illustrate more concretely what we mean by "concept." For example, let us take the concept *democracy* and inspect some of the uses that are made of it. The term "democracy" is frequently used to refer to a form of government in which political power rests ultimately in the hands of the people, i.e., the governed select those who govern them. Thus, this use of the term "democracy" contributes to the formation of the concept *democracy*.

But the term "democracy" is also used in other ways. It sometimes points out features or characteristics in a society which emphasize the development of individual persons, i.e., free communication of ideas, free interaction among individuals and among groups, equality of educational opportunity, widespread participation in the public decision-making process, and equality of economic opportunity. These further uses of the term contribute to the concept *democracy*, and it is in this fashion that concepts grow. In sum, a concept consists of the several uses that are made of a term, and as old uses are extended and new uses are assigned, a concept is broadened. Moreover, as a term begins to be employed for multiple purposes, the concept develops a family of uses possessing both similarities and differences. . . .

The view that the world of reality presents itself to us already neatly classified is erroneous, particularly in regard to historical concepts. The world of reality does not so present itself; it is we who do the classifying. That there is nothing inherently necessary in the ways in which we classify is demonstrated by the fact that some systems of classification serve our purposes better than others. Consequently, if

* From Fred P. Barnes, ed., *Developing Concepts — A Study in the Teaching of History*, The Curriculum Research Series, Bulletin No. G-TWO-A, Illinois Department of Public Instruction, 1958. pp. 1-4.

one wishes to claim that concepts are precise and definite, he will have to find more convincing arguments for his claim.

The inexactness or vagueness of historical concepts is manifested even in the most stringent use of historical terms. For example, the concept *democracy* sometimes includes reference to a form of government and sometimes, to certain features of societal life. In the future it might include meanings or uses growing out of changes in the conditions of living. Wherein are the exact boundaries for the concept *democracy*? It is our conclusion that there are no exact boundaries for the uses in this concept (and for the uses in most historical concepts).

Historical Concepts are Open-Ended

Most empirical concepts are open-ended or essentially incomplete because it is not possible to formulate a complete description of them. There are two reasons for this fact. First, no matter how many features one may state about an object or event, there is always something more that can be said about it. For example, new techniques of observation may be formulated which would enable us to observe some properties of an object or event not previously observed. Second, there is always the possibility that current terms will be used to refer to emergent sets of events. New usages of "democracy" and "imperialism" are a case in point. Open-endedness as a fundamental characteristic of empirical concepts may therefore be defined as that inexactness or incompleteness of observation and description which yields no precise boundaries for the use of a concept.

There are, however, cases where something approaching "closed" concepts is attainable even in history. Consider the concept *treason*. As defined in the Constitution of the United States, "Treason against the United States, shall consist only in levying War against them, or in adhering to their Enemies, giving them aid and comfort." Does constitutionally defined treason provide us with a complete description of the concept? It does only if the concept is employed in like contexts. For example, for the purposes of classifying certain acts of American citizens against the United States in time of war, it does provide us with the specific and definite boundaries of its use. However, for other purposes, such as classifying the actions of American Communists in time of peace, it does not provide us with such definite boundaries.

Some historical concepts are, therefore, like theoretical concepts. When they are employed according to their stipulated use, they function as closed concepts. However, in historical studies these closed

concepts differ from theoretical concepts. They are not defined in terms of other concepts within a theoretical system, and they are not defined for the purposes of explaining and predicting generalizations. These closed historical concepts, like most empirical concepts, are used for the purposes of describing particular phenomena in our world of experience.

In effect, most historical concepts are stated in the vocabulary of everyday language and are used for the purposes of ordinary communication. This is a fundamental reason why most historical concepts are open concepts. The subsequent growth of closed concepts in history appears to be largely dependent upon the formulation of a system of specialized, abstract concepts and the development of a corresponding technical vocabulary.

VERNA S. FANCETT*

Social Science Concepts and the Classroom

The staff of the (Syracuse University Social Studies) Curriculum Center has used as a working definition (of concept) the following composite statement drawn from the literature.

A concept is

- an individual's own way of making meaning of things he has experienced.
- a mental image which assists a person in classifying his experiences, and which continually changes as his experiences accumulate.
- an abstraction or general idea in the mind of a person which represents a class or group of things or actions having certain qualities or characteristics in common.
- a synthesis of a number of things an individual has experienced and conclusions he has drawn about his experiences.
- represented by a verbal symbol which indicates the real content of the insights and meanings the word evokes in the mind of an individual.

Although the reader may not completely agree with this definition of concept he is asked to accept the above statement for the purposes of the present discussion. It is expected that the way in which the Center has applied the term will become increasingly evident as the illustrative list of concepts is examined, and as the units prepared for use by students are read.

The Center has identified three types of concepts:

- Substantive concepts
- Value concepts
- Concepts of methods

* From Verna S. Fancett *et al*, *Social Science Concepts in the Classroom*, Syracuse University, Social Studies Curriculum Center, 1968. pp. 4-8.

Illustrative concepts were chosen under each of these three categories, and outlines to define them were developed. Substantive concepts selected include such items as *sovereignty, scarcity,* and *culture.* Value concepts include *loyalty, dignity of man,* and *freedom and equality.* Illustrative of the concepts of method are *cause and effect,* the *geographical approach,* and the *historical method.* . . .

Concepts

Concepts are abstractions which refer to a class or group of objects, all of which have characteristics in common. Concepts apply to a number of related facts and observations, thus having a degree of generality that facts do not have. Concepts do not refer to single objects . . . .

Concepts may refer to physical or material objects, or they may refer to more abstract ways of thinking about non-material phenomena or attitudes. Examples of the first type of concept are "mountain," "plateau," "desert." On an even simpler level a child may have a concept of "dog," but it has been said that the concept of "dog" can be reached only after the student has seen, felt and heard many dogs.* A concept on a still higher level would be "animal."

Words are not concepts. They may represent concepts when they refer to a class or category of ideas or things. Concept formation is, therefore, quite distinct from mere fact learning; it is also distinct from the committing of a definition to memory.

Concepts of the non-material type represent a greater degree of abstraction than the examples given above, and concepts of this type abound in the social studies. "Republic" is a concept, and "government" is another of a higher level or abstraction. In the same way the concept "city" and "urbanism" or "metropolitanism" reflect different levels of abstraction. The highest types of abstractions are found in concepts such as democracy, justice, liberty, rights and responsibility. Although these concepts cannot be seen as physical objects, they have meanings which have grown out of human experience.

Concepts are built as the learner is able to develop a general idea on the basis of his own experiences. No one can "give" a concept to the learner; he must develop it for himself. Concept development extends throughout life as one gains (or accumulates) a more mature understanding on the basis of his experiences, vicarious or direct. Consider, for example, the way the concept "power" expands as one's experiences accumulate.

Concepts provide short cuts which make it possible for us to think and to communicate with each other. They help us to organize infor-

* Myles M. Platt, "Concepts and the Curriculum," *Social Education,* January 1963, p. 21.

mation so that data take on new meaning as they are related to each other.

It would be neither practical nor possible to attempt to draw up a complete list of the concepts we attempt to build in the field of the social studies. What we can do is to agree upon some concepts that need to be built progressively throughout the student's experience in the social studies. Other concepts are over-arching in nature and apply to the total educational experience of each student. Value concepts, for example, can and should be built into all subject-matter areas.

. . . the concepts selected by the Syracuse University Curriculum Center for emphasis include:*

SUBSTANTIVE CONCEPTS:

- Sovereignty
- Conflict – its origin, expression, and resolution
- The Industrialization-Urbanization Syndrome
- Secularization
- Compromise and Adjustment
- Comparative Advantage
- Power
- Morality – Choice
- Scarcity
- Input-Output
- Saving
- The Modified Market Economy
- Habitat
- Culture
- Institution
- Social Control
- Social Change
- Interaction

VALUE CONCEPTS:

- Dignity of Man
- Empathy
- Loyalty
- Government by Consent of the Governed
- Freedom and Equality

ASPECTS OF METHOD:

- Historical Method and Point of View
- The Geographical Approach
- Causation
- Observation, Classification, and Measurement
- Analysis and Synthesis
- Question-answer
- Objectivity
- Skepticism
- Interpretation
- Evaluation
- Evidence

* We have altered this list by adding to it all the concepts identified by the project as reported in Roy A. Price et. al., *Major Concepts For Social Studies*, Syracuse: Social Studies Curriculum Center, 1965, pp. 8-35.

SYRACUSE UNIVERSITY
SOCIAL STUDIES CURRICULUM CENTER

Major Concepts for Social Studies*

(The Social Studies Curriculum Center at Syracuse University has identified and described a number of concepts that may be taught in the social studies classroom.) The 34 identified concepts have been further broken down as 18 Substantive Concepts, 5 Value Concepts and 11 Aspects of Method. . . . Brief descriptive statements have been drawn to add definition to the concept titles. (Following are brief descriptions of several of these concepts:) **

It is impossible for any individual, political party, or nation to dictate life to such an extent as to assure total acquiescence to all its desires by all outside forces. Compromise, adjustment, and resolution of conflicts by other means become an essential part of facing reality.

When conflicts arise there often comes a time when advantages must be weighed. It even becomes advisable to permit an opponent to obtain advantages in resources, time, geographical position, morale, or public opinion in return for advantages considered of greater value in gaining a final objective.

During the Second World War, the Allies decided it was to their advantage to ship copper (indirectly) to Germany in return for desperately needed ball bearings. China was a major source for tungsten steel (required for armor plate and armor piercing shells) during the Korean War. On the basis of comparative advantage, the British sold trucks to the Chinese in return for shipments of tungsten.

* From Roy A. Price *et al*, *Major Concepts for Social Studies*. Syracuse: Social Studies Curriculum Center, 1965, pp. 4, 8, 11, 18, 23-24, 28-29, 30.

** This is a representative selection of the concepts listed in this report. For a full description of the complete list of concepts, see pp. 8-35 of this report.

Comparative advantage extends from the child deciding whether to trade a sand bucket for a sand shovel while constructing a castle on the beach to decisions regarding the exchange of prisoners of war. Without an understanding of this concept, a citizen is ill-equipped to face a world in which no one ever does achieve "total victory." Students should understand this concept in order to appreciate the need for long range consideration of goals and methods. . . .

Habitat and Its Significance

Ecosystems are produced by areal associations of interconnected physical and biotic processes, without the interference of man. There are five groups of physical and biotic processes involved in forming these areal associations: (1) surface features; (2) climate; (3) water; (4) biota; and (5) soils. Each of these elements forms a subsystem of related parts, and each could be made the subject of a book or a course of study by itself.

A *habitat* is an ecosystem that has been more or less modified by the presence of man. Ever since man has occupied the earth it has been subject to changes made by human action. These changes were partly carried out by plan, and partly were unexpected products of his action. Primitive man set fires to aid his hunt, and these have had a profound effect on the pattern of vegetation.

Nine major habitats can be defined. Each is an areal association of inter-connected physical and biotic features; but each occupies a particular place in the concept of global patterns. Eight are related to the pattern of climate; the ninth includes high mountains which insert an element of irregularity into the global patterns of habitat.

Habitats are significant, not only because they have in part been created by human action, but also because they provide the "natural" surrounding of man's occupance of the earth. Any human society, if it is to survive for long, must form a workable connection with the earth's resources. The habitat is the resource base of man's societies. It is of the utmost importance, then, to develop a valid concept regarding the significance to man of the features of habitat. The student should not go out into life believing all his actions and his culture are determined by his physical surroundings, and that he cannot alter this relationship. . . .

Culture

In the popular meaning culture generally refers to the finer things in life such as art, literature, music, and philosophy. Culture in this respect is related to personal refinement. The "cultured" individual is

expected "to prefer Bach to bebop and Beethoven to boogie woogie; he knows the difference between the philosopher Plato and the planet Pluto; his palate presumably prefers crepes suzette to corned beef and cabbage, and French champagne to corn liquor; and he would rather read Shakespeare in blank verse than Spillane in what could be mistaken for prose."[1] However in sociological usage, and the manner in which we shall utilize it in this paper, culture is a much broader concept than personal refinement. As Dr. Paul Meadows has pointed out, there are now about 257 different definitions of the word culture, each placing emphasis in a particular direction. We shall use the following definition:

> Culture is the *way of living* which any society develops to meet its fundamental needs for survival, perpetuation of the species, and the ordering of social organizations, learned modes of behavior, knowledge, beliefs, and all other activities which are developed in human association. Culture then is man's contribution to his environment.[2]

It is everything men think, do, and have as *members of society*. It should be noted that culture, for analytical purposes, is often divided into its material and nonmaterial parts. *Material culture* comprises the physical objects of the culture, including the ways in which they are used. *Nonmaterial culture* consists of values, beliefs, ideas, customs, ideologies, and social structure. Although the nonmaterial aspects of culture are less tangible, they are often the most important. In the American culture, the automobile is part of the material culture, while the belief in "equality of opportunity" is part of the nonmaterial culture.

An understanding of each individual as a part, immersed in a sea of "culture" from birth to death, may help many young people to appreciate the relationship of the society around them to themselves as individuals. This could help many youths to avoid blindly striking out in all directions in rebellion against the invisible pressures of their culture.

Social Change

Change is a neutral process; it may be "progress" or "decline" depending on the perspective of the observer. It should be noted that some societies change at a more rapid rate than do other societies, and that some institutions within a society change at a more rapid rate than do other institutions in the same society. It has been suggested that the accumulation of social and cultural phenomena is important in this respect because it tends to accelerate the rate of change.[3] The

fact that change occurs unevenly among and within societies means that it is necessary to look not only for the external causes that channel changes in one direction rather than another but also to examine the inherent flexibility of the social structure being changed. The student of social change should recognize that any theory of change is calling attention to important *sources* of social change rather than an explanation of *the* single cause of change. There is probably no one factor or consistent set of factors that is responsible for all social change in all societies.[4] Nor could one factor, operating by itself, be considered as the *sole* cause of any one single change. (This idea is further expanded in a paper concerning the concept of multiple causation.)

Contact between cultures or the interaction of new ideas or material goods within a culture often results in a modification of knowledge, attitudes and skills of the people. The development of modern means of communication and transportation have made possible a wider distribution of cultural items and ideas. Innovation, as means of meeting the challenge of social, economic, and political problems should be understood as an important factor in social change.

Dignity of Man

The largest religions, and their accompanying philosophies, have developed a belief in the preciousness of human life. Hindus and Buddists so revered human life as to refuse for centuries to take another life. For fear that a human soul has by transmigration entered an animal, the Hindus even avoid crushing an insect.

In the western world the Hebrews from 500 B.C. developed a new respect for human life in the expansion of the idea of a soul. The Judaic-Christian respect for the individual life was then carried on into Islam. On the basis of this background it could be expected that most men would respect the dignity of all other men. In practice this is not the case. Non-violence, prohibition of killing, and respect for life is not the same as regard for the individual as a personality. Both democratic and totalitarian forms of government profess to exist for the benefit of their citizens. Too often, however, the state which is supposed to be the servant of the people is treated as if it were more important than its individual citizen.

Students should become aware of the importance of the dignity of every other individual. Instead of just thinking of "society," and doing things for the "good of society," the young citizen should be striving to work and cooperate with fellow *individuals*. Dignity is defined in our dictionaries as worth or merit. Human dignity should imply to every citizen the worth of all individuals. This is worth which exists

because the individual exists, and not because of his achievements. In many parts of the world today there are highly intelligent people who can neither read nor write, and whose ethics or social background is such as to deny them a job, access to courts, or sufficient food for survival. In such circumstances worth cannot be judged by accomplishments or social position.

This concept includes a knowledge of these social and political instruments men have developed to preserve and enhance human dignity, especially in the western world since the Age of Enlightenment. . . .

Empathy

The *Dictionary of Social Sciences* defines *empathy* as the ability to understand others through being able to call out in one's self responses identical with or similar to the responses of others through one's own experience and behavior. It is a basic function in society in relation to sharing the attitudes and behavior of others. Less accurately, but more colorfully, empathy has been referred to as "putting one's self in the other man's shoes."

Important in the above definition is the phrase *through one's own experience and behavior.* The extent to which one may understand the attitude or behavior of another depends on the experience and the breadth of knowledge one has of the culture and individual problems of the person he is attempting to understand. It is not possible, for example, for an American to understand why a Congolese or a Vietnamese responds as he does to current crises without first knowing a great deal about tribal customs, Buddhism, underdeveloped agrarian society, tropical climatic conditions and the history of the people and the area they occupy.

By employing empathy in the face of conflict, we are helping democratic governments to function more efficiently. Conflicts between labor and management, between school districts, or between nations have a better chance of being resolved when both parties practice empathy. However, *no one can teach empathy;* no one can teach students how to put themselves in other's shoes. Instead, we should teach the concept of empathy, as a value, with the hope that students who accept this as a value may try to put it into practice. . . .

Historical Method and Point of View

History is a process, a continuing development involving constant change. It is impossible to understand the world in which we live if we assume history to be a static body of information neatly compiled for all time between the covers of a textbook.

To teach an understanding of history, it is good practice to make the student act as an historian and, thereby, to require that he explain a period or an event as part of history. Even as a temporary short-term historian, the student should appreciate the need for interpretation. This in turn will reveal the problems of interpretation. Every citizen who seeks an explanation for any event should be made to understand he has a *point of view.*

The historian is an observer who stands *amid the process* much as an angler standing mid-stream while casting about him for his catch. This observer must realize events are flowing by him, and that his particular place in time and space (his community, profession, church, school, etc.) are coloring and molding his thinking through moral pressure, stereotypes, and other current influences. Therefore, the observer has a *point of view* in time and space. All previous observers have received past events from other points in time and space, and their interpretations of events have been passed on to the current observer colored and molded by the influence of other time-space coordinates.

A good historian or a competent citizen should recognize that all evidence passed on to him is an *interpretation* by an earlier observer, and that he is himself re-interpreting an interpretation, limited and prejudiced as he is by his own position in time and space.

A student understanding these problems of a continually changing process can be taught something of *selectivity of facts.* He can learn respect for all evidence, and the need to doubt all evidence without becoming a skeptic or cynic. This is necessary *evaluation* of evidence. Furthermore, the student can become aware of the need for continual re-evaluation of past evidence, noting the certitude of one generation often is labelled fallacious by the next. A healthy respect for *chronology* will develop better understanding of the relationships of cause and effect, and furnish an essential tool in the development of the historical method.

It is important for all students to learn the "historical method" of recognizing and dealing with evidence, epistemology, theses, hypothesis, point of view, selection of facts, evaluation of facts, interpretation, chronology, and causal relationships. Just as the social sciences have inherited the scientific method from the physical sciences, they have found all information in their own field is subject to the above factors, and that all social sciences to some degree employ the historical method. . . .

Causation

The relationship of cause and effect has occupied philosophers throughout the ages. In modern philosophy we find Francis Bacon discussing this concept in his *Novum Organum* in 1620. Baruch Spinoza (1632-1677), referred to as the most important philosopher of the Renaissance, carried his mathematical approach to ethics (drafted in terms of definitions, axioms, and postulates), throughout his discussion of causation.

These philosophers, and their predecessors and successors, were concerned with causation as a part of their search for an explanation of knowledge. Today, as in the past, only a handful of individuals are consciously inquiring as to the nature of knowledge. Just as most persons accept air for breathing, stop signs for highways, and the market economy as part of everyday living without further question, so they fail to show curiosity with regard to *knowledge.*

In the teaching of the concept of causation we aim to develop a method of thinking as well as an understanding of causes and effects around us. Causation, as an aspect of method, should be integrated with the substance of several disciplines.

Students should realize first, *causes and effects are rational;* second, *cause and effect have the character of multiplicity.* In the first instance, this means that operation of cause and effect can be understood by men if only they know enough about the factors involved in the causal chain. The second instance (subconcept) means that a single act may bring about (cause) several effects which seemingly become more *isolated* as the series of effects expands. . . .

FOOTNOTES

[1] Bierstedt, Robert, *The Social Order, An Introduction to Sociology*, p. 104.

[2] ...uck and Warren, *Sociology: An Introduction*, p. 8 (Italics inserted by the authors of this report.)

[3] Milton L. Barron, *Contemporary Sociology*, p. 606.

[4] Arnold M. Rose, *Sociology: The Study of Human Relations*, p. 335.

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Selected Social Studies Concepts

The staff (of the Social Studies Curriculum Center at Carnegie-Mellon University) has identified six types of concepts involved in the social studies. We have called the first type universal concepts: culture, society, or civilization. These three terms are really synonyms. They are not particularly useful tools for students because they encompass too much. None of the three guides the search for data because each includes everything about man at a particular time and place. Yet a student should know that all men live in a culture and he should be able to analyze that culture scientifically.

The necessity to divide universal concepts like culture, society, or civilization for purposes of analysis suggests a second group of concepts. For want of a better term, we have called them macro-concepts — four of which are particularly important: economic system, government, social structure, and region. They parallel four academic disciplines: economics, political science, sociology-anthropology, and geography. A culture, society, or civilization can be studied by examining each of these subdivisions using the tools which specialists in each discipline have developed. But these macro-concepts suffer from the same deficiency as the universal concepts: they do not guide the search for data because each one includes too much.

Macro-concepts can be subdivided by types. For example, we can classify political systems as traditional, totalitarian, democratic, authoritarian, parliamentary and so forth. Economic systems, social struc-

* From Edwin Fenton *et al., A High School Social Studies Curriculum For Able Students: Final Report of USOE Project — HS 041 and H-292.* Pittsburgh: Social Studies Curriculum Center, Carnegie-Mellon University, 1969. pp. 25-32. Reprinted with permission.

tures, and geographic regions can be classified in a similar fashion. Although these subdivisions are useful for comparative purposes, they are still too broad to provide effective guides through data.

Our third category, analytical concepts, does guide the search for data effectively. An analytical concept is one which is useful for the analysis of a culture at any time or place. Analytical concepts guide the search for data because they tell the student what to look for as he reads. We have identified the following analytical concepts as a useful starting place for students to learn to develop hypotheses about cultures. These concepts are:*

Mainly from *Political Science*	Mainly from *Economics*	Mainly from *Sociology and Anthropology*
Leadership	Values and goals	Role
Decision making	Scarcity and choices	Status
Institutions	Resources	Norms
Ideology	Price	Social Class
Citizenship	Distribution	Groups
	Production	Group interaction
	Economic growth	Culture change

We do not contend that our list is the only useful one. Another group of investigators might turn up with another list of nineteen or twenty-five or fifty concepts which is equally useful. There is no single structure to the social studies. Each person brings his own structure — his own "body of imposed conceptions" — to any investigation. Rather than claim to have discovered "the" structure of the social studies, we are prepared to make a more limited argument: the list of concepts we teach students to learn and to use is likely to lead to hypotheses which both social scientists and students would agree are useful for the investigation of societies past and present. Beyond this claim we do not wish to go at this stage of our research.

Each of these analytical concepts implies questions. Take leadership as an example. Modern political scientists know that leaders play a particularly vital role in any political system. They want to know a number of questions about a society's political leadership. Who are the leaders? What are their attributes? How do they gain and maintain support? How can a citizen get access to them? Once the student knows

* Note that we have not included analytical concepts from geography under the macroconcept region. Our curriculum nowhere stresses this area of social science, partly because no one on our staff was a sufficiently skilled geographer. This omission, we believe, is a shortcoming of our curriculum. We have, however, tentatively identified analytical concepts coming from geography. They are areal distribution, areal association, and areal interaction.

a concept like leadership and has learned analytical questions associated with it, he is prepared to embark on a search through data with a powerful conceptual scheme in mind. If he knows the concepts we have identified and the battery of analytical questions associated with them, he is still better prepared. Most of all, if he has learned to ask questions – a process which we teach almost daily – he will have developed the habit of thinking hypothetically. This habit is the most important of all. More than anything else it distinguishes the independent, creative thinker from the hack who simply compiles data outside of a disciplined conceptual scheme.

The full list of analytical questions associated with concepts may clarify the scheme we have developed. Some analytical questions are themselves interrogative statements of sub-concepts. (What *technology* is employed in production? How is *gross national product* related to *consumption, investment,* and *government expenditures*?) Without seeing our list of primary analytical questions, a scholar cannot know whether or not we have overlooked basic aspects of a discipline. The questions associated with each of the . . . concepts which follow (are) . . . .*

Decision Making – The process by which a political system determines for what purposes governmental power will be exercised.

a. What are the formal rules for making decisions? The informal rules?
b. In what leaders and institutions does decision-making power reside?
c. What factors influence decision-making? How does ideology influence it? The personal attributes of leaders? Institutions? The desires of citizens?
d. How does information flow to the decision makers? What influence does it have?
e. How are decisions carried into effect? What sanctions are used to enforce decisions?

Citizenship – The rights of individuals to influence how societal power will be used, their obligations to submit to governmental power, and the process by which they accomplish these functions.

a. How does a citizen influence how public power is used? Does he have a role in the decision-making process? How does he obtain access to decision-makers? What influence does he have over them?
b. How does a citizen get information about government?

* This is a representative selection of the concepts described in this report. For a full description of the complete list of concepts, see pp. 25-32 of this report.

c. How does government affect the life of the citizen? How does it restrict his freedom? How does it enlarge his freedom?

Resources – The supply of raw materials, capital, and human skills available to a society.
a. What natural resources are available?
b. What human resources are available?
c. What capital resources are available?
d. How are the three types of resources combined to produce goods?

Production – The process through which goods and services are made or supplied.
a. In what ratio are three types of resources combined to produce goods?
b. What economic institutions influence production?
c. What technology is employed in production?
d. What is the nature of the entrepreneurial function?

Role – The functions and activities society expects individuals with specific characteristics to perform.
a. How are roles assigned by society?
b. What does society expect of individuals who have certain roles?
c. What different roles is a particular individual expected to fulfill?
d. How can an individual prepare himself for a particular role? Are some roles closed off to certain individuals?

Social Class – A large group of people who share many things in common and who are classified by other members of the community as belonging together.
a. What are the classes of a given community? What criteria are used to place people in a class?
b. Can someone earn membership in a given social class, or must a person be born into it? How open are classes to people born outside them?
c. How are classes arranged in the social structure? What roles are assigned to the upper classes? The middle classes? The lower?

Culture Change – The process by which a culture adjusts to new circumstances or a new environment.
a. Has a new invention promoted culture change? If so, in what way?
b. Has diffusion from an outside source produced change? If so, how? What was the agent of diffusion?
c. Has a change in one area of a culture (technology) produced a

condition demanding change in another area (family structure)? Has there been a lag between the first change and the second?

In addition to universal concepts, macro-concepts, and analytical concepts implying questions, we have also identified a number of procedural concepts having to do with the way in which social scientists and historians inquire. The most important procedural concepts are as follows:

Social Studies question – A question which can be answered by the use of a method of inquiry for social studies. "Did Christ live?" is such a question. "Was Christ divine?" is not.

Hypothesis – A tentative explanation for an event posed as a part of the inquiry process.

Fact – A statement about a person, event, etc., which meets the tests for historical credibility.

Data – Any information about past or present society.

Evidence – Data which has a bearing on a hypothesis under investigation.

Frame of reference – (also *bias* or *point of view*) – The way in which a person's entire life experience has conditioned him to look upon the world.

PART II

Why Teach Concepts?

The present information explosion represents a new phenomenon in mankind's history. Never before have students had so much information to learn and so many ways to learn it. The variety and types of personal and vicarious experiences students may undergo have greatly increased due largely to rapid technological advances. The result of all this is that students are literally bombarded by a dramatic and overwhelming amount of experiences and information.

Memorizing all this information and experience is not only futile – because so much of it becomes obsolete within a short time, but it is also impossible. Students need to be able to make sense of this information rather than become storage bins for it. Yet, unless we can find efficient, coherent means to organize the burgeoning amounts of information from so many sources, the task of making it mean something becomes impossible.

This is where concepts enter the teacher-learning picture. Concepts organize or order experience and information. Teaching students to invent concepts to order experience, to discard that which diverts learning and build that which clarifies and explains experience, seems to be a crucial objective of social studies instruction today.

The selections in Part Two of this volume suggest a rationale for teaching concepts in social studies. In the first selection Paul Brandwein asserts that concepts structure the random experience of the learner. Lawrence Metcalf argues that concepts are neither true nor false but dynamic representations of *our* decisions to classify information in particular categories. An Illinois Department of Public Instruction report describes four ways that concepts assist the learner. In a final selection, Jerome S. Bruner suggests what learners gain by categorizing experiences.

Since concepts are useful tools for learning, they should be primary objectives of teaching. The ideas presented here may well provide a sound basis for concept-teaching in social studies.

PAUL F. BRANDWEIN*

Concept as Ordering

Can children examine all behavior, all environments, all human objects, all human events, all experience? To ask the question is to deny the possibility. Paul Todd, reviewing proposals for the revision of the social studies,[1] quotes the estimate that "every minute, 2,000 pages of books, newspapers or reports are published somewhere in the world . . . enough to fill a thousand feet of bookshelves every day." He adds that imbedded in this mass is "a hard core of new knowledge sufficiently large to confound even the most devoted scholars." Yes, and sufficiently large to confound even the most devoted scholar-teacher – and to crush the child.

If we cannot turn to topics of subject matter (commonly called "content") or to "facts" *per se* as a reassuring way of building a structure for the curriculum, perhaps we can turn to the *child's experience*. We find – at first to our dismay, and then to our reassurance – that the child's experience is greatly randomized, and that a school proposes, if anything, to reduce the random encounter and replace it with a non-random encounter that fosters a meaningful experience. Why? Simply because time for life, for learning, is limited. In fact, to base a curriculum on the random experience is to give up instruction, for instruction implies structure. *Instruction* depends on nonrandomized experience; that is, it depends on a *structure* expressed in the purpose and design of the school. The school is concerned with *instructed learning*, with learning experiences that are carefully selected and sequenced in a curriculum. . . .

A curriculum based on a conceptual structure in a sense catalyzes . . . the *need to reduce random encounter by selected, planned and therefore nonrandom experience in search of meaning*, the need to embrace the structure of schooling, whether graded or nongraded.

Concepts have stability. New nations may develop as "new data," but the concept of "nation" remains. Within a child's schooling in the past generation, Africa exploded into nationhood. It can be argued that the "old facts" about Africa that were taught the child are no longer tenable, and no longer can serve the child, but the concept of nationhood was, and is, tenable and still serves the child in his attempts to understand his culture and to live successfully in it. Postulate a child entering the first grade and being subjected for the next twelve years to a "fact"-oriented, topic-centered course of social studies. At the current rate of generation of knowledge, perhaps little that he learned will be "true" as "fact" at the time of his leaving school. His "school life" would, in a sense, have been "wasted." Postulate another child, one taking part in a curriculum based on concepts. . . . Twelve years later, the data will have changed. China may no longer be Communist, or may be fascist; the satellite states of Russia may all be democratic, or part of Russia may be so inclined; the United States may have fifty-four states, the Constitution yet another amendment; the wheat, corn, rice, and oat crops may be even larger; a new technology may be burgeoning and we may no longer be interested in "outer space" but in "inner space." Nevertheless, "nation," "scarcity," "man," "interaction," "norms," "values," "family," "interdependence," "community," "environment," "time," "rules," "law," "role" will be conceptually his, with a host of viable subject matter to feed them. He can use these concepts to explain the new nations, the new cycles, the new behavior he meets.

Concepts in the social sciences are maps of the social universe. They remain relevant to life and living; hence they are stable intellectual currency. . . .

One day, children at the first level in a class in the inner city of a large city were asked what they had *seen* on their way to school. It was during a lesson on the nature of their immediate environment — a familiar and comfortable lesson. The list included: boys, buses, trees, birds, houses, girls, cars, dogs, stores. The responses were interesting from the *cognitive aspect*. Note that at first the children did not, in general, say "a brown-haired, blue eyed boy" (characteristics gleaned from further questioning) or "a brown, speckled bird" or "a small white dog with black ears and a black tail." They observed, they said, "a boy," "a bird," "a dog."

Clearly, when we observe a familiar object or event and we are asked for a first description, we usually do not catalogue its special identifying characteristics. It seems as if our response predicates that we quickly catalogue and categorize what we perceive into a "thought

system," a ready-made set of concepts (boy, bird, dog, bus). We have developed, as it were, *habitual tracks of association*. We make, it seems, a relatively *consistent response to a consistent set of stimuli*. The base of concept-formation is consistent response coming from experience (prior response) in the *setting* of our environment.

. . . A concept (a thought system, a habitual track of association) categorizes; it is part of a mental filing system for quickly sorting experiences. At this count, there are some three billion people on earth, each of them different; there are some trillions of permutations of their facial characteristics. But we limit the number and embrace them all into the concept "man." Further questions and directives will break down these concepts into "kinds" and/or "varieties." But our first filing is under "man," or "mankind" or "people." The same is true for the dress of man and woman. Take color of dress alone. There are perhaps seven million permutations of color; each is a stimulus to which we may respond. But we develop conceptual orderings, if only to be able to deal with the overload of stimuli in the environment; we place man's dress into one or a few orderings. Thus we economize on the mental energies required for developing consistent response, by reducing the amount of learning required to develop the consistent response. We order the environment by developing habitual tracks of association, or concepts.

A concept is a mental construct, isolating from experience the *common attributes* that identify objects and events. A concept is mental content apart from sensation and image as such. Thus the concept "teacher," once formed, is apart from specific relation to the image of "Mr. Howard" or "Mrs. Aldicott," but categorizes a host of teachers. A concept is flexible; it is host to an incredible variety of facts fitting it. The concept "candy" exists in the mind, and candies in all forms – chocolate creams, fudge, rock candy, bars, drops, and the like – exist in the experience, which formed the raw material of the concept. A new object in metal foil, resembling a chocolate bar, and gotten perhaps in a candy store is easily categorized as candy, not as a rock, a bird, or a boy. Its common attributes, its consistent stimuli (foil, shape, odor) form a consistent response – candy. A concept attained coerces thought – and perhaps action.

Possession of a concept eases learning. Possession of a concept almost automatically applies past experience to "present" events, or objects, or "problems." Too often, however, a concept has been developed out of "invalid" experience, out of a "random" experience, and it carries with the "stigmata" of the invalid experience – a stereotype of human behavior. A concept can be "wrong."

FOOTNOTE

[1] *The Social Studies and the Social Sciences*, American Council of Learned Societies and the National Council for the Social Studies, Harcourt, Brace & World, New York, 1962.

LAWRENCE E. METCALF*

Is a Concept Ever Right?

Discussion of . . . concepts may deteriorate into an argument over the correct meaning of a concept. Even the textual materials teachers assign to students may use an expression such as "true democracy." Foolish argument over what a concept really and truly means arises from what I. A. Richards has called the *proper meaning superstition*. Many of us believe that for every word there is one and only one correct meaning. Instead of agreeing that terms are differently defined and making an effort to find out what a term means when used in a discussion by someone we engage in a fruitless effort to show that it ought to have this rather than some other meaning.

Concepts do not reveal the nature of reality, not even our most descriptive concepts. Instead they represent our classification of stimulus inputs. The fact that we classify stimuli into certain categories rather than others does not mean that conventional categories are more true than any other set of categories we might invent. In fact, the process of concept formation often results in new categories which gain acceptance over more traditional ones.

A major insight that teachers must communicate to their students is that concepts are neither true nor false. If we try to prove the truth of a concept, we confuse students at two points, the nature of concepts and the nature of proof.

It is true that scientists have a criterion by which they decide that one conceptual system is better than another. It is the criterion of predictive benefits. Confronted with a choice between two systems they will choose the one that enables them to predict the most with the greatest accuracy. Scientists like to classify events, processes, and objects for the purpose of increasing human control of the environment. If a

* From Lawrence E. Metcalf, "Teaching Economic Concepts in the Social Studies" in *The Councilor*, March, 1960. pp. 50-51.

given conceptual system will not explain what another system can explain, it will be rejected for the new system. But science does not ask what is reality really like but rather how are we doing in our attempt to predict, explain, and control events.

In the social studies students diverge greatly in their values, purposes, background, and perspective with the result that they are prone to argue over the meaning of concepts when they ought to be concerned with the problem of definition. We should appraise definitions not as to their truth or falsity but as to their clarity, definiteness, consistency, conventionality, inclusiveness, and theoretical power. By theoretical power we mean the number of possible relationships between it and other concepts which is an indirect measure of its power to predict and explain. . . .

ILLINOIS CURRICULUM PROGRAM

The Functions of Concepts in History*

Concepts serve the learner in a number of ways. They may be used as intellectual tools in perception, generalization, prediction, and evaluation. It is to their function in these four categories that we now turn our attention.

Concepts help us focus our attention on specific things in experience. That is, concepts help us to be selective in looking at experience by enabling us to single out objects and events in terms of the presence of certain specifiable features or characteristics. For example, the concept *state* helps us to recognize certain situations in history by identifying the presence of a politically organized body of people, occupying a definite territory, and living under a government which possesses both internal and external sovereignty. In effect, we impose patterns on some of the discrete items of a situation and thus make parts of the situation meaningful to us. However, it should be noted that some parts of situations pass unnoticed; they lie below the threshold of awareness. Either we do not possess the conceptual tools to discriminate some aspects of situations, or we are not immediately concerned with them. But even though we do not impose meaning on all aspects of a situation, concepts do provide us with necessary tools, for we could not focus our attention on anything specific in experience unless we employed them. They provide us with the knowledge of what to look for in experience. It is in this sense that concepts frame experience or direct perception.

Concepts are employed as the variables or constants in our generalizations. Concepts are necessary in the formulation and subsequent

* From Fred P. Barnes, ed., *Developing Concepts—A Study in the Teaching of History*, The Curriculum Research Series, Bulletin No. G-Two-A, Illinois Department of Public Instruction, 1958. pp 4-6.

testing of generalizations. Consider the following generalization. "If war occurs, then inflation will follow." The two concepts of importance in this generalization are *war* and *inflation*. Notice the role these concepts play in the generalization. Each concept points out a set of conditions that can be observed. The words of the statement, particularly the words with logical functions like "if" and "then," assert that there is a connection between the two sets of conditions. Given the first set of conditions, a war, and it will be followed empirically by a second set of conditions, an inflation. It is the use of concepts to point out objects, events, or relationships, that makes the formulation of such statements of connection possible. In addition, without the formulation of statements of connection between concepts, we would not be able to make, communicate, or test generalizations. It is in this sense that they are fundamental to generalizing.

Concepts are used to deal with the realm of the possible. By "the possible" we mean events or situations which may in time be realized. We have indicated earlier how concepts help us to establish meaning in experience. They enable us to single out objects and events in terms of specifiable characteristics. Concepts enable us to deal with the realm of the possible in much the same way. By using symbols or terms we can project states-of-affairs and plan how to go about achieving them. Consider such concepts as *universal public medicine* (or analogously *universal public education*), *free interaction among social groups* and *an economy of abundance*.

The characteristics referred to by these concepts cannot be observed in immediate experience, but nonetheless such concepts have meaning. They are meaningful because we can specify the characteristics of experience which they are used to refer to. For example, the characteristics that *universal public medicine* is used to refer to include payments for medical services for all who need them and the provision of such medical services under public policy.

Moreover, in being able to specify such possible or potential states-of-affairs, we are in a better position to consider means of achieving them. For example, having made more specific what we mean by *universal public medicine*, we are now in a better position to consider possible sources of revenue, possible basic medical services that all should have when they need them, and possible policies for governing the provision of such services. It is in this fashion that concepts are used to deal with the realm of the possible; that is, with prediction.

Concepts are used to evaluate persons, objects, or events. Thus far we have talked mainly about the use of concepts to describe, point out, or refer to objects and events or relations among them. But when

we begin talking about the evaluative use of concepts we are concerned with more than just describing things. We are concerned with judging something as good or bad, desirable or undesirable, commendable or not commendable. Consequently, when we use concepts to evaluate things, we are not necessarily describing anything. Instead, we are stating our opinion of something. For example, suppose we say that Woodrow Wilson was a great American. Suppose, further, that our purpose in saying he was a great American is to praise him and to get others to accept his principles. In this context we would not be describing Woodrow Wilson, but we would be rating him. If someone were to ask us, "Why do you say that Woodrow Wilson was a Great American?" we would then present reasons for so evaluating him. We might say that Wilson showed a basic understanding of America's persistent international and domestic problems and proposed far-reaching programs to deal with these problems. During his presidency, he formulated the basic ideas underlying the League of Nations and the Clayton Anti-Trust Act. In stating our reasons, we would be presenting by implication our criteria or rules for calling someone a great American. And in this context the use of the term "great" consists of praising or commending someone because he has displayed an understanding of fundamental international and domestic problems and has proposed far-reaching programs to deal with the problems. It is in this fashion that we use concepts for evaluative purposes.

Throughout this analysis, concepts have been viewed from a logical standpoint. We have examined some of the characteristics of concepts and have used illustrations from history to show how these characteristics may be employed most fruitfully by the history teacher....

JEROME S. BRUNER*

The Role of Concepts in Learning

We begin with what seems a paradox. The world of experience of any normal man is composed of a tremendous array of discriminably different objects, events, people, impressions. There are estimated to be more than 7 million discriminable colors alone, and in the course of a week or two we come in contact with a fair proportion of them. No two people we see have an identical appearance and even objects that we judge to be the same object over a period of time change appearance from moment to moment with alterations in light or in the position of the viewer. All of these differences we are capable of seeing, for human beings have an exquisite capacity for making distinctions.

But were we to utilize fully our capacity for registering the differences in things and to respond to each event encountered as unique, we would soon be overwhelmed by the complexity of our environment. Consider only the linguistic task of acquiring a vocabulary fully adequate to cope with the world of color differences! The resolution of this *seeming* paradox — the existence of discrimination capacities which, if fully used, would make us slaves to the particular — is achieved by man's capacity to categorize. To categorize is to render discriminably different things equivalent, to group the objects and events and people around us into classes, and to respond to them in terms of their class membership rather than their uniqueness. Our refined discriminative activity is reserved only for those segments of the environment with which we are specially concerned. For the rest, we respond by rather crude forms of categorial placement. In place of a color lexicon of 7 million items, people in our society get along

* From Jerome S. Bruner *et al.*, *A Study of Thinking*. New York: John Wiley & Sons, Inc., 1956. pp. 1-2, 10, 12-13. Reprinted with permission.

with a dozen or so commonly used color names. It suffices to note that the book on the desk has a "blue" cover. If the task calls for finer discrimination, we may narrow the category and note that it is in the class of things called "medium blue." It is rare indeed that we are ever called upon to place the book in a category of colors comprising *only* the unique hue-brightness-saturation combination it presents.

The process of categorizing involves, if you will, an act of invention. This hodgepodge of objects is comprised in the category "chairs," that assortment of diverse numbers is all grouped together as "powers of 2," these structures are "houses" but those others are "garages." What is unique about categories of this kind is that once they are mastered they can *be* used without further learning. We need not learn *de novo* that the stimulus configuration before us is another house. If we have learned the class "house" as a concept, new exemplars can readily be recognized. The category becomes a tool for further use. The learning and utilization of categories represents one of the most elementary and general forms of cognition by which man adjusts to his environment. . . .

Language, Culture, and Categorizing

The categories in terms of which man sorts out and responds to the world around him reflect deeply the culture into which he is born. The language, the way of life, the religion and science of a people: all of these mold the way in which a man experiences the events out of which his own history is fashioned. In this sense, his personal history comes to reflect the traditions and thought-ways of his culture, for the events that make it up are filtered through the categorial systems he has learned.

By categorizing as equivalent discriminably different events, the organism *reduces the complexity of its environment.* It is reasonably clear "how" this is accomplished. It involves the abstraction and use of defining properties in terms of which groupings can be made and much will be said of these things later.

A second achievement has also been mentioned: categorizing is the *means by which the objects of the world about us are identified.* The act of identifying some thing or some event is an act of "placing" it in a class. Identification implies that we are able to say either "There is thingumbob again" or "There is another thingumbob." While these identifications may vary in the richness of their elaboration, they are never absent. A certain sound may be heard simply as "that sound which comes from outdoors late at night." Or it may be heard as "those porcupines chewing on that old tree stump." When an event

cannot be thus categorized and identified, we experience terror in the face of the uncanny. And indeed, "the uncanny" is itself a category, even if only a residual one.

A third achievement, a consequence of the first, is that the establishment of a category based on a set of defining attributes *reduces the necessity of constant learning.* For the abstraction of defining properties makes possible future acts of categorizing without benefit of further learning. We do not have to be taught *de novo* at each encounter that the object before us is or is not a tree. If it exhibits the appropriate defining properties, it "is" a tree. Learning by rote that a miscellany of objects all go by the nonsense name BLIX has no extrapolative value to new members of the class.

A fourth achievement inherent in the act of categorizing is the *direction it provides for instrumental activity.* To know by virtue of discriminable defining attributes and without need for further direct test that a man is "honest" or that a substance is "poison" is to know in *advance* about appropriate and inappropriate actions to be taken. Such direction is even provided when we come up against an object or event which we cannot place with finality. To the degree the new object has discriminable properties and these properties have been found in the past to be relevant to certain categories, we can make a start on the problem by a procedure of "categorial bracketing." The object appears to be animate; what does it do if it is poked? It stands on two legs like a man; does it speak? Much of problem-solving involves such repeated regrouping of an object until a pragmatically appropriate grouping has been found. In short, such successive categorizing is a principal form of instrumental activity.

A fifth achievement of categorizing is the opportunity it permits for *ordering and relating classes of events.* For we operate, as noted before, with category *systems*—classes of events that are related to each other in various kinds of superordinate systems. We map and give meaning to our world by relating classes of events rather than by relating individual events. "Matches," the child learns, will "cause" a set of events called "fires." The meaning of each class of things placed in quotation marks—matches, causes, and fires—is given by the imbeddedness of each class in such relationship maps. The moment an object is placed in a category, we have opened up a whole vista of possibilities for "going beyond" the category by virtue of the superordinate and casual relationships linking this category to others. . . .

PART III

How Can Concepts Be Taught?

Although there has been considerable study and discussion about the nature of concepts and their role in learning, there has been somewhat less attention to effective ways of teaching concepts in the social studies classroom. Of course, reports of numerous, sometimes elaborate, psychological studies and experiments suggest how we conceptualize and how various aspects of this process operate. Yet, there is all too little translation of the implications of this research into actual teaching techniques and strategies, especially in terms meaningful to classroom teachers. We need much more research and discussion before any precise way to help students learn selected concepts can be clearly delimited. Nevertheless, what study and research is available does, indeed, offer some valuable hints for those concerned about teaching concepts.

There is one point on which many studies of concept development to date seem to agree – concepts cannot be *taught*. Concepts cannot be given by one person to another at any level higher than that of simple recognition. Teachers can identify a concept for students and expect them to know it on the cognitive level of recall. But teachers cannot expect students to internalize it, to understand all its various interrelated facets and ramifications, by simply labeling it.

Rather, concept teaching means something other than passing on information about a particular concept. It means helping learners invent – develop – their own mental images of a particular concept. The word "help" is the key. Teaching concepts, properly understood, means facilitating student conceptualization. It involves neither pure exposition on the part of the teacher nor pure discovery on the part of the student.

For conceptualization – the process whereby concepts are formed – is something only learners can do. It cannot be done for – or to – them. Concepts are inventions, not discoveries. They do not exist "out

there" just waiting to be found out by someone. Nor can they become the intellectual property of a learner by simply memorizing what someone else thinks they are. Concepts must evolve in the minds of the students themselves. Concept-teaching thus requires the teacher to guide and facilitate this process.

There are a number of techniques teachers can use to facilitate concept development by students. In general, these involve a judicious intermixture of exposition and inquiry. Students need to work with examples of whatever it is they are conceptualizing about, and these examples must include positive and negative illustrations of the essential facets of the concept. That is, some examples must contain these facets and thus illustrate their significance while other examples, by not containing these facets, must underscore their relationship to the concept being developed. Deductive as well as inductive learning must be employed – that is, students must seek out features that should exist given a definite description of a concept and also generate or induce other features as they study further examples of the concept. A strategy embodying all these techniques is essentially an inquiry teaching strategy.

The following selections illustrate various aspects of concept teaching. Bertha Davis' comments, excerpted from a presentation made at Yale in 1966, describe briefly a rationale that undergirds concept teaching in social studies. Gertrude Whipple describes briefly how concepts are built from experience. Some theoretical aspects of concept teaching are then described. Robert Carroll reports conditions necessary for concept formation and teaching concepts. A suggested strategy for teaching concepts is presented in the selection by Robert Gagne.

Selections illustrative of concept-teaching in the social studies classroom follow. Zoe A. Thralls describes in general terms how two specific geographic concepts might be developed in the classroom. An excerpt by Barry K. Beyer then illustrates a specific strategy for developing a concept by leading the reader through the process itself. A report on how an actual class engaged in developing a historical concept then follows. In conclusion, Verna Fancett's selection notes some crucial points that must be remembered in any effort to help students conceptualize.

Concept teaching – facilitating student conceptualizing – is not easy. Nor is there any specific tried and true, single right way to do it. There is much we do not yet know about concept development and how to guide it. Yet we do have here some insights into some techniques that seem to work well in the social studies classroom. Consideration of these techniques can be most useful in planning lessons designed to "teach" concepts.

BERTHA H. DAVIS*

Conceptual Teaching in the Social Studies

Conceptual teaching . . . is teaching *controlled* by conceptual aims, a definition that does not define until one defines conceptual aims. But before we define conceptual aims, we must consider the significance of that key word, "controlled." Conceptual teaching is controlled by conceptual aims.

. . . Much of the bad teaching of social studies stems from the by-product fallacy, which consists of two premises and a conclusion. Premise One goes like this: Social studies is charged with responsibility for developing concerned citizens and for giving these citizens the background and skills that they need to think critically about and cope constructively with social issues. These are among the jobs of social studies education; every course of study or curriculum revision project says so at the beginning of the book. Premise Two: Teaching social studies means taking students through prescribed social studies courses. Students cover the content listed on the pages that follow the list of aims and objectives. Conclusion: If students are taken through those pages of course content, the objectives stated at the beginning of the course are bound to result as a by-product of covering the course. They won't be. Objectives cannot be achieved as a by-product. They cannot be achieved in a course unless every class session is controlled as to its materials and activities by a specific conceptual aim.

So we're back again to the question—what are conceptual, hence valid, aims? To put it another way—what are the only reasons for dealing with a given body of content? What are the only reasons for using a given method? Note the clear implications of these questions. Content is not its own excuse for being taught; it must be used for a

* Bertha H. Davis, *New Approaches to the Teaching of Social Studies: A Report of the Eleventh Yale Conference on the Teaching of Social Studies April 15 and 16, 1966.* New Haven: Yale University Office of Teacher Training, 1966, pp. 48-51, 54.

purpose. There is no method that is self-justifying; it must be used for a purpose. Whatever content or method one uses in the social studies classroom must be deliberately and consciously controlled by one of these aims: to develop or reinforce an interpretive understanding; to develop or reinforce a generalization; to deepen insight into a concept; to develop or reinforce an attitude or value; to teach or apply a skill of inquiry. These are conceptual aims.

Simply for the sake of insuring that we are talking the same language let me give you very briefly the meanings which I attach to these terms. I use the term "interpretive understanding" to mean a declarative statement which seeks to organize a body of content in a meaningful way. An understanding has specific referents of time and/or place. On the other hand, a generalization in my vocabulary is a declarative statement that has wide applicability to many times and places. I use the term concept to mean a word or phrase about which, without specific referents, one has a set of ideas. Social studies education is concerned with helping pupils develop increasingly sophisticated meanings for a whole host of concepts – democracy, climate, culture, power, conflict, and the like. By skills of inquiry, I mean all those learned ways of asking and answering social science questions.

The phrase "conceptual teaching," therefore, is just a shorthand way to describe social studies teaching controlled by the kind of aims here enumerated and defined. It is an apt phrase for the Brunerian climate of our day, although its basic gospel of teaching for meaning and the power to see meaning is at least as old as Socrates. . . .

(If a) lesson based on questions and answers . . . requires mere regurgitation of text or other printed content, it is no more "teaching" than (a) monologue. It is lesson-hearing, baby-sitting, or whatever term of denigration you choose to apply. It is a waste of taxpayers' money because a teaching machine or programmed text can cover ground just as efficiently. If no program has been written for the content to be covered, any adult who can keep one paragraph ahead of the pupils and keep them from climbing the walls, can hear the lesson perfectly well. The janitor comes to mind.

On the other hand, if the questions are focused on a conceptual aim, if the teacher has planned her approach to the lesson, her questions, and her teaching materials in terms of an interpretive understanding, a generalization, an attitude or value – then the question and answer lesson becomes an art form. . . . A truly conceptually oriented . . lesson is particularly useful for the inductive development of understandings and generalizations. Indeed, for this purpose, I

would say it is the equal of any other method, not excepting independent study or discovery.

Whether such a lesson is based on one textbook or on a variety of materials is irrelevant. The point is that in it the teacher plans to *use** content – use content not hear it – for the achievement of a conceptual aim. Take some examples: The subject is Athenian and Spartan education and the teacher uses that content to develop by questioning the generalization that a society uses its educational system to perpetuate its values; the subject is the power of the President and that content is used to develop insight into the *concept** of presidential power; the subject is the industrial development of the United States in the pre-Civil War period (or the post-Civil War period) and the content is used to develop the *concepts** of social overhead, takeoff, industrial maturity; the subject is the causes of the Spanish-American War – the conceptual aim is concerned with the role of public opinion in the formulation of foreign policy; the content is Jackson and the Bank – the aim is concerned with the problem of monopoly power; the content is the provision of the Bill of Rights – and the aim focuses on the persistent problem of achieving balance between individual liberties and social controls; the content is the reforms of the Jacksonian period – and the teacher tries to develop an attitude of respect for those who devote a lifetime to concern for the welfare of others; the subject is political parties under Washington – and the conceptual aim focuses on the generalization that in a democracy a system of political parties is essential for the resolution of conflict. The subject is the Progressive movement – and the teacher uses the content to test the generalization that "Constitutional democracy is a highly aristocratic form of government, depending for its success on the self-selection of a natural aristocracy to provide a leaven to the civic lump." Each of these pieces of content, obviously, could be used for other purposes. The significant point is that in each lesson content was used for a valid conceptual purpose, not merely regurgitated. . . .

Some of you may remember the delightful story that President Butterfield of Wesleyan University tells of his Deerfield Academy training. He recalls as crucial to his educational experience the occasion when the headmaster's wife, a gifted teacher, said to him: "Victor, when are you going to stop trying to remember and start trying to think." This is the heart of the matter – to get pupils to think. Con-

* Editors' emphasis.

tent doesn't guarantee thinking; only content controlled by purpose can do that. And method doesn't guarantee thinking; only method controlled by purpose can do that. Because the philosophy of conceptual teaching makes central and controlling the kinds of purposes that require pupils' thinking, I recommend it to you as a philosophy to govern your day by day teaching, and as a guide through the shoals of contemporary innovation.

GERTRUDE WHIPPLE*

How Concepts Are Built

Concepts develop from concrete to abstract as the learner draws from his experiences a general idea apart from the particulars he has noted. No one can give the learner a concept. He must build it out of his own experiences. The process is a gradual one that usually takes place over a period of years, as the child has experiences that contribute to growth in meaning. Let us consider the concept of a mountain. In the preschool or primary years the child learns that mountains rise far into the sky, that some are covered with snow all year round, that certain activities are carried on in mountains, and that there are mountain peaks and mountain ranges. In higher grades, under good instruction, this concept is steadily enriched. The child learns that the height of a mountain is measured from sea level, that, as one climbs a high mountain, the vegetation changes, that some mountains on the ocean floor have been lifted above the sea by movements of the earth's crust, and that over very long periods of time rivers gradually wear them down again almost to sea level. He comes to understand the historical significance of mountains, mountain passes, and mountain peoples. Also, as he studies various mountainous regions, he notes differences in the mountains of the world, for example, the Rockies with their wide valleys and sharply peaked summits, and the Central Andes with narrow, deep valleys and wide expanses of gentle slopes at high elevation. Of course, not all children will reach the highest degree of meaningfulness for this or any other concept.

Building up the child's background of experience is of tremendous importance. For example, if it is desired to teach the meaning of con-

* From Gertrude Whipple, "Geography in the Elementary Social Studies Program: Concepts, Generalizations, and Skills to be Developed," in Preston E. James, ed., *New Viewpoints in Geography*. Washington: National Council for the Social Studies (29th Yearbook), 1959, pp. 113-114.

servation, many opportunities may be provided the child to see the effects of both failure and success in the practice of conservation. In the case of the city child, the front yard of the school may offer lessons in plant and soil conservation; he may observe places where trees, shrubs, and flowers have been neglected, and other places where they have been well maintained. The rural child, on the other hand, may be encouraged to observe the use of creeks for sewers, and the harm done by the burning over of grassland and weedland; he may also see contour plowing and other desirable practices. In a brief survey, almost every community will show a number of practices that need to be corrected, and others that have had beneficial effects.

Persons who have experienced lack of conservation, perhaps in a rundown farm, forest, business, residential neighborhood, factory, or mine and have been successful in correcting the condition, may be brought in to tell the class what problems they faced and what steps they took to overcome these problems.

Thus, a real comprehension of the meaning of conservation results from a series of varied experiences. If those provided are too few and too abbreviated, the child will not realize how destruction of resources makes it difficult for all concerned.

Concept formation is distinctly different from mere fact learning. A child may report facts accurately after reading a textbook and yet have no grasp of the concepts implied. . . .

JOHN B. CARROLL*

The Formation of Concepts

One necessary condition for the formation of a concept is that the individual must have a series of experiences that are in one or more respects similar. . . . Experiences that embody this concept are "positive instances" of it; experiences that do not embody it may be called "negative instances." A further necessary condition for the formation of a concept is that the series of experiences embodying the concept must be preceded, interspersed, or followed by other experiences that constitute negative instances of the concept. As the complexity of the concepts increases . . . there is a greater necessity for an appropriate sequencing of positive and negative instances in order to insure adequate learning of the concept.[1] At least this is true when the concept has to be formed from *non-verbal* experiences only. . . . But concept learning from verbal explanation, as will be noted below, must, as it were, put the learner through a ries of vicarious experiences of positive and negative instances. For example, in telling a child what a lion is, one must indicate the range of positive and negative instances – the range of variations that could be found in real lions and the critical respects in which other animals – tigers, leopards, etc. – differ from lions. . . .

It would be relatively rare to find a concept taught in school by the procedure of showing a student a series of positive and negative instances, labeled as such, and asking him to induce the nature of the concept with no further aid. Such instances could be found, of course; perhaps they would exemplify a pure "discovery method," and perhaps there should be more use of this method than is the case. The fact is that a pure discovery method is seldom used, because it is rather slow and inefficient. Even if a teaching procedure incorporates "discovery" elements, it is likely to be combined with deductive elements. The

* Carroll, John B., "Words, Meanings and Concepts," *Harvard Educational Review*, 34: 181, 191-195, 202.

concept to be taught is described verbally – perhaps by a rule or definition – and the student is expected to attain the concept by learning to make correct identification of positive and negative instances. For example, he is told what an "indirect object" is and then is given practice in identifying the indirect objects (positive instances) among other words (negative instances). Many simple concepts can be taught by a wholly deductive procedure. For most students, the dictionary definition of *tarn* will be a sufficient stimulus for attainment of the concept. On the other hand, it is well known that purely deductive, verbal procedures are frequently insufficient to help learners attain concepts. . . .

. . . Not every concept is learned *solely* in a formalized, prearranged school setting. The school environment is in many ways continuous with the out-of-school environment; concepts are learned partly in school, partly out of school. . . . A child learns the concept "dog" not by having the concept described to him but by learning to restrict his usage of the word *dog* to instances regarded as positive by the speech community. In this process there are many false responses -- either false positives (calling a non-dog a dog) or false negatives (believing a dog to be a non-instance), before an appropriate series of reinforcements produces correct concept attainment. Similar phenomena occur with concepts in the school curriculum. A child who has been told that his cousins visiting him from Peoria are "tourists" may not realize that tourists do not need to be relatives, and when he is told that the Germans who have settled in his town are "immigrants," he may believe that all foreigners visiting his town are immigrants. . . .

What is actually going on in most school learning of concepts is a process that combines in some way deductive and inductive features. Descriptions and definitions provide the deductive elements of the process. The several parts of a description or definition specify the attributes . . . (of) the concept. The order in which these specifications are arranged in the description and presented to the student may have something to do with the ease of concept attainment, particularly in the case of complex concepts with many attributes and complex interrelationships. . . . As yet we have no well-tested generalizations about the order in which the criterial attributes for a concept should be presented.

At the same time inductive procedures entail the citing of positive and negative instances of the concept. We know from concept attainment research that learning is facilitated more by positive than by negative instances. . . . But in real-life concept learning, the number

of dimensions that may possibly be relevant is less limited; the function of positive instances is as much to show *which* dimensions are relevant as it is to show what values of them are critical. We may speculate that the real value of what we are calling inductive procedures in concept learning is to afford the learner an opportunity to test his understanding of and memory for the elements of verbal descriptions and definitions. This testing may even involve the construction and testing of alternative hypotheses.

. . . To an adult, the differentiation between the concepts designated by *tourist* and *immigrant* looks almost trivally simple. Aside from the sheer memory problem in learning and differentiating the words themselves, what are the sources of confusion for the child? In specific cases, a tourist and an immigrant might have many common characteristics: both might be from a foreign country, or at least from some distance away from the local community; both might be of obviously non-native culture because of dress, complexion, speech, and behavior; both might be doing what would appear to be "sight-seeing," though possibly for different purposes. The differences between a tourist and an immigrant might not be very apparent, being primarily differences of motivation. Indeed, a tourist might become an immigrant overnight, just by deciding to be one.

. . . There is a sense in which the concept-attainment experimental literature is relevant to the child's problem in learning the meanings of the words *tourist* and *immigrant*. If the child is presented with various instances of people who are either tourists or immigrants, properly labeled as such, but with no further explanation, it will be the child's task to figure out what attributes or characteristics are relevant to the differentiation of these concepts. This might occur either in school or outside of school. Most likely the instances of tourists and immigrants will be relatively sporadic over time, and the instances may not vary in such a way as to show what attributes are truly relevant. For example, all the tourists may be obviously American whereas all the immigrants may be obviously Mexican, let us say. The tourists may all be well-dressed, the immigrants poorly dressed, and so on. If the natural environment is like a grand concept-formation experiment, it may take the child a long time to attain the concepts *tourist* and *immigrant;* indeed, the environment may not be as informative as the usual experimenter, since the child may not always be informed, or reliably informed, as to the correctness of his guesses. No wonder a child might form the concept that a tourist is any well-dressed person who drives a station-wagon with an out-of-state license plate!

The purpose of teaching is to short-cut this capricious process of concept attainment within the natural environment. Through the use of language, there should be relatively little difficulty in explaining to a child that an immigrant is one who moves from one country or region to another in order to change his permanent residence, while a tourist is one who travels around for pleasure without changing his permanent residence. One can use simple explanations like: "He's going to stay here, have his home here . . ." or "He's just traveling around for the fun of it while he's on vacation, and someday he'll get back home." There should be no difficulty, at any rate, if the child has already mastered certain prerequisite concepts. Among these prerequisite concepts would be: the concept of home or permanent residence and all that it implies; the concept of the division of world territory into different countries and those in turn into regions; and the concept of traveling for pleasure or curiosity. It is very likely that the child who is having trouble understanding the concept of tourist vs. the concept of immigrant has not got clearly in mind these prerequisite notions that constitute, in fact, the criterial attributes upon which the distinction hangs.

Alternatively, a child might be having trouble because he has not dispensed with irrelevant aspects of these concepts; he might think that a tourist has to be always an American, whereas an immigrant must be a foreigner, because he has seen *American* tourists and *foreign* immigrants, no *American* immigrants nor *foreign* tourists. The ingenious teacher will think of the possible misunderstandings that could arise through the influence of irrelevant attributes of tourists and immigrants.

. . . Concepts can be taught. One procedure can be called inductive: it consists of presenting an individual with an appropriate series of positive and negative instances of a concept, labeled as *such*, and allowing him to infer the nature of the concept by noticing (constant) features or attributes. This is the procedure followed in the usual concept formation experiment: although our present knowledge allows us to specify several *necessary* conditions for the formation of a concept, we still do not know what conditions are *sufficient*.

Another procedure for concept teaching may be called deductive, and it tends to be the favored procedure in school learning (and, in fact, in all expository prose). It is the technique of presenting concepts by verbal definition or description. This technique has received relatively little attention in psychological experimentation, but it seems to parallel inductive concept attainment in the sense that verbal descriptions are specifications of criterial attributes that can enable

the individual to shortcut the process of hypothesis, discovery, and testing that typically occurs in the inductive concept-attainment procedure. Nevertheless, it is not known how relevant our knowledge of critical factors in inductive concept formation is for the guidance of deductive teaching procedures.

...The efficient learning of concepts in school probably involves both inductive and deductive procedures. An analysis of typical concepts of the sort taught in school shows that they do indeed follow the models studied in psychological experimentation, but that they are more likely to involve complex relationships among prerequisite concepts. The difficulties that learners have in attaining a concept are likely to be due to their inadequate mastery of prerequisite concepts and to errors made by the teacher in presenting in proper sequence the information intrinsic to the definition of the concept. . . .

FOOTNOTE

[1] Earl B. Hunt, *Concept Learning: An Information Processing Problem* (New York: Wiley, 1962).

ROBERT M. GAGNE*

Guidance in Concept Discovery

It is of some importance to note that a learning *situation* can readily be set up to require human beings to discover concepts with almost no guidance. Goldstein and Weber (1965) arranged a learning situation in which learners of high school age were asked to make a choice on successive exposures of two nonsense figures. Confirmation of correct responses was provided in such a way that in one group of learners "position" was the correct choice (i.e., the one on the right), and in another group, a particular appearance was correct. The subjects were asked simply to indicate choices, and minimal verbal directions were provided. The positional concept turned out to be much more difficult for these human subjects to discover than was the appearance concept. But in either case, it took a relatively large number of trials before the discovery was actually made.

If one examines these kinds of situations dispassionately, they lead naturally to the following conclusion: Discovery without guidance makes the learning of concepts a terribly slow process. It is quite evident that adult human beings do not typically learn concepts by this method. If one wants an adult to learn to choose the one on the right he says, "on the right," and the concept is attained in a single trial. If one wants efficient behavior in a reversal problem by seven-year-olds, he says "opposite," and the concept is available for use at once. Examples from school learning situations are not different in principle. The student does not start to learn what a *cell* is by discovering that this is its name; he is *told* what it is. The child does not begin the process of discovering what a circle is by searching for a drawn circle; he is told what it is. That is to say, when the (labels) have been

* From Robert M. Gagne, "Varieties of Learning and the Concept of Discovery" in Lee S. Shulman and Evan R. Keislar, eds., *Learning by Discovery: A Critical Appraisal*. Chicago: Rand McNally Company, 1966. pp. 142-143.

previously learned, as verbal responses or some other kind, it is considerably easier to arouse their recall by means of some verbal instruction than it is to expect them to be discovered. . . .

It is true that there must be a difference between the use of a previously learned concept by an adult in a new situation, on the one hand, and the absolutely brand-new learning of a concept by a young child, on the other. Perhaps the latter is not and cannot be done simply by transferring a previously learned verbal label, acting as a mediator, to a novel situation. The young child must have to respond to a certain number of instances of a given class before he is able to respond conceptually to any member of the class; and in addition, he must have differentiated negative from positive instances. . . .

As a hypothesis concerning how a child might learn a concept, the following is offered . . . :

(a) Show the child one instance of the concept (e.g., edge, as the edge of a piece of paper), and say, This is an edge.
(b) Show him another instance, such as the edge of a swimming pool, and say, This is an edge.
(c) Show him a negative instance, such as the side or top of a cylinder, and say, This is not an edge.
(d) Show him still another object, such as a cup, and pointing appropriately, say, This is an edge, and, This is not an edge.
(e) As a test, give the child a box and say, Show me the edge.

. . . More examples, both negative and positive, might be needed for some children than for others. A teacher might prefer to use a questioning form of statement in most cases, rather than the declarative form. But it is most important to note that this is a highly guided procedure, which requires communication through language for its success. There may be an internal process of discovery in the attainment of the concept, but the external learning situation is one which uses extensive guidance.

ZOE A. THRALLS*

Development of Concepts

The acquisition of concepts in any field is gradual and cumulative because a concept is a complex affair. A (student) may recognize the word "climate," but may not have much of a concept of "climate." Thus the teaching of concepts requires both time and skill on the part of the teacher – skill in introducing the concept and time filled with numerous appropriate pupil experiences related to the concept. A concept must have meaning and usability before it becomes a part of the learner's thinking. The teacher cannot give meaning to the learner. He can act only as a guide as the learner gradually constructs concepts out of his own experiences.

...The teacher must keep in mind constantly that the process of learning is gradual and cumulative. He cannot expect complete understanding at the time the concept is introduced. The growth in understanding of a concept proceeds step by step in ascending levels of difficulty. This expansion of a concept, or growth in understanding may be illustrated with some examples. One example, the *river*, is fairly simple; the second concept, *latitude*, is more difficult and complex.

The term river means "a large natural flowing body of water." The learner first becomes acquainted with a specific river either through actual experience or vicariously through reading and pictures. He learns that it is a large flowing body of water. It has banks, a channel, and slow or fast current. He may note that man uses the river as a highway.

Next, he has experiences with other rivers and notes their particular characteristics. Some flow rapidly, others slowly. Some have deltas

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* From Zoe A. Thralls, "The Importance of Developing Geographic Concepts" in the *Journal of Geography*, 59:280-282 (September 1960).

at their months, others do not. Some have low fairly level land for their banks; others flow between high rocky walls. He begins to discriminate between rivers and other large bodies of water. At this stage he is increasing his general information about rivers. His concept of rivers gradually gains in clarity, specificity, and abstractness. By this time, he recognizes that although rivers differ, they have common characteristics. He has gained the basic meaning of the term, river. He can now use the term with real understanding.

He is ready to acquire a more comprehensive understanding of rivers and to classify rivers in various categories. He also begins to understand how man's activities may be affected by different rivers and how man may use them. He now has a rich and meaningful concept as a part of a system of ideas.

Latitude is a much more difficult concept to acquire. It is an abstract idea to start with and also is dependent upon a background of experience with such concepts as sphere and direction. Latitude is a means of measuring distances by degrees north or south of the equator. (Learners) can memorize that definition, but it will have no meaning to them and they will not be able to use it unless the concept is developed step by step under the teacher's guidance. Furthermore, a certain intellectual maturity is necessary.

First of all, the learner must recognize the difficulty of locating places on a sphere such as the earth. How can that be done? In attempting to solve that problem the necessity of latitude or some means of location and measurement becomes evident.

By questions, the teacher helps the learner to recall the equator and its meaning and the poles. These terms the (learners) should have become acquainted with in the fourth grade. The teacher guides them in recalling how they used such general terms as "half-way to the North Pole," or "near the Equator." Now a more exact method of measurement is needed. The teacher introduces and explains latitude and degrees of latitude. In his explanation, he compares the lines of latitude to east-west streets and degrees to the numbers on the houses which help us locate a friend in a city. Some learners are bothered by the fact that the lines of latitude run east-west, yet they measure distance north-south. If this point comes up, the teacher may mark off on the blackboard a series of lines one foot apart up from the chalk tray. Then the learner will see that these parallel lines help one to find the distance *up* from the chalk tray, although the lines run the opposite direction. Exercises that require the learner to find on the globe and on maps cities at various latitudes north and south of the Equator should follow this explanation.

The next step is to guide the learner in recalling from his fourth grade experiences the significance of location at different distances north and south of the equator in terms of length of day, sun position, and climatic conditions. Then, in the fifth grade, the (learner) learns how latitude is related to the frost-free season, the crops raised in northern and southern United States, the length and severity of winter, and other every day items. Thus, in recalling his fourth grade learnings and adding new information, he begins to see the significance of latitude in man's life on earth.

Learning and application activities should follow discussion. The purpose of these activities is to make the concept clearer and more exact. The activities should require the learner to locate a number of places both north and south of the equator by latitude. Then he should be able to tell approximately (1) the sun position during the summer and during the winter at that place; (2) the length of daylight in the winter and in the summer; (3) the probable length of the frost-free season, and (4) the possible crops if there is sufficient rainfall. Of course other factors affect the crops raised in any area, but latitude is always one vital factor.

Now that is as far into the concept of latitude which a fifth grade (student) is able to go, and some may not be able to reach that level. Not all (students) can be expected to attain the same level of understanding. In the sixth and seventh grades, the learner may be able to take further steps forward under the teacher's guidance.

Thus, the building of concepts . . . is a gradual and cumulative process. It really never ends, but the teacher can be fairly satisfied when the child is able to use the concept to attack new problems. For instance, if the (learner) can use the concept of latitude in attacking such questions as these:

Over how many degrees of latitude does Chile extend? Is it in the north or south latitude? What does the great extent of latitude (17° S. to 55° S.) suggest concerning climatic conditions in Chile? In what months of the year would crops be harvested in Central Chile? What possible crops might be raised in Central Chile?

Gradually the (learner's) concept of latitude is extended and he notes certain factors which modify the effects of latitude, such as terrain, location on a west or east coast or in the interior of a continent. He also gains new concepts and modifies or extends the concepts of latitude and climate. He may be able to develop some simple generalizations such as, "The climate of a region is influenced to a large extent by its latitude"; "In the middle latitude lands have four seasons, and the weather varies with the season."

BARRY K. BEYER*

Teaching Concepts in the Classroom

Concepts cannot be given or told to anyone – at least not beyond the level of simple recognition, anyway. We must develop our own concept of something if it is to become a useful part of our cognitive library. . . . Teaching concepts . . . really means putting students into learning experiences that will facilitate their own conceptualization about a given concept.

Conceptualizing is a lengthy process. It consists basically of two steps. It requires us first to internalize a rudimentary structure of a concept, a kind of skeletal mental image incomplete and unfleshed out in terms of all its more subtle dimensions and interrelationships but still possessing at least some basic elements. Then, we must use this concept to analyze new experience or data in order to develop new insights and meaning. In so doing we broaden the initial concept by adding dimensions that become apparent during this experience. Helping students conceptualize thus requires us to guide them in engaging in these two operations – introducing a concept and then broadening or refining it.

Introducing Concepts Concepts may be introduced in any of several ways. One approach is to tell the students our image of a given concept – to outline it for them and then describe it by giving an illustrative example or two. Or we might present a concept as imagined and explained by a social scientist. Either way, we are only presenting – telling – giving the students someone else's version of the concept to be studied. Using this approach can familiarize students with the broad outlines of a concept, but they will not understand or know

* From Barry K. Beyer, *Inquiry in the Social Studies Classroom: A Strategy for Teaching*. Columbus, Ohio: Charles E. Merrill Publishing Co., 1971. Reprinted with permission.

this concept as a result. Internalizing a concept — making it part of one's own mental library — requires student *use* of the concept to analyze new and different bodies of content in subsequent lessons.

A much more useful approach to introducing students to a concept and to conceptualizing is to involve the students *in learning* activities that require them to invent their own conceptual images about a particular thing. This requires us essentially to engage the students in:

1. Brainstorming
2. Grouping or classifying
3. Identifying interrelationships
4. Synthesizing

Brainstorming is exactly what it implies — listing of all the various implications of a word or phrase or its synonyms or implications or associated terms. Its purpose is to get into view all the possible aspects of some particular idea or object. This is the first step — trying to become aware of all the various terms or behaviors associated with a particular concept. It may be done by merely deciding to "Think of all the things that are associated with X," without any specific preparation. Or, such an activity might well follow some experience that contains certain elements generally associated with the concept.

Once these associated terms or features have been listed for all to see, they must be categorized. All those terms with similar features should be placed in a single group and the group labeled with whatever term describes the common element.

Then the groups must be examined in order to determine which ones might have any relationships to each other. Some will appear to be elements of major significance while others may be related to one of these elements.

Once these relationships have been established, the groups may be arranged — mentally or visually as in a diagram — so as to make these relationships readily apparent. This operation is really a synthesizing of all the data. The result is a concept — a mental image of whatever it is we have been working with.

Suppose for example we wish to develop a concept of *landscape*. First, it is necessary to brainstorm about it. What do we think of when we think of landscape? Perhaps the following terms come to mind most readily:

homes	roads	billboards
trees	swings	valleys
flowers	shrubs	rivers
hills	schools	parks

erosion	telephone poles	gravel pits
tall grass	flatlands	factories

There could, of course, be many more items. But let us work with these. Are any of these similar? Do any have something in common with any other? Perhaps these could be grouped as follows:

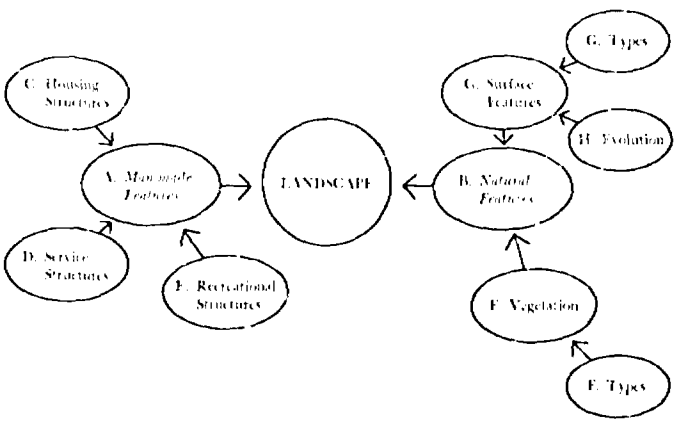
A	B
homes	hills
schools	valleys
roads	erosion
telephone poles	flatlands
parks	trees
swings	flowers
billboards	shrubs
gravel pits	tall grass
factories	rivers

Items in group A are man-made. The others are nature-made. Yet, closer inspection suggests that these groups might even be further subdivided into:

C	D	E
homes	roads	swings
schools	billboards	parks
factories	gravel pits	
	telephone poles	
F	**G**	**H**
trees	hills	erosion
flowers	valleys	
shrubs	flatlands	
tall grass	rivers	

Categories C, D, and E contain different classes of man-made things. Group C consists of structures that house people or property, D of structures that service people, E of recreational structures. The remaining groups have been drawn from the nature-made category: F consists of things that grow on the ground, G of surface features and H of one way the surface features evolved.

Now what are the relationships between these groups? Perhaps the image that emerges is something like this:



This diagram is a representation of a mental image of landscape. Of course, it is obviously incomplete in terms of how a geographer might conceptualize it. He might, for instance, add a dimension of "origins" to the element of surface features and perhaps a dimension of "causes" (meaning the kind of soil, temperature, and rainfall contributing to the growth of the vegetation) to that of vegetation.* Certainly the concept will be altered in time as it is used to analyse a wide variety of landscapes.

It is neither always possible nor even desirable, however, to base the introduction of a concept solely on the past experience or knowledge of the students. In many instances students lack experiences or information that enable them to brainstorm profitably about certain kinds of concepts, especially the more abstract concepts such as *decision-making*, *imperialism* or *spatial interaction*. Instead, students may brainstorm in response to a stimulus or learning experience designed by the teacher to provide them with examples of the concept being introduced.

Instead of having students brainstorm off the top of their heads about the elements of *landscape*, for example, a teacher might present the class first with a large painting of a landscape – or a photograph or drawing of a landscape – or several paintings or pictures of different types of landscapes. The students can examine these examples

* As did John Fraser Hart in his article "Selected Concepts in the Geographic Analysis of Rural Areas," in *Social Education*, December 1966 pp. 607-609.

and identify a number of things they see. A list of what they observe can then be made and the introduction of the concept of *landscape* will be well under way.

Pictures aren't the only media or resources that may be used, either. In introducing the concept of *landscape*, for instance, the teacher might provide each member of the class with a poem about a landscape, or a short essay or even appropriate excerpts from an explorer's diary and then have the students list the kinds of things referred to as part of the landscape in each source. Or, the entire class might go to the classroom windows and record the different things they see outside as part of the landscape. A wide variety of sources are available for use in stimulating brainstorming about any particular concept. Whether a concept is introduced by the teacher himself by telling what he *thinks* it is, or by students brainstorming out of their own experience, or by the class analysis of some examples of the concept, it is important to remember that *this* is only the first step in conceptualizing. The next step – and the crucial one – is to broaden the concept, and, in the process to internalize (learn) it.

Broadening a concept: The second major step in conceptualizing is using the concept in whatever form it has emerged from the introductory stage to analyse new data. In terms of guiding students to develop their own concepts, this means simply providing them with opportunities to work with data that will not only reinforce the basic elements of the concept but will also broaden the total concept itself by adding new dimensions. In so doing the basic elements of the concept may be altered considerably as experience with new data causes their modification, amalgamation or even outright elimination. The process of refining a concept is never-ending, for the more a concept is used the more useful it becomes – and the more it is then used.

Broadening and refining concepts require the use of different kinds of data. Initially students should work with data that reflect the essential elements of the concept as they have thus far been developed. Then data having other elements commonly associated with the concept may be introduced and analysed so that new dimensions of the concept will emerge. Finally, data that is somewhat similar but which lacks the basic ingredients of the concept may be examined -- not to broaden the concept itself so much as to reinforce its essential elements by contrasting them with different data.

It is quite possible, for example, that initial efforts to conceptualize will neglect one or more dimensions of a concept which we or others believe are important. Therefore, students must be put in touch with

new data, the analysis of which will lead them to at least consider adding this dimension to their image of the concept. If students fail to include a category of "housing structures" in their initial image of *landscape*, for instance, and most experts believe this to be an important part of landscape, then we must provide the students opportunities to use data in which housing structures are very prominent – such as a photograph of a housing development perhaps. As a result of this experience the students should add a new dimension to their concept in order to provide a category to account for this type of data.

Having thus guided the students to invent their own concept of *landscape* as described above, we can help them broaden and refine it by having them use this concept to explain a variety of new data. The concept of *landscape* described above may certainly be enlarged as it is used to analyse the landscape of Brazil when studying that country in world geography, the landscape of Boston in studying the eighth grade unit on the American Revolution and in studying some of the work of European painters in the European history course. This same concept may even be used to make sense out of a painting perhaps by Remington, a film on Asia, a selection from *The Red Badge of Courage*, one's own front yard, the battle field at Gettysburg or even a photograph of astronauts on the moon. It could be used to make meaningful any particular site for any event at any time or any place in history.

Knowledge of concepts may be evaluated in a variety of ways, too. Whether or not a student has developed a well-defined concept of *landscape*, for instance, may be determined by asking him to describe it orally or in writing – or even by drawing a picture. Or, he might be given three or four pictures taken in a certain area or a topographic map or an aerial photograph and be asked to describe the landscape he sees. In any case, should his description include comments about the major elements of landscape as developed in class, then it would be fair to assume he has begun to internalize this concept. If there appears little recognition of these elements, however, then further inquiry into the nature of landscape may be in order.

Students Develop the Concept *Imperialism**

Imperialism has the advantage of being a key concept for understanding the events that shaped American foreign policy during the period, 1898–1901, and for understanding international relations today. It is a concept for which there is no complete definition – a sort of "accommodating term" covering a number of events and generalizations open to exception. Also it is a term about which there will be differences of meaning held by members of a class.

...The following procedure was employed. Prior to class discussion of the meaning of imperialism, students were asked to write what imperialism meant to them. A follow-up discussion was conducted by the teacher for the remainder of the period to formulate a class definition for the group's use of the term. In a subsequent period students were asked to take their class definition of imperialism and (1) to apply it to the period of the Spanish-American War, stating wherein the definition as formulated by the class was adequate and inadequate; (2) to apply it to the . . . period of American foreign policy in the Eisenhower Administration, stating wherein the definition was adequate and inadequate; and (3) to state what the analysis made in (1) and (2) suggested to them about a concept such as *imperialism*....

The procedure that developed with this particular class might be summarized as:

1 Selecting a key concept.

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* From Fred P. Bar[illegible]s, ed., *Developing Concepts — A Study in the Teaching of History*, The Curriculum Research Series, Bulletin No. G-Two-A, Illinois Department of Public Instruction, 1958. pp. 10-28.

2. Involving students in a verbal expansion of the concept as a means of reducing it to words that refer to action. (Getting an operational definition.)
3. Involving students in setting rules or conditions for their use of the concept.
4. Applying the definition, with agreed-upon conditions, to several different situations as a means of developing discrimination, accuracy, and flexibility in using the concept. . . .

The Operational Definition of Abstract Terms

An important factor in helping students develop competence in the use of an abstract term, such as "imperialism," is to have them reduce it to words that refer to actions and behaviors which are part of their experience.

In the class referred to above, each of the students stated in writing and most of them expressed orally in the discussion period those actions and behaviors on the part of nations that to them were signs of imperialism. Representative student responses are cited below to illustrate "the verbal filling out" that students did in reducing the meaning of "imperialism" to behaviors and actions for which they had already developed rather accurate meanings.

> I call a country imperialistic if it interferes in the affairs of another country to gain benefit for itself. This can be done by spreading propaganda or supporting some faction that will achieve the things that the country is trying to do or by using out-and-out force. If a country uses force to gain complete control over another country as the Soviets have done with their satellites, then that is imperialism. If a country has a colonial empire that it forces to trade only with the mother country or impose other restrictions upon, then that is imperialism. If a country spreads its natural ideology to other countries and causes them to change their type of government to the first country's type, then that is imperialistic.
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> When I think of a country being imperialistic I am usually not thinking in a very complimentary way of that nation because the word, 'imperialism,' has become one with a shady meaning. An imperialistic nation, to me, is one with goals to expand beyond its borders for the purpose of bringing other areas and people of the world under its influence to establish some sort of empire.
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> • • •
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> Imperialism has a negative meaning and I usually speak of it in reference to a nation that forces its government, traditions, and laws on another country.

. . . This "verbal filling out" suggests the importance of providing opportunity for all students to reduce abstract terms to a level as close as possible to things and actions that come within their experience. . . .

Distinguishing Between Conditions for Use of a Term and Causes of Events

Helping students to think through conditions for the use of an abstract term can create problems unless the teacher is alert to the ease with which the discussion can shift to causes of a state-of-affairs. The abstraction taken from the running notes of a class discussion illustrates this point:

TEACHER: Can we come to some agreement on the meaning of this term, "imperialism?" What does it mean to you?

DON: It's one nation interfering in the affairs of another nation.

MARY: It's a strong country that wants prestige or land or control of another country.

ELAINE: Why, it's simply a country that's attempting to build an empire.

JIM: Imperialism means some kind of influence on another country or people.

BETTY: I'd call the Spanish-American War imperialistic even though it was fought to free the Cubans.

TEACHER: If imperialism has a connotation of control or influence, why do you say the Spanish-American War was imperialistic, although it was fought to free the Cubans from Spanish rule?

BETTY: Cuba got its independence supposedly, but the Platt Amendment gave the United States control over Cuba for some time.

TEACHER: Are we in agreement, then, that imperialism exists when Nation X attempts to influence or control Nation Y?

STEVE: We ought to add to that — by getting control or possession of its natural resources.
(The statement read: Imperialism exists when Nation X attempts to influence Nation Y by getting control or possession of its natural resources.)

TEACHER: Are there other conditions that should be considered?

(Pause)

TEACHER: Conditions that give rise to or promote imperialism?

JIM: Overpopulation. Countries have to find a place to send surplus population. Colonies make a good place.

JOE: When a country needs markets for surplus products.

MARY: Industrial development . . .

FRED: Underdeveloped areas of the world create a vacuum that invites imperialism. Some nations – usually big ones – move into the vacuum.

DON: A nation's security and welfare goals may cause it to follow an imperialistic policy.

The first seven student responses indicate that the students were describing actions of nations, and in so doing they were developing an operational definition of imperialism. . . .

In the abstract given above, the reader will note that consensus for a portion of the definition seems to have been reached at the point where the group agreed that, "imperialism exists when Nation X attempts to influence or control Nation Y." At this point the teacher attempted to keep the discussion open for further consideration of conditions for use of the term, but the discussion shifted suddenly to causes of imperialism. The wording of the teacher's question is the key to the sudden shift in the direction of the analysis. By adding, "conditions that give rise to or promote imperialism" the teacher directed student thinking *away from* conditions for use of the term *to* conditions that describe or tell how a state of imperialism comes into existence. . . .

Conditions for the use of a term and conditions that describe or tell how what the term stands for are two quite different things. The former is an essential aspect of concept analysis whereas the latter is not. When the purpose of a discussion is to set the rules or conditions for use of an abstract term, the teacher needs to be wary of shifting thinking away from the development of an operational definition to a discussion of causes. To shift inadvertently from one to the other, without helping the class to understand what is happening, is to contribute to student misunderstanding of the concept and the conditions for its use.

Refining and Searching for Better Concepts

Having formulated a definition for the use of a concept, students may think that they have a complete definition that is adequate when applied to different situations. Providing experiences whereby students learn that operational definitions give only sufficient conditions for the use of a term is important to developing an understanding of concepts. . . .

In the classroom analysis of the concept *imperialism* referred to in this discussion, the teacher provided such an experience for the students by asking them to apply their definition of imperialism to the periods of the Spanish-American War and to the current period of American foreign policy indicating wherein their definition was adequate and inadequate. They were also asked to state what their application of the definition to these two periods suggested to them about the concept.

The definition that developed in class discussions and that was applied to the two different periods in the nation's foreign policy follows:

> Imperialism exists when Nation X attempts to influence Nation Y by getting control or possession of its natural resources *or* by making Nation Y dependent on Nation X for manufactured or imported goods *or* by making Nation Y accept the political or religious creed of Nation X.

Excerpts are taken from students' papers to illustrate how the application of a definition can serve the dual function of providing practice in "testing" a definition in several different situations and of helping students recognize the adequacy-inadequacy of their definition.

Sample A

> According to the definition, American policy at the time of the Spanish-American War was imperialistic because we inflicted our own system of government on the people of the territories gained as a result of the Spanish-American War. However, I don't believe it is this simple. One factor in a nation's actions, which is not included in the definition, is motivation. We controlled these territories as we did for the benefit of the people. We intended from the first to prepare them to govern themselves and eventually they were freed. I am not sure that these two differences make our policy non-imperialistic, but I think some provision should be made for them in the definition.
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> • • •
>
> It seems to me that the only question in applying this definition to our present foreign policy is whether the United States is trying to make other nations accept our ideology – the democratic way of life. In my opinion the use of persuasion cannot be considered imperialism, and I think this should be clear in our definition, i.e., that imperialism exists when nations *are made* to accept these ideas against their will. This rules out persuasion. In other respects I think this definition is clear enough.

... In applying the definition to American foreign policy at the time of the Spanish-American War, the student in Sample A finds it

adequate. But, then she goes on to point out that since no provision is made in the definition for a nation's motives and intentions, the definition is lacking in completeness. She raises the question of whether or not it is quite accurate to use the term "imperialism" to describe the nation's policy at that time.

Since this point had not been raised when the class developed its definition, it is of some interest to the teacher that several students made somewhat similar observations in testing their definitions. . . .

In applying the definition to the nation's current foreign policy, the student in Sample A raises the question of persuasion as an action that is or is not a condition of imperialism. For her it represents an extension of the definition and one that seems to have broadened her understanding of the term.

The excerpts that follow are cited to illustrate further the kinds of modifications that other members of the class regarded as necessary in the use of the definition.

Sample B

> I think the second part of the definition should be changed and restricted so that imperialism is not the case if Nation Y gets its materials from more than one Nation X *or* if only one Nation X is involved, the costs are fair in terms of the value of goods received.

Sample C

> In certain times a nation is forced to take the offensive against imperialism by indulging in it. I think in such an instance that we can hardly be condemned for trying to keep the USSR out of the Middle East. There can be no absolute definition of 'imperialism.' It must be relative to what the world situation involves and what has come before in the country. I would add as a condition to the definition – 'if such action effects a change for the worse in the freedom and welfare of the people of Nation Y'.

. . . In samples B (and) C . . . students suggest that in order for the definition to be adequate in today's world, it needs to include conditions describing a nation's action in respect to trade and foreign aid. There appears to be some question in their minds as to whether or not alliances, foreign aid, and trade-investment developments among nations today are new actions of nations that are signs of imperialism or of something else. From the fact that these concerns were expressed, it might be reasonable to assume that students were making a conscious effort critically to examine their definition and to identify at what points it was adequate and inadequate when applied to given situations. . . .

The procedure of applying the definition to two different situations seems to have involved students in a process of adding to and sub-

tracting from, as well as re-examining and re-interpreting conditions for the use of the term – important activities in the critical searching for better concepts.

Setting Limits for Use of Concepts

Another kind of problem that developed in the discussions of the meaning of imperialists was that of agreeing on the limits to set for the use of the term. This is an aspect of concept analysis that can be useful in helping students understand the nature and function of historical concepts.

TEACHER: We've raised the question of determining at what point a nation becomes imperialistic. It's like crossing a line. Up to a point it is and beyond a given point it isn't imperialistic. Where is the cutting edge in our use of this term?

DON: It's something you have to creep up on. Once you get on it you've kind of passed the point already. It's hard to tell because you can't look at all the events and see the effect.

FRED: I don't think there is a cutting edge. The concept is just used to know relative standards thought of a country. You can only say that one country is more imperialistic than another.

HELEN: There are so many factors involved that it's almost impossible to specify a point at which a nation's activity becomes imperialistic. A cutting edge would be purely arbitrary and very difficult to agree on. I think it would be more useful to set up conditions for the use of the term, and the more the country met them the more imperialistic it would be.

Working with their definition and applying it to different periods in the nation's history helped to make students aware of the difficulty a group encounters in reaching agreement on any one point that might serve as a cutting edge for their use of the term, "imperialism."

. . . The difficulty of setting a cutting edge became apparent to the class, and this was the time to help them understand that historical concepts, unlike concepts in science, are "accommodating terms" that cover a great many events happening in different places at different times. In history we do not specify that any single event or set of events must be present if a state of affairs is to be termed "imperialism." To do so would be to destroy the utility of the concept. Hence, *imperialism*, like many concepts in history, has an element of vagueness that makes it difficult to "pin down." Helen is saying precisely that, in the abstraction from the notes given immedi-

ately above, namely, "A cutting edge would be purely arbitrary and very difficult to agree on."

Identifying and Using Concepts That Describe and Rate

A fifth aspect of concept analysis important to the social studies teacher is helping students to recognize and understand the descriptive and rating functions performed by concepts. Words like "good" and "bad" are used to approve or disapprove; to give or deny value to people and things. But few words are limited just to rating or describing. More often words describe and rate at the same time. The reader will immediately think of a number of such terms in the social studies, e.g., "Americanism," "rugged individualism," "democracy," "revolution," "capitalism," "socialism," "communism," "liberalism," "conservatism," "radicalism." Each of these terms describes or tells us something about the actions and operations of people or things, and in so doing the term is performing a descriptive function. But these terms also perform a rating function: they commend or deprecate, praise or blame, approve or disapprove.

Let's take the term "imperialism" with which we have been working in this discussion of concept analysis. When the students in the United States history class developed their operational definition, they were describing actions of nations, that is, influencing and controlling another nation by (1) getting control of its natural resources; (2) making it dependent for manufactured goods; (3) imposing its institutions on another people. The term, in this sense, is used to describe. However, "imperialism" is one of those terms that may also be used to evaluate or rate, and this occurs when opinions get mixed in with the description. Two of the students' initial written statements on the meaning of imperialism illustrate this point.

> Imperialism has a negative meaning and I usually speak of it in reference to a nation that forces its government, traditions, and laws on another country.
>
> • • •
>
> When I think of a country being imperialistic, I am usually not thinking in a very complimentary way of that nation because the word, 'imperialism,' has become one with a shady meaning. An imperialistic nation, to me, is one with goals to expand beyond its borders for the purpose of bringing other areas and people of the world under its influence to establish some sort of empire.

In each of these two statements, "imperialism" is used to describe and rate. In the first statement it rates and describes at the same time.

In the second statement the student uses the term to tell us how it stands with him, and in the last sentence of the statement, "imperialism" serves a descriptive function.

Undoubtedly, these two students assumed they were describing actions of nations, that is, telling what the term "imperialism" meant to them, when actually they had gone beyond this to state an opinion of imperialism. In both instances they used the term to tell how imperialism stood with them. Although they judged it bad, it might be good or bad depending on the criteria they used in arriving at their judgment. For example, one person might hold that nineteenth century imperialism, as developed by western European nations in Asia and Africa, was bad. His criterion for arriving at this judgment is that all people, regardless of race or creed, have the right of self-determination. Since, in his opinion, the actions of western nations did not measure up to his criterion, he rates imperialism bad. Another person might approve nineteenth century imperialism, using as his criteria the development of natural resources, the modernization of industry and transportation, and the education of the people of underdeveloped areas of Asia and Africa.

Disagreements of this kind can be resolved by deciding which is the better set of criteria for rating imperialism or any other set of conditions. To do this it is necessary to set up and reach agreement on some criteria to determine which is the better set. If such criteria are lacking or if agreement cannot be reached on those supplied, the individuals concerned will continue to rate imperialism differently.

It is important if students are to develop skill in the use of concepts in the social studies that they understand the dual function many concepts serve. It is equally important that students know when they and others are using terms to describe or to rate or to do both of these. They need also to be conscious of the criteria that are operating when terms are used to approve or disapprove. They need, likewise, to recognize that when people disagree on criteria, they will rate the same thing differently. . . .

Attempting to determine what rules or criteria people have for their opinions should help students develop some understanding of the importance of criteria as the key to determining whether or not any basis exists for reaching agreement. When abstract terms are used to evaluate or rate, and there is disagreement about criteria, trouble is inevitable, be it in a classroom discussion or in an international conference. Students who are able to act on these understandings are developing more efficient concepts and becoming more efficient thinkers.

VERNA S. FANCETT*

How Concepts Develop

Concept development begins in early infancy and normally continues thoughout life. Thus the child enters school with a number of concepts in the process of development, and it is well to remember that many concepts will continue to develop as a result of experiences outside of school. In pointing out the preeminent role of concepts in an individual's life Russell comments: "The adult's concepts determine pretty well what he knows, what he believes, and thus in large part what he does."[1]

... Concepts develop in the classroom out of a stimulus provided by the teacher. The student looks at a picture, reads a passage from a book, listens to a speech, feels the surface of a raised relief map, or tastes strange food from a foreign land. The (impressions) growing out of these sensory experiences are the first step toward concept development. The student describes to himself what he senses and how he feels about it, moving back and forth between the sensory experience and his thoughts about it. The accuracy and emotional content of his perceptions influence the extent of his progress in developing a concept. If he is expected to be content with remembering what has happened, little progress toward concept development will be made. What he needs is time to think in order to solve the problem of meaning by organizing his perceptions to see how they fit into what he already knows – his memories and mental images, or imagination.

... may be that the student is confronted with a situation so unique that he has no past experiences to use as tools for transforming his perceptions and feelings into a meaningful pattern. He faces ideas that are entirely new. In this case his concept will be initiated on the basis of the single experience, and will be described in his mind by the

* From Verna S. Fancett *et al.*, *Social Science Concepts in the Classroom*. Syracuse: Social Studies Curriculum Center, 1968. pp. 21-25.

perceptions and feelings gained at that moment. Or, he may have had some experience in the past which is related to this concept, but may be only vaguely aware that something is familiar; he may be unable to decide why it is familiar, and, therefore, be unable to use the materials for further development of the concept. He is not able to establish the necessary relationships with something he already knows. If he does recognize similarities between the present and past experiences he can begin to fit the parts together, to extend the base of his understanding, in other words, to develop a concept.

Imagination plays a significant role at this time because no two events or ideas in human activity are likely to be identical. Imagining how one event might be related to other events requires more creative search than simple recall of a concrete item. One might consider the process of thinking at this stage as a sorting through memories until the right item is located. All the while, memories and imagination are being influenced by emotions as the searcher describes to himself how he feels about what is happening. If this does not take place concept attainment is abandoned.

Having identified related materials, the learner then abstracts the relevant elements and sets aside the irrelevant. Connections between the relevant elements are sought and tested, and adjustments are made as relationships are clarified. Gradually the pathways are made between items of knowledge which expand an original idea into a larger, more powerful whole. A more complex concept has been formed. In the future, under different circumstances, confronted with different materials that stimulate his thinking, he will repeat the processes of sensing, perceiving, recalling, imagining, abstracting, discriminating, relating, testing, generalizing. His concept will be adjusted and reformed as understanding grows. The process may be repeated again and again or the concept may be retained, with little change, for long periods of time. . . .

Varied Experiences Do More To Promote Concept Development Than Repetition of the Same Experience

As has been emphasized, each individual builds his own concepts; no one can "give" a concept to another. A variety of experience, related to the same general idea or concept, enables the learner to recognize the central idea involved. Such experiences should make use of as many kinds of sensory experience as possible, in contrast to a single stimulus, such as the teacher's voice. The effectiveness of varied

experiences form the basis of the multimedia approach to communications.

If understanding of a concept rests upon the repetition of a single experience there is considerable likelihood that the understanding will be extremely narrow, and possibly even distorted. As truth is said to have many faces, so does a concept. Abundant experiences, all of which focus on the same general concept, should protect the learner from stereotyped patterns of thought.

Concepts Develop From Vicarious Experiences and From Noting Similarities and Differences As Well As From Direct Experiences

As our social order becomes more complex the opportunities to form what Joyce has called "observed concepts" become fewer. Direct experiences may consist of verbal statements made either in person or by means of films, radio, or television. They also result from physical activities and from first-hand experience with objects in the environment.

However, since concepts are abstractions many of them grow out of inferences based upon comparisons and contrasts in what is perceived, what is remembered, and the mental images one retains. Both inductive and deductive reasoning may be employed in developing concepts. It is possible to provide a concrete demonstration in order to allow the learner to reason inductively and develop his own idea of the concept involved by moving from the known to the unknown. Other concepts may need to be developed deductively because they may not be demonstrable or because the method of induction is too time-consuming.

Concepts Are Acquired Chiefly Through The Medium Of Words

The importance of verbal learning has been pointed out by Brownell and Hendrickson: "We deal with facts and relationships which are recorded, studied, learned, remembered, and used by means of words."[2] There are other ways of learning in addition to words—perceiving, motor activity, and feeling. But as the individual acquires facility in the use of language more and more of his learning depends upon words.

This dependence on words sometimes leads the learner astray because the term encountered means something quite different to the learner than was intended by the author. Ernest Horn noted some thirty years ago that social concepts appearing most frequently in

books and periodicals are poorly understood. His conclusion is startling: "The more crucial and basic the concept, the more seriously inadequate, apparently, are the student's ideas about it."[3] Professor Horn reports numerous studies which indicate misconceptions arising from the meanings of words. He comments that words which express the author's thought reasonably well are significant to the reader only in so far as they are related to his purposes and experiences.

Concepts Develop Slowly In A Child's Mind

Concepts appear to become more securely fixed in a child's mind when they are developed over a period of time, rather than in a single concentrated study. This is what Jersild refers to as "seasoning" – the opportunity a child has to have related experiences, recall past experiences, see connections, and test relationships in a continuum of situations as he matures.

The process may involve much "learning and unlearning," even relearning, as he recognizes inconsistencies in his understanding and adjusts the pattern of thought to accommodate the new learning. Thus when a concept grows in a student's mind he both gains and loses, for in order to change his concept he must put aside some belief previously held to be true to accommodate something else he has come to accept. In the long process of maturing the student will experience many such changes related to his understanding of concepts. . . .

Concepts Develop At Different Rates For Each Person

The rate at which concepts develop will differ from person to person, depending on age, maturity, intelligence, personal characteristics, motivation, past experiences, and – as a result of this – the extent of conceptual understanding brought to the learning task also will differ. At the upper grade levels where students are usually expected to work with many types of concepts, teachers find that some students require more time to understand relationships of an economic nature than those that are political or social. To others, it may be concepts such as causation, viewpoint, or objectivity that seem most difficult of all to change.

FOOTNOTES

[1] David H. Russell, *Children's Thinking*. (Boston: Ginn and Co., 1956), p. 120.

[2] William A. Brownell and Gordon Hendrickson, "How Children Learn Information, Concepts and Generalizations," *Learning and Instruction*, 49th Yearbook, Part I, National Society for the Study of Education. (Chicago: University of Chicago Press, 1950), p. 93.

[3] Ernest Horn, *Methods of Instruction in the Social Studies*. (New York: Charles Scribner's Sons, 1937), p. 145.

PART IV

What Are the Implications of Concept-Teaching?

Successful concept-teaching in social studies – at all grade levels – requires that both teachers *and* students behave somewhat differently than they do in a traditional classroom setting. Concept-teaching has important implications for teachers in how they plan learning experiences, guide them to fruition and evaluate the results. It also has implications for how students learn and what they do in the classroom. And finally, concept teaching has numerous implications for a school's entire K-12 social studies curriculum and educational program. Identifying some of these implications is the purpose of this concluding section.

The beginning teachers referred to in the report of the study by Agnes Inn that follows were first-year teachers in a school system that has a concept-oriented social studies curriculum. However, the kinds of problems and concerns with which these teachers had to cope as they tried to "teach" concepts for the first time are the same kinds of problems and concerns that face any teacher – experienced or inexperienced – who tries to engage in concept teaching for the first time. Thus, the points made here are quite relevant to all educators initiating concept teaching in social studies.

The final selection is intended to do what we have been unable to find done elsewhere, to point up some of the fundamental implications of concept-teaching for social studies teachers and students. It is by no means definitive. There are certainly many more obvious and some quite subtle implications we have neglected to mention. Those implications included, however, are those everyone engaged in concept-teaching in social studies ought to be aware of, for unless these are clearly understood and dealt with in a positive fashion purposeful concept-teaching will most likely remain far from a reality in the classroom.

AGNES M. S. INN*

Beginning Teachers' Problems in Developing Social Studies Concepts

The task of providing a sequence of learning experiences that leads to the conceptual objective is not an easy one. . . . The *chief* difficulty encountered by . . . teachers (has) to do with selecting and providing relevant learning experiences for pupils.[1] Relating specific learning activities to the attainment of specific concepts and generalizations proved to be particularly bothersome. This difficulty was noted repeatedly in the logs kept by the teachers and in those kept by their supervisors. It was revealed again in their plans, expressed in private conferences, and observed during their teaching. These sample reactions from the teachers illustrate their concerns:

1. Selecting sequential activities, each related to the main idea.
2. Selecting the best activity to lead pupils to the main idea.
3. Using a variety of activities: doing something besides discussion.
4. Maintaining a balance of activities between reading-type and doing-type and between small-group and large-group endeavors.
5. Clarifying the purposes of activities for pupils.
6. Conducting discussions without having pupils become restless.
7. Formulating thought questions to guide pupils during discussion.
8. Wording questions in a way pupils understand what is wanted.
9. Relating facts and specifics to main ideas in discussions.

An analysis of the expressed difficulty of these beginning teachers, namely, selecting suitable learning experiences for pupils, provides us with some valuable insights into the complexities of guiding concept

* From Agnes M. S. Inn, "Beginning Teachers' Problems in Developing Social Studies Concepts," in *Social Education* (Nov. 1966), pp. 540-541, 548.

development. First, the teachers' own grasp of the particular concept or generalization is critical. It is not simply a matter of possessing sufficient content background that supports and clarifies the concept; *it is equally necessary to have a grasp of the dimensions of meaning or levels of abstraction of a particular concept.**

In planning, the teacher must be able to analyze a concept into component elements and must also be able to arrange such elements on a continuum of difficulty. This is not possible unless he has some depth of understanding of the concept himself. The teachers' limitations in this respect were observed in two ways. They had difficulty in analyzing the conceptual objective in terms of levels of complexity. Teachers tended to perceive the "understanding of a concept" as an all or nothing affair rather than as developmental and continuous. Observation of their teaching revealed also that they often did not recognize the children's statement of the generalization because it was not couched in the language of the teacher or expressed in the way he believed was correct. It was apparent that the teachers were not fully aware of the dimensions of meaning or levels of abstraction of concepts and generalizations and, therefore, encountered difficulty in guiding concept development.

Second, clues that suggest appropriate learning activities are often overlooked because teachers do not realize that a conceptual objective itself may suggest leads to suitable pupil experiences. For example, one of the conceptual objectives identified for a unit on Japan by a sixth grade teacher was "The physical features of Japan influence the ways of living in that country." This relationship can be more readily understood if pupils have had some experience with its application to situations with which they are presently familiar. This suggests the possibility of a field study beginning with observation and identification of physical features found in the children's own environment and relating these to occupations and other aspects of living. Using this concrete experience as a foundation, the class can now move into intensive map study and related research on how the people of Japan, or any other part of the world, are influenced or affected by the physical features found there. Learning experiences for this conceptual objective could have been limited to reading about physical features and their effect on people's lives. But such an experience is a mature and advanced way of dealing with this idea. Preliminary to an encounter with it at this level of abstraction, the pupil should have experienced it in a more familiar and fundamental form and context.

* Editors' emphasis.

Third, the teachers' comments clearly suggest that their search for learning experiences that are varied, interesting, and meaningful was often done without sufficient concern for the conceptual objective to be developed. They tended to want learning experiences that were exciting and different, but they rarely tied this search to the objective. The beginning teachers in the study made a conscientious effort to include learning experiences other than the conventional ones such as reading books, viewing films and filmstrips, and discussion.

The desire to seek and use varied and interesting learning experiences is in itself commendable. But unless such experiences and activities are directed to the attainment of specific objectives, additional difficulties will be encountered. For example, a fourth grade teacher employed role-playing activities for each major concept in a series of units contrasting ways of living in various parts of the world. This teacher appeared not to sense the inappropriateness of this activity as a means of extending pupils' understanding of certain concepts. Nor did the pupils' responses suggest to her that the activity was not achieving its intended purpose. It was evident that she was not sensitive to feedback from the pupils. Another teacher used drawings as the chief method of having children express their grasp of the major idea in their study. There was little apparent concern for the appropriateness of this "interesting" technique to the conceptual objective under study. She was seemingly not alert to the children's difficulty in reducing complex ideas to pictorial representations. Time and again teachers in the study found themselves in a pattern of seeking interesting and varied learning experiences without examining them for their applicability and appropriateness to the objective and to the children.

Fourth, teachers' reliance on discussion throughout the development of a unit study needs to be re-evaluated. The enlightened use of discussion is, of course, well established as a desirable learning activity. Nonetheless, when the discussion technique is indiscriminately employed and pupil contributions naively accepted, the opportunities for learning inaccurate conceptions and mistaken information are ever present. Too often the purpose of a discussion was not clear either to the pupils or the teacher. Consequently, the experience became a recitation by the more verbal children or a dialogue between a particular child and the teacher. Frequently the teacher asked questions that supplied children with answers or questions requiring one-word answers. In either case, there was little if any need for a discussion. Many teachers, apparently, do not realize that discussions are of various types – that the learning being sought at the particular time

influences the type of discussion to employ. This study suggests unmistakably that teachers need greater skill in framing questions that stimulate discussion.

Observations of discussion periods where children were to draw conclusions, to generalize, or to demonstrate their grasp of the objective, revealed that this type of discussion was most difficult. Reaching for the idea often consisted of the teacher presenting a series of leading questions to the pupils. As pupils responded to the questions, the teacher rejected those responses that did not answer the question. The procedure more closely resembled a trial and error recitation than a discussion. In some cases, the development of the idea was limited to recall of facts without the necessary relating of these details to one another in some recognizable pattern. In other cases, the discussion was not supported by learnings developed during the study; hence there was not a common point of reference for both teacher and pupils. In many instances the chalkboard was not utilized to record points as they were made by pupils; thus an important tool was overlooked for helping children summarize and generalize. Discussion can be an important technique for concept development, but this study indicates that it requires skillful handling by the teacher if it is to be so used.

This exploration of teachers' difficulties with learning experiences that lead to the development of concepts has many implications for the teachers' role in guiding concept development. In a sense, the teacher is a programmer of instruction because he has the task of breaking down or analyzing the conceptual objectives into "teachable-learnable chunks." He also has to design learning experiences that are appropriate to each objective and that are at the same time manageable by the children. This is the individual teacher's task because it is he who makes the final decision regarding the actual study and its implementation. No curriculum document, course of study, or resource unit can replace this aspect of the teacher's planning. In this respect, the teacher's role in concept development is crucial.

FOOTNOTE

[1] This paper is based on a study conducted in selected elementary schools in Hawaii during the 1964-65 school year: "An Investigation to Explore Ways of Helping Intern Teachers Analyze and Use Conceptual Objectives." (Unpublished doctoral dissertation, University of California, Berkeley, 1966.)

BARRY K. BEYER
ANTHONY N. PENNA*

Some Implications of Concept-Teaching

Teaching concepts – or, more accurately, helping students conceptualize – is not easy. It cannot be done well in the context of the traditional social studies teaching-learning situation, for concept-teaching requires more on the part of the teacher than telling – and it involves more on the part of the student than mere listening, reading and reciting. If we expect students to think conceptually, we need to understand the essential nature of concept-teaching and its implications for the teacher, student and curriculum alike.

Implications for Learning

Concepts are mental images. They are highly personal inventions. They grow from our own experiences. Because concepts are personal and because they are man-made, there are naturally many ways to conceptualize about the same thing. When several different concepts or images of the same thing do exist, however, one is not *the* correct concept and the others wrong. Concepts cannot be evaluated in terms of their "rightness" or "wrongness." Rather, the degree to which a concept helps explain reality determines its utility and hence its validity.

While it is true that no two concepts of the same thing need necessarily be alike – that there is no single "right" way to conceptualize about anything, some conceptualizations may be much more accurate explanations of reality than may other conceptualizations of the same thing. That is, the experiences of some people may lead them to develop more precise and at the same time more universally applicable concepts than might other people whose concepts evolve from different, more restricted experience. For example, a concept of *spatial interaction* evolved by a person who has spent years studying the

distribution, arrangement and interaction of things in space, is likely to be much more precise and descriptive of reality than is an image of the same concept articulated by a ten-year old. A concept of *resource allocation* developed by an experienced economist is likely to be more useful in explaining experience than is a concept about the same thing made by this same ten-year old. Helping students conceptualize about concepts such as *spatial interaction, resource allocation* and others evolved by social science experts and having demonstrated analytical or descriptive utility in making sense of experience is considered by many to be an important objective of social studies education.

Concepts do not emerge full grown, however. They evolve. They change over time as experiences change. The process by which concepts take shape is referred to as conceptualizing, and this is something only a conceptualizer – a learner – can do. It cannot be done to him or for him. Conceptualizing is not memorizing what someone else thinks a specific concept is, nor is it trying to guess what a teacher or scholar is thinking. Conceptualizing means examining and reflecting on similar experiences in order to identify their common elements and build an orderly image of them.

The implications of this for students are quite significant. Conceptualizing is hard work. It requires active, intellectual involvement by the learner. For students accustomed to memorizing what the teacher or text presents and then regurgitating it on an exam – for students accustomed to seeking and finding "right" answers – for students accustomed to sitting and listening – for students who are "fact-oriented," initial efforts at conceptualizing can thus be quite frustrating and sometimes traumatic.

Effective conceptualization requires a new set of attitudes toward learning as well as a new set of learning behaviors. Since concepts evolve only gradually, a conceptualizer must be willing to tolerate considerable ambiguity or uncertainty. He must be willing to exist and persist in a situation that is somewhat open – until the broad outline of a useful conceptual structure begins to develop in his mind. Concepts don't pop up instantaneously. Large experiential inputs are required to generate, validate and broaden concepts, and this takes considerable time. Thus patience, too, is a necessary requisite for conceptualizing. Students must be willing to wait while useful concepts evolve as they examine and reexamine data in their efforts to develop a conceptual grasp on experience.

Concepts do, indeed, give us handles on experience. Inventing concepts is nothing more than inventing intellectual tools. This process

of invention is somewhat analogous to discovering something. It is as powerful in the intellectual sense as is the discovery that takes place in the clarification of a problem or in the verification of hypotheses or in the final synthesis of a line of inquiry. Conceptualizing is a creative act.

The ability to organize experience conceptually — to conceptualize — is, in fact, as important as creating specific concepts. It is the ability to conceptualize as well as knowledge of whatever concepts we develop that provide us with the intellectual power to make meaningful later, yet unpredictable, experience. Thus, learning how to conceptualize enhances a student's potential for learning by providing him with the skills needed to develop broader and perhaps even new conceptual structures in the future and thereby to push outward the frontiers of his, and even our, knowledge. Consequently this process is itself a product. And the ability to use this product is a vital objective of concept-teaching.

Implications for Teaching

Social studies teachers may engage in at least three different types of concept-teaching. Sometimes concept-teaching merely requires helping students conceptualize about (articulate a concept of) whatever it is that concerns them or whatever it is that develops naturally from a given body of content. At other times, concept-teaching may mean helping students refine, fill-out or perhaps broaden a simplistic or general image they already have of a concept that in its more exact, complex forms may be extremely useful in ordering experience. Finally, concept-teaching may involve putting students into learning situations where they can come into contact with dimensions or facets of a concept which experts consider an extremely basic, useful and valid organizer of experience, but which they — the students — might not otherwise develop well on their own. Most people seem to have this third type of concept-teaching in mind when they talk about "teaching" concepts in the social studies classroom.

Regardless of which of the above types of concept-teaching one wishes to engage in, however, there are a number of implications which must be recognized if such teaching is to be effective.

First and foremost, concept-teaching implies a new view of the role of factual content in the classroom and, indeed, in the entire curriculum. *In* concept-teaching content must be viewed as a *vehicle*, not as an end in itself. The content of a lesson must be viewed primarily as a way of helping learners conceptualize about a particular idea or thing. The real substance of the lesson and in fact the basic

cognitive objective must be a specific concept. Factual content serves only to facilitate conceptualizing by providing positive and negative examples of the salient features and interrelations among the features of the particular concept to be learned. As long as teachers see their first job as passing on content – factual data – concepts will not be purposefully learned. A new view of content is needed for successful concept-teaching.

A second implication for teaching stems from the nature of the conceptualizing process itself. Concepts evolve slowly, only after repeated experience with examples. One cannot teach one concept one class period, consider it learned, and teach another the next. It takes considerable time to introduce a concept and then much more experience with it before it becomes a useful part of one's frame of reference.

Moreover, conceptualization is usually sequential. This means that more complex concepts are usually built on simple concepts. Thus, knowledge of certain concepts, such as *site* and *situation* are prerequisite to developing a useful concept of *place*. Knowledge of *scarcity, price, demand* and *supply* may be prerequisite to developing a valid concept of *market economy*. And so on. How well one can conceptualize depends frequently on what concepts he already has developed and these, in turn, condition the kinds and nature of concepts he will invent in the future.

Third, in planning for concept teaching a teacher should know what concepts the learner already possesses as well as the concepts he will most likely need to develop intellectually in the future. This means, too, that if a teacher is going to assist students to develop a concept about a particular phenomenon – *imperialism* or *landscape*, for example, he, the teacher, must first articulate his own image of this concept or have considerable knowledge about how this concept has been conceptualized by experts. Unless the teacher has a clear image of the concept he wishes students to develop, he will be unable to create learning experiences and select learning materials that will contain clues to some of the more essential facets of the concept. The conceptualization that thus evolves from the lessons may well be most inaccurate and useless.

There are implications for *how* one teaches, too. Security in concept-teaching may not always lie in knowing the answer, the precise conceptual image that may evolve from the learning experience, but rather in knowing how to go about conceptualizing – in knowing what to do next. The key to purposeful concept-teaching is a thorough knowledge of and skill at using a strategy of inquiry. Facilitating concept-development is wedded to inquiry-teaching.

Introducing a concept, whether it be by teacher presentation of an already existing conceptual model or by student brainstorming of their own hypothetical image corresponds directly to the hypothesis-formation stage of inquiry-teaching. Broadening the dimensions, fleshing out the skeletal facets and refining the relationships of the elements of a concept by examining positive and negative exemplars corresponds to that stage of inquiry called hypothesis-testing. And conceptual statements, attempts to describe a concept, involve essentially skills of synthesis, drawing conclusions or generalizations. The most productive concept-teaching utilizes inquiry-teaching strategies, strategies in which the students engage in learning experiences which require them to use all the skills, attitudes and knowledge associated with developing problems for investigation, hypothesizing answers or alternative solutions, testing their hypotheses and drawing conclusions about the validity of their original hypotheses.

A fifth implication for teaching concepts has to do with evaluation. Evaluating concept-teaching is best accomplished when learners are asked to apply their concept to explain data that is new to them. Thus, if students have been conceptualizing about imperialism they might be asked to analyse and describe Russian involvement in eastern Europe in 1969 or American involvement in Southeast Asia in the late '60's. In either instance we would expect them to describe these events in terms of the salient features of the concept with which they have been dealing. Any inability to apply the concept to the new situation could result from many things, but one significant reason might be student failure to internalize the concept. Consequently new experiences with the concept will have to be undertaken.

A wide variety of techniques are available for evaluating the nature and degree of sophistication of concepts held by students. Objective test items can test for simple recall of basic elements of the concepts or even for application of them to new data. Essays or oral exams provide opportunities to explain or interpret new data in the light of selected concepts. Translating and interpreting new data from one form to another -- such as from a map to a graph to a written paragraph -- serve the same purpose. Creative activities, where students must do something on their own – such as plan a campaign to influence a specific group, for example – may well reveal their concept of decision making. Regardless of which techniques we use, however, the key to successful evaluation of concept-teaching lies in putting the students in a situation where they must apply their perception of the concept to be evaluated against new data.

Finally, there are also implications for the kinds of instructional materials used in teaching concepts in the social studies classroom. Purposeful conceptualizing requires more than a textbook. The personal experiences of the student play an important role – as data banks and as perceptual screens – in any conceptual learning. But so, too, do other media. There is in all conceptualizing an important affective dimension, a dimension of feeling or experiencing. It is almost impossible to develop this dimension in a classroom setting without the use of audio and visual media, media which can help the student become involved in experiences about which he is trying to conceptualize. The use of multi-media is an essential tool of effective concept-teaching – not in the sense of "show and tell" nor as merely supplemental to a lesson, but the use of multi-media as an *integral* part of the teaching-learning experience.

Any concept may be taught – its learning facilitated – at any grade level albeit perhaps not always in its most sophisticated form. This does not mean that the teacher's task is to force his version of a specific concept into the heads of his students, however. Rather, his task is to create learning experiences which help his students articulate their own versions of the concept. The student concept at first may not include dimensions the teacher feels are basic. It may not even use the words he uses to describe its essential elements. But given repeated opportunities to work with content illustrative of this concept, the students may gradually flesh it out, add new dimensions and change others. Eventually a rather complex structure of interrelationships and insights may begin to emerge, and the students will be well on their way to conceptualizing.

Implications for the Curriculum

There are a vast number of concepts that may be legitimate objectives of social studies instruction. But teaching concepts consumes time voraciously and time is relatively short. Hence, teachers and curriculum specialists must limit the number of concepts they attempt to teach in the classroom. What does this imply for the curriculum?

First, it is necessary to choose a limited number of concepts as learning objectives. This means that some criteria for selecting which concepts to teach must be devised. There are many such possible criteria, but perhaps some of the following might be most useful in sifting through all the concepts competing for inclusion in the social studies curriculum. Affirmative answers to these questions may well mean these concepts ought to be included in the curriculum.

1. Is the concept considered essential to an understanding of a particular discipline or field?
2. Is the concept useful in making sense out of problems that are of contemporary concern or likely to be of major future concern?
3. Does the concept have meaning for the students?
4. Is the concept likely to help individuals make future experience meaningful – does it raise useful questions, the answer to which will help us understand experience?
5. Is it applicable to particular content that we feel we must use in the classroom?

Answers to these questions will in many instances be hard to come by. At times these answers will require considerable research by the curriculum designer. At other times answers can only be arrived at on the basis of classroom experience in attempting to teach selected concepts to specific students. At times the answers will depend almost solely on the philosophies and biases of those making the decisions about what to include and what to exclude. And, at times the preferences, expressed needs and interests of the students will influence some answers. Nevertheless, these and similar questions must be asked if we are to eliminate the trivial, irrelevant and useless from among the host of concepts we could teach. Using criteria such as implied here may enable teachers to select for instruction those concepts that truly will be most valuable to youth in explaining human experience now and in the future.

A second implication is that a social studies curriculum must be a carefully structured sequence of learning experiences expressed in terms of concepts to be learned rather than content to be covered. This means a number of things. The curriculum must be sequential in that simple but basic concepts must be introduced and somewhat internalized before more complex ones can be introduced. Thus concepts of *link*, *node*, and *flow* are prerequisite to an understanding of the concept of *spatial interaction*. Concepts of *nation*, *investment* and *exploitation* may very well need to precede any attempt to conceptualize in a meaningful way about *imperialism*. Elementary grades in social studies might best be devoted to conceptualizing about these prerequisite, basic, concrete concepts while later years may be devoted to developing more sophisticated, complex, abstract concepts.

A concept-oriented curriculum must be sequential also in the sense that the concepts selected for instruction must be repeated over and over again at different grade levels. One concept cannot be taught and presumed to be learned one day and another the next. They must, instead, be dealt with repeatedly at increasing levels of complexity.

This may mean topically organized courses – courses organized on the basis of the concept to be dealt with rather than the chronology of the content being used as a vehicle of learning. Or, it may mean a sort of spiral organization in which the same few basic concepts are dealt with each succeeding year but in terms of new data and at increasingly more sophisticated levels.

A sequential concept curriculum structure implies, too, depth studies of a rather limited amount of content rather than coverage of vast sweeps of data. Again, this means consideration of topical as opposed to other types of structures although there is no reason why, within a topical framework, content cannot be arranged in some other order such as chronological. Whatever way it is organized, however, a curriculum designed to teach concepts must from the very first focus on concepts, not data. It must be thought of and designed in terms of the concepts to be taught, not the historical, geographical or other content to be studied. Only when this is done can concept-teaching succeed.

Conclusion

Teaching concepts is not difficult once the nature of concepts and of conceptualizing are understood. But teaching concepts cannot be easily done in the framework of the traditional social studies classroom or curriculum structure. Many things must change. Concept-teaching, above all else, involves more than just talk about concepts. It means teaching for conceptual objectives in the classroom – every day. And this requires careful planning and considerable reflection on the part of the classroom teacher and curriculum builder, for concept-teaching *is* different from traditional classroom teaching and its implementation does have many implications for all concerned.

For Further Study

Numerous articles, books and parts of books deal with – or attempt to deal with – concepts and concept-teaching in social studies. Unfortunately, the vast majority of these confuse rather than clarify. However, we have identified several publications which may be extremely useful to those interested in further study about concept-teaching and learning. These titles are listed here.

We have arranged these references so that they proceed from the most general discussion about concepts in social studies (selection 1) to more specific descriptions of concepts and concept-teaching in the classroom (selections 2 and 3) to analyses of selected psychological aspects of concept-development, from both the teacher's and learner's points of view (selections 4 and 5). The final entry in our list, Bruner's *A Study of Thinking*, is a rather sophisticated analysis of the cognitive bases of concept formation. A careful study of these selections, in the order suggested here, should not only increase one's knowledge about concepts in social studies but also encourage further thinking – and teaching – about concepts in the social studies classroom!

1. Irving Morrissett, ed., *Concepts and Structure In the New Social Science Curricula*. West Lafayette, Indiana: Social Science Education Consortium, 1966.

   The first section of this conference report (pp. 11-49) focuses on concepts in the social science curriculum – specifically on concepts and the structure of knowledge, organizing a curriculum around concepts and the relationships between concepts, process and values.

2. Lawrence E. Metcalf and Maurice P. Hunt, *Teaching High School Social Studies*. New York: Harper & Row, Publishers, 1968. Second edition.

   This revised social studies methods text is a classic discussion of reflective thought as a teaching method. Pages 83-103 are devoted to how to teach a concept. Techniques and approaches for teaching other conceptual objectives are described on pp. 104-166.

3. Marlin L. Tanck, "Teaching Concepts, Generalizations and Constructs" in Dorothy McClure Fraser, ed., *Social Studies Curriculum Development: Prospects and Problems* (39th Yearbook of the National Council for the Social Studies). Washington: National Council for the Social Studies, 1969, pp. 99-106, 115-128.

   A brief description of concepts as a type of abstract knowledge with a suggested strategy for teaching concepts. This chapter also deals with other types of abstract knowledge not to be confused with concepts.

4. Asahel D. Woodruff, *Basic Concepts of Teaching*. San Francisco: Chandler Publishing Company, 1962.

   A collection of brief reports of psychological and educational studies and of the author's views on teaching and learning with pp. 77-154 devoted to the processes of learning from experience and pp. 155-214 discussing concept learning and development as well as planning for concept-teaching.

5. Robert M. Gagne, *The Conditions of Learning*. New York: Holt, Rinehart and Winston, Inc., 1965.

   In Chapter Five, Gagne describes the differences between multiple discrimination learning (the learner's ability to distinguish among people and objects) and concept learning – the learner's ability to categorize as a class particular people and objects.

6. Jerome S. Bruner, Jacqueline J. Goodnow, George A. Austin, *A Study of Thinking*. New York: John Wiley and Sons, Inc., 1966.

   This book presents in detail reports of the experiments and findings about conceptualizing of the Cognition Project in the Laboratory of Social Relations at Harvard University. Chapters One through Four discuss the nature of concepts and concept attainment.

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Yearbooks

Fortieth Yearbook (1970), *Focus on Geography: Key Concepts and Teaching Strategies*, Phillip Bacon, ed. $5.50 (490-15264); cloth $7.00 (490-15266).

Thirty-Ninth Yearbook (1969), *Social Studies Curriculum Development: Prospects and Problems*, Dorothy McClure Fraser, ed. $4.50 (490-15240); cloth $5.50 (490-15242).

Thirty-Eighth Yearbook (1968), *International Dimensions in the Social Studies*, James M. Becker and Howard D. Mehlinger, editors. $4.50; clothbound $5.50.

Thirty-Seventh Yearbook (1967) *Effective Thinking in the Social Studies*, Jean Fair and Fannie R. Shaftel, editors. $4.00; clothbound $5.00.

Thirty-Sixth Yearbook (1966), *Political Science in the Social Studies*, Donald H. Riddle and Robert E. Cleary, editors. $4.00; clothbound $5.00.

Thirty-Fifth Yearbook (1965). *Evaluation in Social Studies*, Harry D. Berg, editor. $4.00; clothbound $5.00.

Thirty-Fourth Yearbook (1964), *New Perspectives in World History*, Shirley H. Engle, editor. $5.00; clothbound $6.00.

Thirty-Third Yearbook (1963), *Skill Development in Social Studies*, Helen McCracken Carpenter, editor. $4.00; clothbound $5.00.

Bulletins

Bulletin No. 44 (1970), *Humanities and the Social Studies*. Thomas F. Powell, ed. $3.50 (498-15246).

Bulletin No. 43 (1969), *A Guide to Human Rights Education*. by Paul D. Hines and Leslie Wood. $2.25.

Bulletin No. 42 (1969), *American History Booklist For High Schools*, Ralph A. and Marian R. Brown, editors. $2.50.

Bulletin No. 41 (1968), *World Civilization Booklist: Supplementary Reading for Secondary Schools*, by the World Civilization Booklist Committee of NCSS; Morris Gall and Arthur F. Soderlind, Co-Chairmen. $3.50.

Bulletin No. 40 (1968), *Teacher-Made Test Items in American History: Emphasis Junior High School*, Dana Kurfman, editor. $2.00.

Bulletin No. 39 (1967), *Productivity and Automation*. J. J. Jehring, editor. $2.50.

Bulletin No. 38 (1966), *Reading Guide in Politics and Government*. by Robert H. Connery, Richard H. Leach, and Joseph Zikmund II. $1.50.

Bulletin No. 37 (1965), *The Study of Totalitarianism: An Inductive Approach* (A Guide for Teachers). by Howard D. Mehlinger. $2.00.