Central Washington University

ScholarWorks@CWU

Summer 1970

Strengthening Concept Development through the Inquiry Method

Larry Joe West
Central Washington University

Follow this and additional works at: https://digitalcommons.cwu.edu/etd

Part of the Curriculum and Instruction Commons, Curriculum and Social Inquiry Commons, and the Educational Assessment, Evaluation, and Research Commons

Recommended Citation

STRENGTHENING CONCEPT DEVELOPMENT

THROUGH THE INQUIRY METHOD

———————

A Thesis

Presented to

the Graduate Faculty

Central Washington State College

———————

In Partial Fulfillment

of the Requirements for the Degree

Master of Education

———————

by

Larry Joe West

July, 1970

APPROVED FOR THE GRADUATE FACULTY

_____
Donald J. Murphy, COMMITTEE CHAIRMAN

_____
Otto F. Jakubek

_____
George C. Grossman

ACKNOWLEDGMENTS

TABLE OF CONTENTS

CHAPTER   Page

CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

In recent times there has been less emphasis placed upon the informational content of education. Recent teaching has stressed the importance of concept development and problem solving ability involving the student's interests, his attitudes, his understandings, and his capabilities to cope with his environment.

This study has been organized around the concept of inquiry and the original work of Dr. J. Richard Suchman in inquiry development. The writer proposed to strengthen concept understanding about the Soviet Union using the inquiry method of learning. In addition, the writer's thirty-five millimeter slides of contemporary Soviet life are used to further strengthen concept understanding. The writer feels that pictoral materials in conjunction with the inquiry approach to learning would enable the student to strengthen his concept understanding of contemporary Soviet life.

I. THE PROBLEM

Statement of the problem. The purpose of this
study was (1) to review the literature on concepts and con-
cept development through inquiry; (2) to present guidelines
for inquiry within the classroom; (3) to develop classroom
lessons about contemporary Soviet life using the concept of
inquiry and thirty-five millimeter slides; (4) to summarize
and to offer recommendations for the use of inquiry in the
classroom.

Importance of the study. Dr. J. Richard Suchman
has spoken to the question of why one should facilitate
the concept of inquiry in the classroom. He has stated:

> The goal of an inquiry program is not primarily
> to develop a child who can quote the presently ap-
> proved answers for the sanction of his elders, but
> a child who will grow into a creative adult capable
> of adding new questions and answers to the ever
> changing structure of scientific knowledge (29:78).

Recent educators have found traditional didactic
teaching to be unsatisfactory to prepare the child to deal
with and cope successfully with his environment. Creative
and critical thinking have not been rewarded under the
traditional structure and organization of the schools

(21:330). Motivation has also been a serious problem in didactic teaching, since the teacher has been the one to initiate and control learning situations (32:76). Whether the learner was meeting his own needs or not was difficult to determine since "his involvement is pressured by implicit demands reinforced by the school system, his parents, or his own conscience" (32:76).

In today's education, then, the student's obligation has been not to regard authorities as the absolute keepers of the truth, but to learn to become authorities themselves. "A student becomes his own authority when he learns how to test empirically the ideas that he encounters" (7:65).

The inquiry method of recent education has allowed students to think creatively and critically to become their own authorities. Suchman has said that inquiry has been developed to allow "students to learn to formulate and test their own theories and to become aware of their own learning processes" (29:3).

Bernice Goldmark has said that:

    . . . Education must have as its first objective
a commitment to inquiry, and it must provide methods

for inquiry into problems and for reconstructing the tools of inquiry. This is the education demanded in our society (14:43).

She stressed the importance of inquiry, saying that the teaching of concepts alone was not sufficient since concepts taught in the past have not been adequate to meet today's problems and that "the outdated concepts, besides being of little use to us, may actually serve to limit our ability to solve problems (14:43). She concluded that our "rapidly changing world demands education for change" (14:43) and that children must be provided with "a method for making judgments about problems--for evaluating alternatives and making decisions" (14:43).

II. DEFINITIONS OF TERMS USED

Concept: an idea; an individual's sum total view of a concrete object or an abstract event derived by experiences, generalizations, and general understandings relating to them; a continually changing and expanding classification of experience.

Inquiry: the asking of questions in search of information and knowledge.

Inquiry method: a method of teaching by which the learner is able to function autonomously and think reflectively and creatively in his search for truth; the process of inquiry, initiated and manipulated by the learner, with movement back and forth between data gathering and theorizing, evaluating and testing theories until formulation of a concept or theory which best explains the data accumulated and tested is attained.

Encounter: a contact or confrontation with one's environment or surroundings.

Organizer: a mental process by which order and meaning is attached to encounters through past experiences, previous encounters, or systems.

System: a method in which one analyzes similarities and differences into meaningful categories or concepts.

Theory: a generalization induced or inferred from the analysis and testing of data.

III.   LIMITATIONS OF THE STUDY

This study of necessity had limitations. It was
limited to the strengthening of concept understandings
taught about the Soviet Union through the use of thirty-
five millimeter slides employed in the inquiry development
program of education.

While the use of a limited number of slides was
certainly not an adequate means of strengthening all con-
cepts generally taught about the Soviet Union, it was able
to serve as a current and authentic means of motivation and
strengthening of those concepts emphasized. The slides
presented in this study served to strengthen economic and
cultural concepts about the Soviet Union. Further, the
breadth of factual content and number of concepts about
the Soviet Union was limited by the number of slides used
by the writer.

CHAPTER II

REVIEW OF THE LITERATURE

In recent times there has been less emphasis
placed upon the informational content of education, that
is, the acquisition of a store of factual knowledge, than
was the rule in our parents' school days. Recent teaching
has stressed the importance of concept development and
problem solving ability involving the child's interests,
his attitudes, his understandings, and his capabilities to
cope with his environment.

I. LITERATURE ON CONCEPTS AND CONCEPT DEVELOPMENT

THROUGH INQUIRY

The Webster Dictionary defined concept as "(1) a
thought; an opinion; or (2) Philos. a mental image of a
thing formed by generalization from particulars; also, an
idea of what a thing in general should be" (49:171).

Cronbach has reported that "We have a concept when
we recognize a group or situation which have a resemblance
or common element" (9:281). The concept of "bird" unfolded
associations such as nest, feathers, wings, eggs, and

migration. Cronbach said that by forming concepts, and by categorizing stimuli by concepts, the amount of information that must be processed by the pupil has been reduced. If, for example, a person had wished to tell another person about a bird, it was not necessary to mention all of the characteristics of bird, but rather it sufficed to call it a bird and then delineate those characteristics that made it unique. Cronbach assumed that in this manner much if not most of the information about the bird had been communicated, since the other person had the concept of bird which was similar (9:281).

According to Jarelimek, students have been able to classify experiences into meaningful categories in order to make specific application to subject areas. He reported that "concepts are inherent in the universal or common properties of objects, institutions or experiences" (18:34). For example, students had the ability to apply the spirit conveyed in the concepts of "downtown" and "shopping" as referring to places having something in common (retail stores) and a set of experiences (browsing, comparing, buying). Jarolimek related that once a category had been learned and those characteristics and relationships that

identified it had been learned, the student did not have to learn these anew each time he was presented with an example of that category. Jarolimek reported that the words in themselves were not assumed to be concepts. Words became concepts, however, when their importance became detached from a specific referent.

Jarolimek also indicated two levels of concept development. He cited examples of easily understood concepts because visual materials were available, such as: mountains, flood, famine, valley, and ocean. His second level of concept understanding included more or less abstract concepts such as: adaptation, responsibility, honesty, loyalty, interdependence, justice, and freedom. Jarolimek felt that meaning from the second level of concept understanding was derived when students were involved in experiences with them (18:35).

Dr. J. Richard Suchman has stated: "Concepts can be formed by someone through a series of concrete experiences. As one extracts similarities from experiences, he forms a concept" (29:72). He further cited the following as a valid description of conceptual growth:

Conceptual growth is the expansion, elaboration or other modification of a conceptual framework to provide meaning for a greater sector of experience. It is a step toward a more unified system of ideas at a higher level of abstraction or toward a broader system of ideas at the same level (28:95).

Inhelder and Piaget have introduced two concepts that helped in the analysis of the process of conceptual growth. Assimilation and accommodation referred to "fitting a set of patterned stimuli into one's existing conceptual system" (28:96). Sometimes percepts needed to be "analyzed or distorted" before they were assimilated. If they were not assimilated they remained "discrepant" and as such were "disturbing". They produced "tensions" (28:96). Inhelder and Piaget have said that:

The only recourse one has is to adjust the conceptual system until it accommodates to the discrepant event. In other words, one creates a new conceptual category so that the event can be assimilated. It is only through successive accommodations that conceptual growth can occur (28:96).

Inhelder and Piaget also identified operational thinking as one of the developmental trends of conceptual growth. They found that:

. . . About the time the child enters elementary school he begins what is called operational thinking. He stands back from his environment

and manipulates it experimentally, performing one operation after another on one part of the environment at a time (28:96).

By comparing and relating the effects of these operations he began to "construct groupings and correspondences which in turn lead to conceptual models of causality" (28:96).

Another developmental trend in conceptual growth was inference. In studies using motion picture vignettes portraying a fictitious child, Gollin found that "inference came into use earlier than concept, but both occurred relatively late" (45:455). He found that only eighteen percent of the boys and twenty-one percent of the girls used inference "(going beyond the actions shown in the film)" (45:455) at the age of ten. Only two percent of these subjects employed concepts, "(accounting for diversity of behavior in a single explanatory system)" (45:455).

Dale has affirmed the importance of concept development in education. He has stated:

Education involves the making of suitable classification of our experiences--that is, the building of concepts. Concept building is a process that operates quite naturally from the time a child begins to draw conclusions from experiences and applies these to a new situation. The process continues thereafter as he makes new generalizations

from new experiences and from experiences in which
the new and old are combined. Building concepts
therefore, is a realistic definition of education,
since the classifying of experience proceeds both
in school and out of school. Wherever the student
learns something new and is able to use this new
something, he is building or rebuilding (refining)
a concept (10:31).

"One of the jobs of the schools is to help children
develop a wide range of concepts that the society believes
are important" (28:27). The teaching of concepts, rather
than the teaching of facts, has been deemed important in
today's education since concepts "are more widely appli-
cable" and "afford greater understanding of the subject in
question" (14:4).

While the teaching of concepts has been considered
important, the teaching of how to formulate concepts has
been considered more important to deal with an everchanging
society. Bernice Goldmark has emphasized that "education
for today's world may be of little consequence for the
future" (14:42).

She said that:

Education must begin to provide the tools for
handling change. The emphasis in education must
shift from the learning of concepts (which may soon
be outdated and inadequate) to the learning of
methods of attacking problems (14:63).

Suchman has also emphasized the importance of teaching methods promoting autonomy of operation. Through autonomous action in the search for new understandings, he observed that students utilized "creative thinking to promote concept development" (28:72).

Both Suchman and Goldmark espoused the utilization of the inquiry method in the classroom as a means of promoting autonomy and student formulation of concepts.

"The popular concept of inquiry is the asking of questions in a search for answers" (14:2). Inquiry has been termed to be "education as it should be--a broadening experience for everyone concerned" (29:3), which has eliminated preplanned training and molding into prescribed patterns" (29:3). It has been further described as a study in which one submitted his ideas and hunches to the test of things" (7:61) and used "experience or observation to confirm or deny the usefulness of ideas" (7:61).

The Illinois Studies in Inquiry Training defined inquiry as "the process of building and testing theories" (46:11). It outlined one of the objectives of inquiry as the aiding of children to gain an awareness of: (1) what theories are, (2) what function they serve, (3) where they

come from, and (4) how they can be evaluated (46:11).

In the inquiry process of building and testing theories, the learner gathered data from which to formulate his own theories. As his encounters and data accumulation increased, he retested and reconstructed his theories to accommodate his intake of data. "Scientific inquiry is largely a matter of going back and forth between theorizing and data gathering" (29:75) "to develop the most powerful theory, one that accounts for the greatest number of instances and with the greatest degree of precision" (46:9).

In the process of gathering data, meaning was generated by the interaction of organizers and encounters. An encounter was essentially one's confrontation or contact with his environment. Suchman stated that:

> There is a point of contact in time and space between man and his environment. Life is a succession of such contacts. People encounter the real world around them in many ways. They encounter minute objects, large complex events, and people (38:33).

An encounter, then, was termed as a contact with environment. Hearing a bird, smelling a flower, or walking into a room could have been classified as an encounter.

An encounter in itself was termed meaningless.

It required an organizer for extraction of meaning (38:92).

Suchman defined an organizer as "a particular condition of

the mind that permits the learner to respond to encounters

in selected ways" (38:92).

Through use of organizers, individuals were able

to give meaning to their encounters by organizing or or-

dering their encounters into useful frameworks (38:92).

An encounter evolved through past experiences and provided

a "pattern which guides the selection, grouping, and or-

dering of encounters" (38:92).

Suchman added that retention and recall of previous

encounters were a form of organizer. He illustrated that

a person's second encounter with a baseball game would

have more meaning on the basis of the first game that had

been seen. Thus a previous encounter served to organize

a later encounter and gave it meaning (38:92). From this

Suchman formulated that:

Encounter $\Longleftrightarrow$ Organizer $\longrightarrow$ Meaning

"Meaning is the result of interaction between encounters

and organizers" (38:33).

Thus he concluded that:

1.   The more encounters a learner has, the greater

chance he has for acquiring new meanings.

2.   The more organizers a learner has available,

the more meaning he can derive from his encounters (38:94).

These encounters and organizers were then stored to

be retained and recalled in the future.

Another type of organizer employed by the human

mind was the system. Suchman defined system as:

> The instruments by which we organize the simi-
> larities and differences of our world and which thus
> enable us to create the structures of our disci-
> plines (34:27).

He added that systems were "tools for categorizing or

characterizing your world, for extracting meaning from any

encounter through analysis" (34:27). Through example he

further explained that one experienced an encounter when

walking into a room. Through selection and analysis of

that encounter, one separated certain aspects from the

whole. He "applied the concept--let us call it system--

color to the system carpet to produce data" (34:27). Thus

he gave meaning to his encounter by perceiving that the

room contained a red carpet (34:27). Hence, in inter-

preting data, an individual has had a store of encounters,

organizers, storage, and systems to give meaning to raw
perceptual materials.

Inquiry was initiated when a child was motivated
to explain an event that he could not understand or ex-
plain. All he needed then was freedom to ask for data and
an environment that made it available to him (30:8). He
then searched for data that was "appropriate or related to
his own hypotheses" (36:24). He then assimilated data by
means of his existing concepts, or modified his "conceptual
structure to accommodate the data" (28:99). From the data
he accumulated, he then began to "construct abstract be-
liefs, theories, generalizations or principles about the
nature of the thing he is sampling. This is commonly known
as inference or induction" (34:27). With inference or
tentative theory in the balance, the student then became
more selective in the choosing of data. Theories and data
were then resubmitted to analysis until the student arrived
at a theory or generalization of his own making (34:66).
In this manner the student operated autonomously to create
his own theorizing and concept development. Through his
own inquiry and creative thinking he has formed his own
concept; he has not received it. Thus he has learned to

operate autonomously, employing the "tools for handling change" (14:63) which have been so important in today's world.

II. LITERATURE ON GUIDELINES FOR INQUIRY
WITHIN THE CLASSROOM

The Inquiry Development Program has been defined as: ". . . learning that is directed and controlled by the learner" (46:1). Two primary objectives of the Inquiry Development Program have been:

1. To provide the climate and conditions that will stimulate and sustain inquiry, and make it powerful and productive.

2. To facilitate inquiry into inquiry, or helping the children structure process (46:1).

Dr. J. Richard Suchman added:

> The Inquiry Development Program is designed to help students learn to formulate and test their own theories and become aware of their own learning processes. Its goal is to help the naturally inquisitive child retain and develop this characteristic so that he will become an inquiring adult--a self-confident, reasonable person who can and will investigate the world for his own satisfaction. And it will permit the student to develop a sound foundation in the subject matter . . . along the way (29:3).

Subject matter was used "as a vehicle for teaching inquiry." Inquiry was "not a vehicle for the teaching of subject matter" (46:17). One objective was "not to teach by inquiry" (36:64). Inquiry was allowed "to occur in as many areas of the curriculum as possible" (36:64).

The learning situation was characterized by "the seeking, discovery, reorganizing and testing of knowledge" (21:62). The child was encouraged to develop a method and an understanding of inquiry as well as a realization and method of inquiry into inquiry, excluding content as an end in itself (46:1).

Inquiry was characterized as a "careful exploration of alternatives in seeking a solution to a problem" (22:6). Inquiry aimed at the "grounding of belief" by the use of "reason, evidence, inferences, generalizations" (22:1).

In order to establish an environment conducive to inquiry, it was necessary to establish certain conditions. These were freedom, a responsive environment, low pressure, and focus. Dr. Suchman has said that freedom was "the sine qua non of inquiry" (29:15). He said:

> The whole idea of exploration and search in the process of theory building is predicated on the freedom of the learner to seek out the information he

wants, when he wants it. He must be free to try out ideas and invent ways of accounting for what he sees. The teacher creates this free environment by allowing the learner to pursue new meaning and new understanding in his own way, to construct theories and explanations in his own terms, and to progress at a rate that satisfies the learner (29:15).

Freedom had to be "an external, environmental condition, as well as an internal state in the child" (46:3,4). External freedom meant that a number of things were present in the environment. The student had a freedom of choice in determining what data he felt was pertinent to his problem, and was free to seek this data in a sequence of his own choosing. Students were allowed to "gather data and build and test theories in their own way" (33:290). Once the student was recognized, he was permitted to ask his questions and gather his data as long as he wished "without restriction as to frequency or direction" (46:4). All points of view were solicited and accepted as propositions which merited examination (21:112). The children were free to challenge each other, to contribute to each other's problems and theories, or question them about them (46:4).

External freedom included "freedom from psychological pressures that cause children to think in a

conforming way and prevent them from trying out their own ideas" (46:4). Pressures that tended to inhibit inquiry were the "use of fear of failure, ridicule, aggravated achievement drive" (46:4). To prevent these from arising, the environment was to be supportive and encourage all quests for information and contributions of ideas. All ideas and questions were accepted without critical judgment (46:4).

Internal freedom was "an internal state in the child" (46:4). A learner was internally free when he was independent of the teacher's authority. He was no longer dependent on the teacher's authority and direction, but was able and willing to ask questions and direct his own thinking. The important factor in establishing this internal freedom was the teacher's ability to avoid taking the initiative, but to establish himself as a responder and wait for someone else to lead the way (46:6).

It was important in the inquiry process that the student accept the freedom offered to him. To be really free, he had to "be autonomous--self-directing and self-starting" (29:15). He had to be "willing to accept the freedom he is granted and use it to satisfy his own needs

for information, understanding, and intellectual stimu-
lation" (29:15). Autonomy allowed the learner to search
for "new understandings utilizing creative thinking to
promote concept development" (28:98).

A learner achieved a high level of autonomy when
he developed his own learning objectives and when he
planned his own strategies and techniques of investigation
(22:22). He became autonomous by making more and more
autonomous choices (42:30). As the learner became more
autonomous, he took more responsibility for decisions
about the collection and interpretation of information
(33:290).

A responsive environment was another condition
essential to the process of inquiry. A responsive envi-
ronment made available a response to a student's questions
in his search for data. His probes resulted in responses
from his environment, whereas in a directive environment,
the child would have been expected to make a response to
the environment (46:7).

Dr. Suchman has stated:

Inquiry can take place in a responsive environ-
ment. The teacher must provide the information that
the students seek. He must make available a wide

range of materials and facts from which the students
can choose to meet their needs of the moment. The
teacher must respond to the inquirer's quest for in-
formation, but without passing judgment on the re-
sults of that quest (29:15).

In promoting a responsive environment, the teacher

made available many sources of experiences ranging from

pictures, to written material, to conversation (46:8). It

was also maintained through the teacher's responses to the

students' questions. He was able to supply answers to

their data gathering questions. When questions of theory

were raised, the teacher was not able to respond, since

the testing of theory was the students' responsibility.

To maintain the responsive environment, the teacher re-

sponded by inquiring how the theory could be tested or

whether any visible evidence was available to prove the

learner's point (46:7).

Another condition for promoting inquiry was the

condition of low pressure. Most "creative thinking" and

"inquiry" seemed "to occur under the conditions of least

pressure" (29:71). Inquiry was sustained best when the

student did not have to worry about his image or about

criticism or disapproval from the teacher. It was im-

portant that the teacher refrained from showing approval

or disapproval so that the students would "gain their reinforcement directly from the success of their own ideas in adding meaningfulness to the environment" (29:17). It was essential that all data-seeking questions were answered, regardless of repetitions or irrelevancy and without indicating the degree of intelligence or sophistication attached to the questions (29:17).

The most effective way of minimizing social pressure was:

> . . . to accept the student fully as a contributing member of the group without any reference to his performance in the group. The teacher must respond positively to the student and neutrally to the product of the student's thinking (29:17).

Ideas of right and wrong theories were "rejected in favor of more powerful and less powerful" (29:3). Students were encouraged to contribute their ideas and theories and to test and analyze them, but the tests, acceptance, and rejection of ideas and theories was solely the students' responsibility.

The final condition of inquiry was the condition of focus. Focus provided direction and motivation to inquiry. Dr. Suchman has said:

> One does not just inquire. One inquires into
> something. Inquiry is a purposeful activity, a
> search for greater meaning in some event, object,
> or condition that raises questions in the inquirer's
> mind.
>   Focus springs from a need for information. The
> teacher can provide focus by presenting particular
> problem events and raising questions (29:15).

The focus event was one that was "discrepant to

the student. That is, something occurs which is at odds

with the student's expectations" (29:16). The discrepant

event was an event that was unfamiliar, or one that was

familiar, but was "at odds with previous experience in an

unexpected way" (29:16). When the discrepant event oc-

curred, the learner attempted to eliminate the discrepancy

and incorporate it into his conceptual system (29:16).

Focusing and refocusing was a continual process

throughout inquiry. The teacher had to frequently provide

stimulus to further inquiry by asking new questions and

pointing out new discrepancies. Refocusing was essential

to continuous inquiry. When students felt they had ac-

counted for the discrepancy, it was important to sustain

inquiry to reach greater meaning (29:16).

The teacher was not the sole instigator of focus.

Children were "encouraged to identify their own

discrepancies as a means of obtaining a focus" (46:3). It was preferable that the learner "find his own focus, since inquiry is then directed toward a goal that is real and meaningful to him" (29:15).

Inquiry began in a problem situation (14:115). The problem consisted of an event, either by film or by demonstration, and some questions about it (29:10). The problem was scaled to the learner's level and was in an area where the learner already had some concepts (30:139). The teacher allowed the students to discover a problem. If they had difficulty, the teacher helped focus the problem by directing their attention to discrepancies (42:138). Faced with a discrepant event, the student set out to find an explanation for this discrepancy.

Dr. Suchman has added:

> When the problem is established, the students attempt to construct a reasonable theory to account for the focus event. They usually do this by making a guess at a theory and then gathering data to test it. The bulk of the inquiry session is normally devoted to data-gathering questions raised by the students and answered by the teacher (29:11).

In order to maintain a degree of order and avoid the session from becoming a mere guessing game, it was necessary to provide an operational structure. Suchman

cited five basic rules of operation:

1. Rule 1: The questions should be phrased in such a way that they can be answered yes or no (29:11).

2. Rule 2: Once called upon a student may ask as many questions as he wishes before yielding the floor (29:11).

3. Rule 3: The teacher does not answer yes or no to statements of theories, or to questions that attempt to obtain the teacher's approval of a theory (29:12).

4. Rule 4: Any student can test any theory at any time (29:13).

5. Anytime the students feel a need to confer with one another without the teacher's presence, they should be free to call a conference (29:13).

Questions were the main business of both teacher and learners. Teachers were concerned about promoting inquiry through focusing questions, while learners were concerned with developing skill in inventing and posing questions (7:97).

In providing focusing questions in inquiry, teachers asked different levels of questions. Some questions asked for the "what," the "how," the "where," or the

"when" of the subject matter (14:2) to bring out infor-
mation on the "descriptive, or substantive level" (14:3)
to expose facts. On the second level, "why" questions were
asked to bring out explanations and generalizations in a
search for concepts (14:4). On the third level, the most
important to inquiry, were questions asking "Why this law,
rule, or principle?" (14:4). Such questions aided students
in assuming responsibility for the assumptions they used
in making judgments (14:4) and in forming "new principles
and their applications and in new applications of old
principles" (14:5).

The learners were also concerned with the asking
of questions. They asked questions that were answerable
only with yes or no. Open-ended questions were discouraged
and learners were asked to rephrase them in the proper
framework (46:23).

The teacher did not answer yes or no to statements
of theories, or to questions that attempted to obtain his
approval (29:12). A qualified or extended answer to a
question was permissible as long as the teacher did not
return to an expository role (19:26). Questions asking
"why" were not answered since why questions required the

teacher's theorizing. The student was encouraged to find his own answers (46:24).

The learners raised their hands to ask questions in order to maximize communication through some degree of order (46:19). The learner who had the floor asked as many questions as he wished (46:20). Students were also reminded that they had the freedom to ask as many questions as they liked (29:11).

After the object or event was presented and the focusing questions raised, the teacher made sure that the learner understood the question and recognized it as a real problem (29:10). A learner who recognized no learning problem was "much more dependent on the teacher in deciding what was or was not acceptable behavior and solicited direction" (13:180).

An important first step in entering a field of study was "a period of unstructured familiarization, a time for 'messing around' to get the feel of it" (27:78). This involved "storing up a wide range of encounters as organizers for future explorations" (27:78).

The learner generated many encounters for himself by playing an active role and stirring things up. The

teacher increased the number of encounters for his pupils by "enriching and activating the environment with more data and giving them more of a chance to get at it (38:92). "Intuitive knowledge" grew as these encounters were stored and used for interpreting additional encounters. The existing knowledge that the student acquired served as a "framework of reference for acquiring new knowledge" (27:78).

Another kind of resource was the conceptual organizer. Conceptual organizers provided "structure for experiences. They guided the intake of information and helped the learner decide which aspects of his environment to observe and which to ignore" (35:70).

Generally the information provided by the teacher was only that which was directly requested in the learner's questions. However, the teacher also provided questions which helped to expose "the array of encounters, systems, data, and inferences the learner has available to him" (31:27) and the connection between these parts (31: 27). Questions were simple, direct, free from ambiguity, and the subject matter adapted to the learner's age and stage of development (20:31).

As learners accumulated encounters and organizers, they gradually used this data to form tentative hypotheses and theories which required further acquisition and testing of data. The learners searched for data that was appropriate or related to their hypotheses (36:24). The ideas or hypotheses that the children entertained directed their search for data (14:116).

Dr. Suchman divided data gathering into two categories: verification and experimentation. Verification was the "process of gathering data pertinent to a single event" (29:28) or the inquiry problem at hand. The student was able to verify objects, events, conditions, and properties of objects or systems related to the inquiry problem (29:29).

Experimentation consisted of the "introduction of new conditions and events in an attempt to determine the consequences of these changes" (29:29). Experimentation consisted of exploration and direct testing of a theory about the inquiry problem. By exploring and theorizing, students were able to see the "nature and usefulness" (29:30) of their data.

The learner gathered data which he tried to

"assimilate by means of his existing concepts" (28:99).

When it was unable to be assimilated, the learner broke it

down into smaller units so that it could be modified or

accommodated to fit his "conceptual structure" (28:99).

As the learner accumulated data or "samplings of

his environment" (7:75), he began "to construct or ab-

stract beliefs, theories, generalizations, or principles

about the nature of the thing he was sampling" (30:27).

In building his theories, the student drew on a backlog of

stored models, a particular combination of which produced

a theory which had some degree of power (46:9).

Inquiry thrived on the generation of theory, but

the learner did not pursue the generation of theory unless

he felt that his formulations and thoughts were received

and considered (42:137).

As each theory was expressed, the teacher recog-

nized it and reiterated or rephrased it in different words

(46:19). All contributions were accepted without criticism

and were paraphrased to express them in the clearest pos-

sible manner and to "assure the contributor that his ideas

have been listened to, registered, and respected" (29:32).

As theories were formed and reformed, tested and

retested, students gradually formed ideas that explained

the discrepant event or problem. Theories were developed

and retained as long as they were useful, but were modified

and replaced when their usefulness diminished (29:3).

Solutions to problems were not considered final or

absolute, for "no matter how powerful a theory or encom-

passing a generalization may be, new counterinstance waits

around the corner. Thus inquiry remains a continuously

open and moving process" (29:72).

The inquiry-centered classroom has brought about

changes in the role of the teacher and the student alike

(22:43). The teacher had an open-ended point of view

about knowledge and allowed the learner to have this point

of view too (33:291).

The teacher no longer exercised a monopoly over

discussions. He was no longer the authority on all

matters of importance (22:25), but he strived "to change

the response pattern of a student from mere compliance to

independent action determined by the student's own analy-

sis of the problems confronting him" (13:180). He in-

vited the student to be operational by encouraging him to

test his own theories (46:22).

Through the inquiry program, the student became

aware of how knowledge emerged and how it was tested and

evaluated. Through inquiry he was "encouraged to become

an independent, creative investigator, not a slavish memo-

rizer of the creations of others" (29:77).

Suchman related that the inquiry-centered curricu-

lum helped children "to become more familiar with the re-

alistic world in which we live" (36:64). He stated:

> It helps children relate realities to each other.
> It helps children to see that in creating knowledge,
> man is constructing order out of chaos.
> It helps children develop the process by which
> man pursues greater meaning through manipulating
> and observing his environment" (36:64).

CHAPTER III

INQUIRY LESSONS ABOUT CONTEMPORARY SOVIET LIFE

In the following sample inquiry lessons, slides are presented about contemporary Soviet life. The slides picture a few of the economic and cultural aspects of Soviet life. In the synopsis, each slide is described to give background information and some data of objects and events for the teacher and students.

The slides serve as a means of presenting the problem. They serve as a visual focusing event from which to initiate inquiry. It is hoped that the student will recognize a discrepant event or problem and will initiate inquiry on his own.

If the visual stimulus is not sufficient for initiating inquiry, some suggested approaches are provided. These are questions which provide a focus to the problem. They can be used to initiate the problem, or could be used for later refocusing.

The analysis for the teacher further describes the slides and provides additional information on them. It provides him with information to enable him to respond to

student questions of data. It also could serve to give him additional ideas for later refocusing.

Since the lessons promote concepts on economic and cultural Russia, the students will gain new data and will formulate new concepts about Soviet life. Content, however, is not the primary objective of the lessons. The goal of the lessons is to instigate the inquiry process of theory formation, not the degree or quantity of facts gleaned. It is hoped that through the process of inquiry, the learner will achieve a level of autonomy which will enable him to formulate and evaluate his own theories. The content of the lessons serves only as a tool for this process.

INQUIRY PROBLEM #1

Unit	Concept	Sub-Concept
Russia	Society and Culture	Housing Recreation

SYNOPSIS:

For this session there are three slides. In the first slide an exterior view of an apartment building is shown. In the second slide people are seen swimming, boating, and sunning at a beach. In the third slide people are seen strolling through a park.

SUGGESTED APPROACH FOR INITIATING INQUIRY:

Why are these forms of recreation so widely practiced here?

ANALYSIS FOR THE TEACHER ONLY:

In the first slide is an apartment building in Moscow, U.S.S.R. "Housing is the number one shortage in Soviet Russia today" (50:92). About 2,000,000 homes (mainly two-room apartments) are being built annually, but

it will be many years before urban housing is adequate (50:92). The average Russian gets much less for his rent than an American. A Russian lives in an old building; he has one room for himself and his family. The family shares a kitchen and toilet with four or five other families. In the newer buildings, a family might have two rooms and a separate kitchen and bathroom.

Many urban families live in large complexes of apartments. These were not of the type utilizing an interior designer, but are usually merely adequate for home existence (50:92).

In slides two and three are a few aspects of Soviet recreational life. Soviet people enjoy places like a beach, a park, a mountain lake, or camps for recreation (48:49). Soviet family members are generally kept so busy that socializing and relaxation are enjoyed in areas other than the home (47:149). The government provides many public facilities for organized sports, but in spite of this, one of the favorite Sunday pastimes for a family "is walking the trolley line to the edge of town and walking through the birch and pine forests. They have a picnic, and when the sun starts to go down they go home" (47:149).

INQUIRY PROBLEM #2

Unit	Concept	Sub-Concept
Russia	Society and Culture	Urban Transportation Standard of Living

SYNOPSIS:

In the slides for this session we see three views of Moscow. The three slides show varying degrees of street size and congestion.

SUGGESTED APPROACH FOR INITIATING INQUIRY:

Why are these transportation conditions prevalent in this country?

ANALYSIS FOR THE TEACHER ONLY:

In the first slide is an eight-lane street in downtown Moscow. Traffic consists of some busses and cars and some pedestrian traffic. The second slide pictures a wide street with little vehicular, but much pedestrian traffic. The third slide pictures a smaller street with pedestrians and bus transportation available.

In Russia people are encouraged to walk or to

utilize public transportation facilities. Automobiles are
not readily available to them. Both Stalin and Khrushchev
refused to develop the automobile industry for a mass mar-
ket, but encouraged the people to "have their fun in buses"
(47:68).

Few Soviet families have their own automobiles. In
1958 only one of every two hundred of the six million peo-
ple in Moscow owned a car (48:47). Several Russian made
cars are on the market. The cars, which are about the
size of an American compact car, sell for $4,500. to $6,000.
which is far out of the reach of the average citizen (47:
149).

Also, outside of the cities there are few good
roads. Dirt and gravel roads are the only way to reach
some places by car.

The automobile problem illustrates one of the
"basic dilemmas of the present Soviet rulers" (47:68).

> They could not promise cars to consumers without
> allocating the enormous resources needed for an auto-
> mobile economy--not just the steel for construction,
> but the spare parts to maintain the cars, the gaso-
> line and the fuel stations to distribute it, the
> roads, and the cement and labor and maintain the
> roads (47:68).

INQUIRY PROBLEM #3

Unit	Concept	Sub-Concept
Russia	Society and Culture	Education

SYNOPSIS:

This session is based on two slides. These picture Pioneer children running a railroad.

SUGGESTED APPROACH FOR INITIATING INQUIRY:

Why do the educational experiences shown here play a basic part in the educational program of this country?

ANALYSIS FOR THE TEACHER ONLY:

The Pioneers are an organization similar to the scouts in other nations. They are operated by the Communist party in conjunction with the schools to train young Communists. Nearly all boys and girls belong to these Communist groups at some time.

A pioneer summer activity is witnessed here at the Children's Railroad in a park outside the city of Moscow. Children are taught the skills and responsibilities

necessary for the operation of trains. The young Pioneers
are in complete charge of operating and maintaining the
train which carries its passengers through a large park.

INQUIRY PROBLEM #4 ‾

Unit	Concept	Sub-Concept
Russia	Society and Culture	Labor Human Resources

SYNOPSIS:

For this session we have two slides. The first slide pictures an urban street scene. Both men and women are occupied with the cleaning of the streets. The second slide shows women occupied with the upkeep of the grounds of a governmental monument.

SUGGESTED APPROACH FOR INITIATING INQUIRY:

Why are the women shown in these slides doing this kind of work?

ANALYSIS FOR THE TEACHER ONLY:

The Soviet labor force includes many women workers. In 1940 they comprised some 40 percent of the labor force in industry, transportation, and construction. This percentage has sharply increased since World War II (12:257). Women are found not only in offices, schools, and

hospitals, but in industry and construction as well. More
than 40 percent of the women are industrial workers and 30
percent are building workers, meaning they are construction
laborers, steam fitters, crane operators, riveters, and
welders (15:333-334).

Casualties in World War II caused an extreme short-
age of men. Today's women in their forties outnumber men
of the same age by almost seven to one. The birth rate
also fell sharply during and after the war, causing a man-
power shortage (15:330).

INQUIRY PROBLEM #5

Unit	Concept	Sub-Concept
Russia	Society and Culture	Sports Prestige

SYNOPSIS:

For this session there are three slides. The first slide is a picture of the V.I. Lenin Central Stadium in Moscow, U.S.S.R. The second is Moscow's "Moskva" swimming pool. The third is a competition pool at the University of Moscow.

SUGGESTED APPROACH FOR INITIATING INQUIRY:

Why do these people place an important emphasis on athletic facilities and events?

ANALYSIS FOR THE TEACHER ONLY:

In the first slide is the V.I. Lenin Central Stadium which houses more than 130 various sports installations. It contains an indoor gymnasium accommodating 17,000 spectators. There is also an open-air pool for swimming and diving competitions with a 13,200 spectator

capacity. This facility provides numerous opportunities

for both viewing and participating in sports activities.

In the second slide is Moscow's "Moskva" swimming

pool. It is Europe's biggest open-air, heated pool, used

for recreation and competition.

In the third slide we see a swimming facility at

the University of Moscow. These facilities are used for

training and competitive purposes for potential athletes.

Sports are both recreational and competitive.

The Soviet Union has many fine athletes. Sports have been

made to serve the national interests of the Soviet

(15:345). It has been important for the Russians to win

in the Olympics and other events. By winning the Soviets

think that they have shown "the rest of the world that the

Soviet system is better than any other (48:52).

When potential athletes are spotted by local

coaches and trainers, they are sent to special athletic

training schools. Upon completion of their education they

are given special facilities and all the time they need

for training. Special coaches and trainers are provided

if they reached championship status. This emphasis has

paid off in high rankings in recent Olympics (47:147).

INQUIRY PROBLEM #6

Unit	Concept	Sub-Concept
Russia	Society and Culture	History Communism

SYNOPSIS:

For this session two slides are shown. The first slide pictures long lines of people waiting to view the remains of Vladimir Lenin. The second slide is a view of the Lenin Mausoleum.

SUGGESTED APPROACH FOR INITIATING INQUIRY:

Why are these people gathered here?

ANALYSIS FOR THE TEACHER ONLY:

The Lenin Mausoleum has hosted people for over forty years. The landmark holding Lenin's remains, is visited by millions of people every year (15:33). The patriots pay honor to their revolutionary here.

In October 1917, the Bolsheviks with Lenin as their leader started a revolution in Russia. After three years of fighting the Bolsheviks won and renamed themselves

the Communist party. The whole country was renamed the Union of Soviet Socialist Republics (47:31-33).

Thus freed from the oppression of the Czars and ruling classes, Communism came into being. Under Communism, all factories, banks, businesses, and farms belong to the people. The Communist government rules in the name of the people, controlling political, agricultural, and industrial activities of the country. All people work for the good of everyone (50:13).

INQUIRY PROBLEM #7

Unit	Concept	Sub-Concept
Russia	Agrarianism	Marketing
		Communism

SYNOPSIS:

For this session there are two slides. In the first slide we see produce in a state-operated store. In the second slide we see a woman selling produce on the streets.

SUGGESTED APPROACH FOR INITIATING INQUIRY:

What contradictory practices are evident in these slides?

ANALYSIS FOR THE TEACHER ONLY:

In the first slide is a government-owned store. Produce for this store comes from a collective farm. The peasant works the communal fields with pooled equipment. At the end of each season, the state takes its prescribed share of the proceeds and a percentage of the remainder is set aside for obligatory capital improvements. The

members of the collective then divide the remaining pro-
ceeds among themselves according to the amount of work each
person has done (47:80).

In the second slide is a woman selling produce on
the street. Although many goods are sold at the govern-
ment-operated stores, farmers are allowed to sell some of
their crops in the "free market" (50:91). The farmers
live on the state-owned collective farms, but many have a
little garden plot of their own as well. In their spare
time they raise food for themselves and for sale on the
urban market (50:91). The individual garden plots are
economically significant, for in some years they have ac-
counted for 15 to 20 percent of Russia's gross agricultural
production (12:232).

INQUIRY PROBLEM #8

Unit	Concept	Sub-Concept
Russia	Industrialism	Technological Advancement

SYNOPSIS:

For this session there are three slides. The first picture is a Soviet airliner displayed at Moscow's Exhibition of Economic Achievement. The second shows a rocket in the same exhibition. In the third slide we see a view of a Russian street. The street, although paved and wide, is relatively empty. A man with a push cart is also seen.

SUGGESTED APPROACH FOR INITIATING INQUIRY:

Why has the Soviet government promoted policies which resulted in the contrasting scenes shown in these slides?

ANALYSIS FOR THE TEACHER ONLY:

In the first two slides are an airplane and a rocket displayed at Moscow's Exhibition of Economic Achievement. These displays commemorate the Soviet

peoples' victories in space exploration. In sharp contrast with this is the street scene with little traffic and the man with his cart.

Soviet Russia has built up heavy industries which turn out guns, tanks, planes, and missiles for an armed force of millions of men. The Russians have made much steel, chemicals, and many machines (50:88).

Scientists have pushed ahead in exploring space and using atomic energy. Russia has sent manned spaceships orbiting around the earth and has built powerful missiles that can carry atomic bombs to targets thousands of miles away (50:88).

The massive machinery and advancements in space give impressive evidence of Russia's technological advancement. But it also shows an "economic system that emphasizes capital goods and minimizes personal consumption" (47:69). The Kremlin's concentration has been on heavy industry designed "to support the country's large military program and create a firm base for further economic growth" (47:69).

CHAPTER IV

SUMMARY AND RECOMMENDATIONS

I. SUMMARY

The utilization of the inquiry method in the class-room has allowed creative thinking to further conceptual development (28:98). After the presentation and focusing of the problem, the student gathered data and information related to this problem (36:24). He then induced or inferred tentative theories, generalizations or principles about the problem. Using more selective data, he subsequently retested and reworked these ideas until he eventually arrived at a theory which seemed to account best for the problem within his conceptual framework (34:66).

While a solution to the problem had apparently been derived, it was emphasized that no solution could be regarded as final since there was never a single answer that was conclusively and permanently correct (29:72). The teacher tried to prevent the students from reaching closure, an apparent, final solution to the problem, but motivated them continually to refocus inquiry and to seek alternatives for their theories (42:138).

Through inquiry the student's role was different from that usually expected in the classroom (46:18). He was expected to become autonomous and take responsibility for his own learning (42:137). He learned to formulate and test his own theories through his own thought, rather than digesting and accepting the theories of others (29:74).

The teacher's role was different as well (46:19). He was not considered to be the authority, but allowed his students to become the authorities (7:65). He did not feed and direct the information to the students, but responded to their queries for data. He allowed great freedom to the students, was responsive, and was accepting and supportive to all inquiries (44:26).

The goal of inquiry was method. Its purpose was to promote the method and process of inquiry rather than the acquisition of subject matter or content (14:211). Students were to learn to formulate and evaluate their own theories and concepts rather than merely to accept those of some "authority" on faith (29:76). Content was a tool for inquiry, but in the process of inquiry, students acquired much content through their search for data (46:17).

They acquired many new concepts in the subject matter, but content was a secondary gain. The inquiry process was the primary objective (46:17).

In an inquiry session, the teacher was the guide to inquiry. To be an effective guide, the teacher had to be well informed and well grounded in the process of inquiry and the problem under discussion. Suchman said:

> . . . The teacher, to be successful in inquiry, must have an underlying understanding of the process. He must have skill in introducing focal stimuli and conceptual organizers. He must know the subject in which the children are to delve. He must be prepared to suggest sources of information, beyond his own knowledge, to which children can turn. These ingredients are essential for a successful inquiry experience (44:64).

Since it was impossible to predict the course that inquiry would take in any given class, it was essential that the teacher be well versed in the process of inquiry as well as the problem to be focused upon (14:206). It was essential that he understood "the method, the theory, and the philosophy of inquiry" (14:173) to be able to judge "what applies, where it applies, and how it applies" (14:173).

To give meaning to their inquiries, the students had to accumulate a wide range of encounters and enrich their conceptual structures (35:32). The teacher was able

to create an environment responsive to these needs by making available numerous materials and various classroom activities (42:137). He could read to the students, allow reading and research by individuals or committees, or provide films, tapes, slides, pictures, resource persons, interviews, trips, art, music, or literature (14:169,181). The selection of materials was left to the teacher's judgment, but "the wider the variety of viewpoints and of quality the better the opportunities for critical thinking" (14:206).

Many teachers have felt that their classroom curriculum and procedures have been restricted by their communities or administrations and that they have not been allowed freedom for innovation (14:161). Despite such conditions, it has still been possible to promote inquiry. It was possible to employ the inquiry method within the framework of the required subject matter by inquiring into value issues of that subject matter (14:184) or by locating "value problems which are pertinent to the subject matter prescribed in a guide or textbook" (14:185). Thus inquiry could be employed to a fuller or lesser extent as situations demanded. However, it was hoped that inquiry would be

employed so that children of today would learn to think creatively "to become more familiar with the realistic world in which we live" (36:64) and acquire the tools for making the judgments and decisions so important in coping with today's rapidly changing world (14:43).

II. RECOMMENDATIONS

It is recommended that these specific, previously explained activities be employed in social studies units about the Soviet Union on the secondary level. They may be presented when student interest or prescribed curriculum demands study of the economic and cultural aspects of Soviet life. These activities may be used from the seventh to twelfth grade level, with varying degrees of sophistication of concept development, depending upon the maturity and capabilities of the students. This method of study, however, with simplification or expansion of content, may be used on any level where this social studies area of Russia is a part of the program. The extent of concept development will regulate itself.

Each of the inquiry lessons involves slides to be shown to the students. A synopsis is provided to give a

brief summary of slide content. This should be reviewed during or after viewing to aid student focusing. The suggested approaches for initiating inquiry section provides questions to aid understanding of the problem if the visual stimulus is not sufficient. The analysis section of the lessons should be used only by the teacher. It provides additional information about slide content and the problem presented. This analysis may be sufficient if the teacher has an extensive background on the Soviet Union. If not, it is recommended that the teacher prepare himself by research in the area so that he may be properly equipped to respond to student inquiries.

The writer recommends that the teacher provide plentiful resource materials for student research and enrichment. He should work closely with the school librarian to provide extensive reading materials. Varied reading levels and content sophistication should be readily available for the various interest and ability levels of students in the classroom.

The teacher should also consult his district resource center for slides, filmstrips, films, tapes, and records about various aspects of Russian life. Local

speakers specializing in study of the Soviet Union should also be utilized when available. Current newspapers and radio broadcasts should also be employed to provide additional background. They could also serve to initiate other problems into which students may wish to inquire.

The teacher should provide a variety of activities in the classroom. Besides the oral inquiry sessions, reading, writing and listening activities should be included. Students should be provided with sufficient time to read about the Soviet Union. They should also receive aid in research skills to enable them to locate the data being sought. Writing should also be included in the inquiry program, but always in the form of inquiry. For example, students could develop different levels of inquiry questions on a subject such as Russian education and present their own answers with written evidence and reasoning. Various listening activities should also be used to enrich and extend student encounters. Here again, tapes, records, and speakers could be used. Other activities such as Russian dancing, cooking, music, and language study can be used for enrichment and may serve to motivate further inquiry.

All students need not study every subject area provided by the lessons. These could and probably should depend upon the individual interests of students. Active boys would certainly be more interested in Problem #5, sports and prestige, while girls would enjoy Problem #4, part of which involves work women do in the Soviet Union. This satisfies, in part, the necessity for individual choice in the learning process.

In evaluation of student progress, teachers must keep in mind the goal of inquiry. Students should not be tested on the acquisition of concepts and facts about the Soviet Union since content is not the primary objective of inquiry. Rather, students should be evaluated on the basis of inquiry. They should be evaluated on the degree of proficiency in the use of inquiry skills they have attained, or their skill level of searching into problems. Research into possible methods of testing maturity of concept development through inquiry should be developed since much measurement is not now readily available and teachers are required to make such an assessment.

At present, the extent of student interest and its time span under varying conditions, such as subject area

or method of student research, is uncertain. Research on
possible ways of measuring this interest span might in-
crease the value of this already valuable method of con-
cept development. Perhaps this is undesirable because of
possible conflict with the method itself, but it would be
of value to know how deeply individual students are or can
be motivated to delve into an area. For example, after
being introduced to Inquiry Problem #2, urban transporta-
tion, a student might discontinue study, not because of
interest lag, but because he was not aware of the direction
now to take. Often, in a crowded classroom, this might go
unnoticed. If some sort of periodic test questions were
devised, it would be easier for the instructor to be aware
of necessary additional guidance and avoid possible student
frustration and closure. Research on the possibility of
such measurement would be of value.

Finally, the key to the entire process is the
teacher. He should be enthusiastic about and committed to
inquiry method learning. He should be well informed about
the method and ready to explain or defend it to the admin-
istration and the community. He should have a personality
that enables him to allow students to direct their own

learning. He should not be a teacher who needs to be

directive, to lecture and demand constant feedback from

students, because the classroom must reflect a student-

centered situation. Every teacher may not be a successful

practitioner of meaningful inquiry methodology. It is he

who has the capability of supporting, rather than playing

the leading role in this type of classroom, who encourages

success. Further, he must have a thorough grounding in

the philosophy, methodology, and technology of the inquiry

method. He should have instruction, observation, and

possible practice in this method if he would practice it

well.

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Barnes, Donald L., and Arlene B. Burgdorf. <u>New Approaches to Teaching Elementary Social Studies</u>. Minneapolis, Minnesota: Burgess Publishing Company, 1969. 280 pp.

2. Broudy, Harry S., and John R. Palmer. <u>Exemplars of Teaching Method</u>. Chicago: Rand McNally and Company, 1965. 172 pp.

3. Bruner, Jerome S. "Education as Social Invention," <u>Saturday Review</u>, 49:70-72, February 19, 1966.

4. _____. <u>The Process of Education</u>. London: Oxford University Press, 1960. 97 pp.

5. _____. <u>Toward a Theory of Instruction</u>. London: Oxford University Press, 1966. 176 pp.

6. _____, et al. <u>Studies in Cognitive Growth</u>. New York: John Wiley and Sons, Incorporated, 1956. 343 pp.

7. Clements, Millard H., William R. Fielder, and B. Robert Tabachnick. <u>Social Study: Inquiry in Elementary Classrooms</u>. Indianapolis, Indiana, et al.: Bobbs-Merrill Company, Incorporated, 1966. 402 pp.

8. Cole, J. P., and F. C. German. <u>A Geography of the USSR, The Background to a Planned Economy</u>. London: Butterworth and Company, Limited, 1961. 277 pp.

9. Cronbach, Lee J. <u>Educational Psychology</u>. New York: Harcourt, Brace and World, Incorporated, 1954. 688 pp.

10. Dale, Edgar. <u>Audio-Visual Methods in Teaching</u>. Revised edition. New York: The Dryden Press, 1954. 546 pp.

11. Dewey, John. _Logic: The Theory of Inquiry_. New York: Henry Holt and Company, 1938. 546 pp.

12. Fitzsimmons, Thomas, _et al_. _USSR_. New Haven, Connecticut: Human Relations Area Files, Incorporated, 1960. 504 pp.

13. Flanders, Ned A. "Teacher Influence, Pupil Attitudes, and Achievement," _Current Research in Elementary School Social Studies_, Wayne L. Herman, Jr. Toronto, _et al_.: The Macmillan Company, 1969. 172-200 pp.

14. Goldmark, Bernice. _Social Studies: A Method of Inquiry_. Belmont, California: Wadsworth Publishing Company, Incorporated, 1968. 229 pp.

15. Gunther, John. _Inside Russia Today_. New York: Harper and Brothers, 1958. 514 pp.

16. Hankins, Francis P. "The Influence of Analysis and Evaluation Questions on Achievement in Sixth Grade Social Studies," _Current Research in Elementary School Social Studies_, Wayne L. Herman, Jr. Toronto, _et al_.: The Macmillan Company, 1969. 319-325 pp.

17. Hedley, Eugene W. _Freedom, Inquiry and Language_. Scranton, Pennsylvania: International Textbook Company, 1968. 131 pp.

18. Jarolimek, John. _Social Studies in Elementary Education_. New York: The Macmillan Company, 1959. 418 pp.

19. Kneller, George F. _Foundations of Education_. New York: John Wiley and Sons, Incorporated, 1963. 650 pp.

20. Know, H. M. _Introduction to Educational Method_. London: Oldbourne Book Company, Limited, 1961. 174 pp.

21. Massialas, Byron, G. and C. Benjamin Cox. _Inquiry in Social Studies_. New York, _et al_. McGraw-Hill Book Company, 1966. 353 pp.

22. Massialas, Byron G., and Jack Zevin. _Creative Encounters in the Classroom: Teaching and Learning Through Discovery_. New York: John Wiley and Sons, Incorporated, 1967. 274 pp.

23. McBride, Wilma (ed.). _Inquiry: Implications For Television Instruction_. Washington, D. C.: National Education Association, 1966. 64 pp.

24. Raths, Louis E., _et al_. _Teaching for Thinking: Theory and Application_. Columbus, Ohio: Charles E. Merrill Publishing Company, 1967. 348 pp.

25. Risk, Thomas M. _Principles and Practices of Teaching in Secondary Schools_. Third edition. New York: American Book Company, 1958. 526 pp.

26. Snyder, Louis L. _The First Book of the Soviet Union_. New York: Franklin Watts, Incorporated, 1959. 94 pp.

27. Suchman, J. Richard. "Action, Control and Intake," _The Instructor_, 76:29+, October, 1966.

28. _____. "Creative Thinking and Conceptual Growth," _The Gifted Child Quarterly_, 6:95-99, Autumn, 1962.

29. _____. _Developing Inquiry_. Chicago: Science Research Associates, Incorporated, 1966. 79 pp.

30. _____. "Developing Inquiry Skills in Children," _The Instructor_, 72:8+, March, 1963.

31. _____. "Diagnostic Teaching," _The Instructor_, 76:27+, April, 1967.

32. _____. "Didactics," _The Instructor_, 76:25+, March, 1967.

33. _____. "Education Through Inquiry," Childhood Education, 41:289-291, February, 1965.

34. _____. "Functions of Storage," The Instructor, 76:27+, November, 1966.

35. _____. "In Pursuit of Meaning," The Instructor, 75:32+, September, 1965.

36. _____. "Inquiry in the Curriculum," The Instructor, 75:24+, January, 1966.

37. _____. "Learning Through Inquiry," NEA Journal, 52:31-32, March, 1963.

38. _____. "A Model for the Language of Education," The Instructor, 76:33+, September, 1966.

39. _____. "Motivation," The Instructor, 76:23+, December, 1966.

40. _____. "Old Goals and New Perspectives," The Instructor, 76:23+, January, 1967.

41. _____. "Play and Discussion," The Instructor, 76:33+, February, 1967.

42. _____. "The Conditions for Inquiry," The Instructor, 75:30+, November, 1965.

43. _____. "The Motivation to Inquiry," The Instructor, 75:26+, October, 1965.

44. _____. "The Role of the Teacher," The Instructor, 75:26+, December, 1965.

45. _____, and Mary Jane Aschner. "Perceptual and Cognitive Development," Review of Educational Research, 31:451-461, December, 1961.

46. Teacher's Handbook for Inquiry Training. Illinois Studies in Inquiry Training. Urbana, Illinois: University of Illinois, 1964. 260 pp.

47. Thayer, Charles W., and the editors of Life. Russia.
        New York: Time Incorporated, 1965. 167 pp.

48. Wallace, John A. Getting to Know the Soviet Union.
        New York: Coward-McCann, Incorporated, 1964.
        64 pp.

49. Webster's New Collegiate Dictionary. Springfield,
        Massachusetts: G. and C. Merriam Company, 1959.
        1,174 pp.

50. What You Should Know About Communism and Why. New
        York: Scholastic Book Services, 1962. 128 pp.

51. Wright, Betty Atwell. Educating for Diversity. New
        York: The John Day Company, 1965. 250 pp.