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Described in this document is a schedule of teacher behaviors specified as being most appropriate for preservice elementary social studies teachers. Pre-teaching tasks are allocated to the social studies methods class; teaching-learning and post-teaching tasks to the student teaching experience. The tasks, stated in behavioral terms, are recommended terminal behavior criteria for teacher candidates. Pre-teaching tasks involve: 1) planning activities that increase the scope and body of social science content and methods and increase pupil performance in cognitive and affective skills; and, 2) planning activity sequence, transitions, evaluations, and multimedia resources. Elements of the teaching-learning process are: questioning, discussion, use of resources, teacher-pupil planning, cueing, and reinforcing. These are presented in two sections, one focusing on the teaching process, the other on the learning process. The final behavior group, post-teaching tasks, defines the behavior of the teacher in the evaluative role. Appendices referred to in the text are: Examples of Pre-Teaching Tasks; Example of the Teaching-Learning Processes; and, Synthesis Model of the Teaching Learning Process Related to its Sources. (DJB)
A BEHAVIORAL APPROACH TO
THE TEACHING OF SOCIAL STUDIES

AN APPLICATION OF
COGNITIVE AND AFFECTIVE PROCESS MODELS
PERFORMANCE TASKS AND
CRITERION MEASURES

A Monograph Prepared by
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The ideas in this document were developed by the college post-doctoral participants in the Tri-University Project in Elementary Education (social science-social studies) at the University of Washington, Seattle, during the 1967-68 academic year. The project was supported by a grant from the U.S. Department of Health, Education, and Welfare, Office of Education.

The document addresses itself to those tasks deemed to be essential to the successful teaching of social studies in elementary school classrooms. It seeks to answer the question, "What must the beginning elementary teacher be able to do in order to teach social studies successfully?" The emphasis is clearly on teaching behavior. Moreover, the document stresses that there are minimum criterion levels of teacher behavior that discriminate between successful and unsuccessful teaching performance. We believe these ideas to be reflective of a significant new direction in the preparation of teachers in the social studies field.

In developing their ideas, the contributors assumed that the teacher in training will have other supporting work in education and psychology that will acquaint him with general concepts and procedures relating to elementary school teaching. Therefore, this document focuses exclusively on teaching the social studies. It does not concern itself with classroom management, discipline, the total classroom environment and other similar matters relating to teaching.

The authors also assume that learning to teach elementary social studies means working with pupils over an extended period of time. Some contact with pupils is necessary during the time the student is taking his methods course. This experience is enlarged during his
student teaching assignment. It is expanded still more during his first year of teaching. The authors insist that successful teaching of social studies will be enhanced if there is congruency in teaching performance expectations in all three of these experiences. This document should therefore be of assistance in establishing similar expectations in the methods class, in the student teaching experience, and finally on the job.

We present this document, then, as a first effort rather than as a final and finished statement of performance criteria. It is hoped, however, that others may profit from these ideas and, indeed, will be sufficiently stimulated by them to refine and extend what is presented here.

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Introduction

In the preparation of teachers for the decades ahead, educators are able to draw upon tools that have emerged from the unprecedented attention education has received since the 1950's. Notable among recent developments has been the attempt to view the roles of teachers in terms of stated behaviors, specifically defined. Such materials as Bloom's Taxonomy have provided direction for stating behaviors in dimensions identifiable and measurable by the observer.

It is with this in mind that the following document was developed. The teaching of social studies has suffered in the past, it seems, from a lack of clearly stated behaviors deemed essential by the classroom teacher. The following assumptions and the tasks that follow, in turn, are viewed as a reasonable format to aid in the preparation of the elementary school teacher in his role as social studies teacher.

Assumptions

1. Teaching competencies of elementary school teachers of social studies can be stated in behavioral terms. Teaching competencies are those overt expressions, either oral or written, specific to the activities of a teacher prior to, during, or following contact with pupils in a learning situation. Behavioral terms as used here refer to those activities of a teacher that are observable and quantifiable. Further, any behavior used herein would have concensus among teachers (i.e.: a learning experience such as arranging for and conducting a group discussion would be readily identifiable as such by professional teachers.)

2. The description of behaviors expected from beginning teachers can be used as the criteria for terminal behavior on the part of candidates who have taken the methods course plus student teaching.
3. Once behaviors of the beginning teacher are described, they can be allocated between student teaching and the methods course. A sequence can be established. It would appear that the pre-teaching tasks will be allocated to the methods course, for the most part. The competencies represented in the teaching tasks and post teaching tasks will be demonstrated during student teaching. In some instances, (e.g. where an intern situation exists in lieu of an abbreviated student teaching situation) the teaching and post teaching tasks will be demonstrated by the intern during that phase of his preparation.

4. Teaching style is subordinate to the quality of pupil learning achieved.

5. The prime focus must be on pupil learnings and their effective learning strategies. Teaching strategies become the "structures" which enhance pupil learning--hence "teaching strategies" cannot be isolated and seen as an entity separate from pupil learnings.

6. The teaching task can be divided into three major segments--preparation for meeting the class (the pre-teaching task), working with pupils in the instructional setting (the teaching task), and analysis and evaluation of the experiences in the instructional setting (the post-teaching task). These re-cycle daily.

7. The methods course will require supervised first hand experiences with elementary pupils in the classroom (observation-participation, micro-teaching, etc.) to provide a reality base for pupil learnings.

8. Student teaching becomes an experience where integration of the learning from the methods course (theory and experience) becomes molded through the consecutive days with a specific group. This is seen as a counterpart to the medical intern going into residency.

9. The teacher as a student of education in a broad sense is a role deferred to a point after certification. The term student of education
refers to those aspects of a teacher's professional role not associated with initial preparation for instruction. It refers to post-graduate study involving such courses as those leading to an advanced degree.
PRE-TEACHING TASKS

Prior to actual classroom contact with pupils, the teacher must be able to perform certain planning and preparation tasks. Sound planning does not necessarily ensure good teaching. On the other hand, weak planning cannot result in strong teaching. Those essential pre-teaching tasks are described in this section.

I. Pre-Teaching Tasks.

A. Given a group of pupils for whom the teacher is responsible, he should plan learning experiences for the year that will increase the scope and body of principles, generalizations, models, and supporting data from the social science disciplines used by the pupils in their work.

1. Given topics or subject matter designated for the class or grade level, the teacher chooses appropriate high order generalizations from the social science disciplines (such as those found in the Merrill pamphlets, the California Framework, the Wisconsin Framework, and the NCSS publication) around which to organize instruction. (See appendix, Pre-Teaching Task, item A)

2. The teacher formulates a group of lower order generalizations (child-size, or supporting statements, that would approximate what might be expected to come from pupils progressing toward the desired generalizations) that must be developed in the process of reaching the high level generalizations. (See B-1,2)

3. Given a group (list) of high order generalizations around which to organize instruction, the teacher identifies five to eight main ideas for the year's program that
   a. Cut across the disciplines represented by the generalizations
   b. Supply criteria for how far to go into what content. (See
4. The teacher identifies the key concepts imbedded in each of the generalizations selected as well as for the lower order generalizations and the main ideas. (See D)

5. Given a group of five to eight big ideas (as per 3 above), each of which is to serve as the focus for several weeks of instruction, the teacher identifies appropriate content samples that will provide the contrast necessary for the development of these main ideas. (See E)

6. Given a group of five to eight big ideas (as per 5 above), (Bare mini- with appropriate contrasting samples, the teacher identifies mum for terminal . . . the appropriate cognitive skills to be developed, the academic performance) skills required, the necessary social skills, and the attitudes to be fostered. (See Functions for F 1-22)

7. For each of the main ideas the teacher is able to
a. Indicate appropriate methods of inquiry to be employed for each set of examples, (See F 1-22)

b. Select intervening experiences representing a variety of levels of abstraction, using Dale's Cone of Experience as a criterion measure, and (See F 1-22)

c. Formulate an instruction sequence for each of the main ideas which will include rotations of the following:
   (1) Intake and expressive activities, (Intake: See F 2, 3, etc., Expressive: See F 4, 5, 6 etc.)
   (2) Cognitive and inquiry skills, (See Functions for F 1-22)
   (3) Academic skills required, (See Functions for F 1-22)
   (4) Social skills necessary or desired, and (Implicit in grouping)
   (5) Attention to the attitudes to be fostered. (See F 19-20)
8. Given a course of study which provides 1 - 5 above, or a reasonable part thereof, the teacher modifies it to include the essence of 6 and 7.

9. The teacher translates 1 - 8 above into statements of behavioral objectives for the pupils in his classroom. (See F1-22)

10. The teacher provides alternatives to accommodate the needs of individual pupils for whom the original statements of objectives (9 above) are not appropriate. (See F 263, 566, etc.)

11. Upon preparation of a unit of work or a specific lesson, the teacher specifies the evaluative criteria to be used and
   a. Prepare the appropriate instruments/materials to be employed for this purpose, being careful to (see F 7 & 14)
   b. Insure that it contains items distributed across levels of thinking (as represented by Bloom, Sanders, Taba, etc. and/or
   c. Ascertain that it includes devices appropriate for appraising the development of necessary "tool" skills.

B. Given a group of pupils for whom the teacher is responsible, he is able to plan learning experiences for the year that raise the level of pupil performance (over the initial levels which they display at the beginning of the year) in the cognitive skills.

1. The teacher plans experiences that will develop the ability on the part of all pupils to locate information on maps, globes, charts and graphs; in film strips and films; and from pictures and models. (See F 2, 3, 4 & 5, etc.)

2. The teacher is able to plan experiences that will develop the ability on the part of pupils, according to individual ability levels and in keeping with the nature of the materials available,
to locate information in encyclopedias, atlases, almanacs, newspapers and other periodicals, the card catalog, and in trade books and texts. (See F 2, 9)

3. The teacher plans activities for the pupils that will enable them and require them to interpret, analyze, and synthesize information from a variety of sources—oftentimes making inferences which go beyond the data, and frequently developing generalizations. (See F 5, 7, 8; 11, 12, 14, 15; 17, 18, 19)

4. The teacher provides a variety of models for organizing information in a form which facilitates interpretation, making inferences, comparison, and generalizing. (See F 4, 11, 19)

5. The teacher demonstrates his ability to do the following:
   a. Plan a variety of ways for helping pupils to apply their inferences and generalizations to novel settings; (See F 22)
   b. Help pupils analyze their applications by examining the adequacy of support data (the relevancy to the task, the nature of the evidence—-is it definitive? descriptive? logical inference? the source?); and (See F 23)
   c. Lead pupils to evaluate the credibility or feasibility of the application in terms of the geographical and cultural setting. (See F 22, 24)

C. Given a group of pupils for whom the teacher is responsible, he is able to plan learning experiences for the year that will raise the level of pupil performance in the affective skills.

1. The teacher plans activities that will encourage each pupil to do the following:
   a. Listen attentively to the contributions of others. (See F 19, 20)
   b. Respond to the content, rather than the person, with ideas of his own. (See F 20, 21)
c. Identify and present his own position, supported with firm data, with increasing clarity, conciseness, and thoughtfulness. (See F 19r-21)

d. Reconsider, refine, and re-develop his position in the light of new ideas and/or discrepant evidence. (See F 19-21)

e. Make a conscious effort to be consistent in his treatment of similar problems couched in different settings. E.g. caste in India and caste in race relations in the U.S.

2. The teacher indicates a variety of techniques that can be employed to diagnose individual needs in the affective domain.

3. The teacher indicates a variety of techniques for providing individual help according to the needs indicated.

4. Given tapescripts of pupil discussions, the teacher summarizes and clarifies pupil viewpoints and positions. He is able to indicate how he might assume the role of devil's advocate in order to present unpopular viewpoints for class consideration.

D. Given a group of pupils for whom the teacher has undertaken A, B, and C above, he is able to specify the sequence of learning activities and the form of analysis to be employed in evaluating pupil learnings resulting from them.

1. The teacher indicates the techniques that will be used to identify initial pupil status regarding new skills or content prior to their introduction.

2. For each assignment or task incorporated into the ensuing lessons (e.g., maps, charts, notebooks, artwork, etc.) the teacher stipulates the performance criteria to be employed.

3. For each assignment or task the teacher indicates how individual needs will be diagnosed and incorporated into subsequent planning.
E. Given a group of pupils for which the teacher has undertaken A, B, C, and D above, he is able to specify the appropriate learning resources, including multiple media. Where they are not available, he is able to develop them as needed.

1. The teacher chooses from the learning resources (multiple media) available those which will best facilitate the pupil learnings he desires.
   a. The selection provides for individual difference in learning style.
   b. The teacher is able to create, or direct the pupils' so that they can create, those materials needed but not available.

2. The teacher states the criteria upon which the selection of the media was based, e.g.:
   a. The developments of content is handled better than in other resources.
   b. The data it contains is more up-to-date than that of the text.
   c. The media chosen does a better job in less time than that required by other materials available.
   d. No other materials of suitable nature were available.

3. The teacher specifies the criteria to be used in measuring pupil learnings following the use of the media selected.

4. The teacher organizes the learning environment in such ways as to facilitate the kinds of activities desired.
   a. He arranges equipment in the classroom so as to facilitate the desired learnings.
   b. He provides for pupil arrangement and re-arrangement (flexibility) in order to accommodate the learning activities taking place.
F. The teacher is able to build bridges between lessons and between units.

1. He employs the evaluation of the previous lesson(s) in making the plans for subsequent lessons.
2. He provides for individual differences at this time.
3. He insures that subsequent lessons build on the learnings of those taught previously.

G. The teacher is able to incorporate the examples from the Teaching Task materials into his planning as he translates A - E above into classroom performance.

Note: See Appendix for Post-Teaching Task for other evaluating materials.
PART II
THE TEACHING-LEARNING PROCESS

Teaching Behaviors

1. Questioning
2. Discussion
3. Use of Resources
4. Teacher-pupil planning
5. Cueing
6. Reinforcing
The Teaching-Learning Process

Introduction

The general assumptions made in the preceding section are also implied here.

In this section teaching and learning are viewed as two sides of the same coin. Two paradigms, however, have been developed. One focuses upon the teaching process (pink pages), singling out such common phrases as motivation, presentation, development, summary, and application. The other model focuses upon various cognitive and affective processes in children's learning (yellow pages). These processes are a synthesis of the learning processes or tasks developed by Taba, Suchman, Michaelis and others. Further details are given in Appendices C, D, and E.

A number of specific teacher behaviors or competencies have been identified. These include questioning, discussion, cueing, reinforcing, use of resources, and teacher-pupil planning. While the list is not exhaustive these behaviors are viewed as important technical skills or competencies that a teacher must be able to demonstrate. To avoid their becoming a mere "bag of tricks" if developed in isolation the behaviors have been defined and illustrated in the context of the two related paradigms of teaching and learning. Additional behaviors could be developed in the same way.

The paradigms or models may be used in several ways depending upon one's objectives. The teaching-process model lends itself well to large group instruction, demonstration, or lecture situations. The learning-process model is appropriate to problem solving, inquiry, discovery, or discussion situations. As the instructional requirements vary, elements may be selected from either of the paradigms and used as appropriate.
As in the previous section the behaviors or competencies are written as behavioral objectives, using readily observable terms as measures of performance. A number of specific illustrations are given for each aspect of the two paradigms. Detailed teaching plans showing the use of these behaviors in the context of a series of lessons are included in Appendices A and B. Video tapes have also been developed to illustrate several of the lessons.
**QUESTIONING**  
(*Focused on the Teaching Process*)

**The Teacher is Able to Ask Questions that Result in:**

<table>
<thead>
<tr>
<th>Teacher Behavior #1</th>
<th>Motivation</th>
<th>Presentation</th>
<th>Development</th>
<th>Summarizing</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher asks questions to arouse interest, poses a problem, asks a rhetorical question.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Why do you think the early pioneers wanted to move westward?</td>
<td>The teacher asks questions at the knowledge level: who-what-when-where?</td>
<td>The teacher asks questions to clarify. Asks child to interpret his own statements, or oral statements of others.</td>
<td>Teacher asks questions to summarize.</td>
<td>Teacher is able to use questions for appropriate activities (homework-test projects, etc.) that require a student to apply the knowledge, skills, attitudes to new situations</td>
<td></td>
</tr>
<tr>
<td>2. How do you think we could solve the problem of urban slums?</td>
<td>Teacher is able to clarify data.</td>
<td>Asks questions of application, analysis, synthesis</td>
<td>Uses questioning to review by recall questions basic facts, relationships and analyses and syntheses mode.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Teacher begins an inquiry approach with a &quot;mystery question.&quot;</td>
<td>Asks questions that bring out basic knowledge.</td>
<td>Poses questions in the affective domain to focus on values.</td>
<td></td>
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<tr>
<td></td>
<td>Asks questions to locate AND or determine the limits of the problem.</td>
<td>Asks If-Then questions consistent with stated values - (alternative-consequences)</td>
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<td></td>
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<tr>
<td></td>
<td>Questions for review.</td>
<td></td>
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</tbody>
</table>
### DISCUSSION
(Focused on the Teaching Process)

**Teacher Behavior #2**

The Teacher is Able to Guide a Class Discussion that Results in:

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Presentation</th>
<th>Development</th>
<th>Summarizing</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher can relate peer dynamics to the use of discussion. A. The need to belong and acceptance are recognized by making sure that each child can and does contribute to a discussion. B. Uses group problem solving techniques. C. Organizes groups based on interests, ability, sociometric choice, etc.</td>
<td>The teacher presents and proposes rules for discussion. The uses of discussion are presented in various forms: A. Debate or formal structures. B. Role playing situations i.e. court scenes, historical debates, discussions carried on in Congress, etc. C. Discussions used for social and pleasure situations.</td>
<td>Discussion can and is used in teacher-pupil planning. The teacher can help the child by encouraging more discussion on his part in the teacher-pupil planning situation. The teacher keeps records of the extent of participation of each individual in two or more discussion situations. The teacher uses many oral situations to use discussion to summarize projects, units or activities. Oral discussion is used in many evaluative situations.</td>
<td>The teacher points out and develops situations which children can apply discussion. Children are able to anticipate the kinds of situations in which the analytical and logical discussion would be of help. A. The use of &quot;games&quot; in social studies that stress problem solving. B. Committee panel that discuss the several points of view of various issues. C. Discussing the values of solution already made in selected situation.</td>
<td></td>
</tr>
</tbody>
</table>

Teacher presents dissonance models to encourage discussion. These situations are designed to emphasize novelty, curiosity and the need for closure. A. The mystery model. What happened here? How do you explain this? What is the evidence? B. Teacher presents ideas, activities, etc. that have not been a part of the school routine.
## USE OF RESOURCES

*Focus on the teacher process*

The teacher is able to handle resources that result in:

<table>
<thead>
<tr>
<th>MOTIVATION</th>
<th>PRESENTATION</th>
<th>DEVELOPMENT</th>
<th>SUMMARIZING</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher uses a film, filmstrip, bulletin board, etc. to set the stage as a starter or initiation.</td>
<td>Teacher uses chalkboard, bulletin board, flannel board to show sequential order.</td>
<td>The teacher uses a map to study the community.</td>
<td>The teacher uses bulletin boards, chalk boards, flannel boards to summarize a field trip, list of items, group reports.</td>
<td>The teacher uses pictures to assist pupils in developing critical judgement.</td>
</tr>
<tr>
<td>Teacher constructs a large floor map of the community.</td>
<td>Teacher uses filmstrip to show steps or process in detail (e.g., building a log cabin, making butter).</td>
<td>The teacher uses pictures, books, films, filmstrips, records to prevent and correct misconceptions relative to dress, homes, villages of people.</td>
<td>The teacher uses films to summarize, reinforce, or as a check-off of information and understandings as one of the concluding activities of a unit.</td>
<td>The teacher uses filmstrips and films to encourage further research, to involve the students in critical thinking.</td>
</tr>
<tr>
<td>Teacher uses overhead projector, pictures, models to introduce a unit on space, astronomy.</td>
<td>Teacher uses a picture graph to show leading producers of dairy cattle.</td>
<td>The teacher uses bulletin boards, chalk boards, flannel boards to show progress of unit; process-stages in making a particular activity, recording or tabulating of opinions.</td>
<td>The teacher uses overhead projector and overlays to show outline of completed project.</td>
<td>The teacher uses the overhead project and an acetate roll to show boundaries and territories of newly emerging nations, territorial expansions, comparisons.</td>
</tr>
<tr>
<td>Teacher uses story in trade books to create interest.</td>
<td>Teacher uses a film to add understanding and information during the development of a unit.</td>
<td>The teacher uses filmstrip to develop one or more skills.</td>
<td>The teacher uses pictures to show relative size, e.g., men, camels, pyramids.</td>
<td></td>
</tr>
</tbody>
</table>
### TEACHER-PUPIL PLANNING
(Focused on the Teacher Process)

The teacher is able to make plans with pupils that result in:

<table>
<thead>
<tr>
<th>MOTIVATION</th>
<th>PRESENTATION</th>
<th>DEVELOPMENT</th>
<th>SUMMARIZING</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>When planning with pupils a teacher must:</td>
<td>Teacher summarizes</td>
<td>Teacher asks questions</td>
<td>Teacher plans so children will be able to see the results of their work</td>
<td>Teacher anticipates directions children will take</td>
</tr>
<tr>
<td>1. Allows time for thinking and exploring.</td>
<td>Teacher clarifies</td>
<td>broad to narrow</td>
<td>Teacher gives information</td>
<td>Teacher plans ways of providing children with a feeling of accomplishment</td>
</tr>
<tr>
<td>2. Has a high tolerance level for silence after a question.</td>
<td>Teacher expands</td>
<td>Teacher gives opinion</td>
<td>Teacher anticipates directions children will take</td>
<td>Teacher plans a smooth transition to the next unit</td>
</tr>
<tr>
<td>3. Listens to and observes children with care.</td>
<td>Teacher includes essentials the children forget</td>
<td>Teacher includes essentials</td>
<td>Teachers and Pupils Plan:</td>
<td>Teacher and pupils plan:</td>
</tr>
<tr>
<td>4. Talks with children, not to them.</td>
<td>Teacher eliminates the impossible</td>
<td>Teacher eliminates the impossible</td>
<td>How to close the study</td>
<td>The culminating activity procedures</td>
</tr>
<tr>
<td>5. Builds his comments upon those of the pupils.</td>
<td>Teacher sets limits on some tasks</td>
<td>Teacher sets limits on some tasks</td>
<td>How to share the knowledge</td>
<td>To make decisions</td>
</tr>
<tr>
<td>6. Displays an evident and felt concern for the group and individuals.</td>
<td>Teacher provides some resources</td>
<td>Teacher plans for best physical setting</td>
<td>The form the summary will take</td>
<td>To pass judgements</td>
</tr>
<tr>
<td>7. Encourages pupil to pupil interaction.</td>
<td></td>
<td>Teacher encourages individuals to take leadership</td>
<td>For additional activities for individuals who desire to pursue the topic further</td>
<td></td>
</tr>
<tr>
<td>8. Elicits contributions from the less verbal - when appropriate.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>9. Limits contributions from the more verbal - when necessary.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>10. Proceeds within the limits of their ability to plan.</td>
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<td></td>
</tr>
<tr>
<td>MOTIVATION</td>
<td>PRESENTATION</td>
<td>DEVELOPMENT</td>
<td>SUMMARIZING</td>
<td>APPLICATION</td>
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<td>-------------</td>
</tr>
<tr>
<td>Teacher &amp; pupils Plan: How to proceed with the new topic</td>
<td>Teacher and pupils Plan: To form focus-set goals</td>
<td>Pupil and Teacher Plan: For the social studies class</td>
<td>Let's try to pull things together.</td>
<td>To improve future planning sessions</td>
</tr>
<tr>
<td>Ways to relate new studies to other experiences</td>
<td>To find sources of information</td>
<td>To find additional sources of information and to use them</td>
<td>How would we proceed if we had to write someone and tell him the important things we learned in this unit?</td>
<td>Appropriate out of school use of the new information and/or abilities</td>
</tr>
<tr>
<td>What causes...</td>
<td>To decide how to attack the problem</td>
<td>To make decisions and judgments as to priorities—which problems are most important</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What can we do to find out?</td>
<td>Teacher relates various pupil responses</td>
<td>Teacher adds new information to pupil responses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You seem puzzled by...</td>
<td>What do you need to know to answer the questions you asked?</td>
<td>Which experiences will: (1) give us the best information (2) can be accomplished in the time we have?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Have we listed all the important questions?</td>
<td>Can you think of other sources of information?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Where shall we start?</td>
<td>Let's see how we can best spend our time today.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Will our plans lead us to a well rounded picture of our subject?</td>
<td>You probably have suggestions for organizing the information you are gathering.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Are our questions thought provoking and worthy of our attention?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can some questions be answered by individuals?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To improve future planning sessions

Appropriate out of school use of the new information and/or abilities

Do you have suggestions for sharing your new knowledge with others?

How can we tell if we really understand the topic we have been studying?

Let's make sure we have considered all the alternatives and their consequences.

How might we have improved our planning for this study?
<table>
<thead>
<tr>
<th>CUEING (Focused on the Teaching Process)</th>
<th>Teacher Behavior #5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Presentation</strong></td>
<td>You will be interested in...</td>
</tr>
<tr>
<td>CUEING</td>
<td>Cue student 5-10 minutes in advance so student can find ahead of think of answer.</td>
</tr>
<tr>
<td>Did the materials give you any ideas?</td>
<td>- Did you understand what you are to do? How does this relate to what you did?</td>
</tr>
<tr>
<td>You mentioned your...</td>
<td>- What do you think of that response?</td>
</tr>
<tr>
<td>You didn't quite understand...</td>
<td>- Can you cite other examples?</td>
</tr>
<tr>
<td>I think Group A will find...</td>
<td>- How would you respond to Dick's statement?</td>
</tr>
<tr>
<td>- So I think you...</td>
<td>- Is this suited to...?</td>
</tr>
<tr>
<td>Did you check with other materials?</td>
<td>- Can one of you restate... so we will have another way to look at statement.</td>
</tr>
<tr>
<td>Did you think of something else?</td>
<td>- Can you highlight visually?</td>
</tr>
<tr>
<td>You want to become able to...</td>
<td>- More ideas on this?</td>
</tr>
<tr>
<td>You were absent yesterday...</td>
<td>- Do you think of another?</td>
</tr>
<tr>
<td>I think Group B will find...</td>
<td>- How would you use data?</td>
</tr>
<tr>
<td>- I think Group C will find...</td>
<td>- Is this suited to...?</td>
</tr>
<tr>
<td>- What do you think?</td>
<td>- What is the importance of...?</td>
</tr>
<tr>
<td>Use analogy that has characteristic similar to the concept or theme of lesson.</td>
<td>- Use several frames of reference, (i.e., from Northern white, Negro slave, Free Negro, etc., European leader.)</td>
</tr>
<tr>
<td>Explain verbally another way of...</td>
<td>- Call me if...</td>
</tr>
<tr>
<td>Emphasize verbally word or part...</td>
<td>- Call me if...</td>
</tr>
<tr>
<td>Repeat... Pause... Go on (Use literal repetition and figures of speech.</td>
<td>- Do you think...</td>
</tr>
<tr>
<td><strong>Development</strong></td>
<td>Shift sensory channels or vary style of teaching.</td>
</tr>
<tr>
<td>Cueing 5-10 minutes in advance so student can find ahead of think of answer.</td>
<td>You want to become able to...</td>
</tr>
<tr>
<td>You mentioned your...</td>
<td>How does this relate to what you did?</td>
</tr>
<tr>
<td>You didn't quite understand...</td>
<td>What do you think of that response?</td>
</tr>
<tr>
<td>- I think Group A will find...</td>
<td>Can you cite other examples?</td>
</tr>
<tr>
<td>- So I think you...</td>
<td>How would you respond to Dick's statement?</td>
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<tr>
<td>Did you check with other materials?</td>
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<td>Did you think of something else?</td>
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<td>You want to become able to...</td>
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<tr>
<td>You were absent yesterday...</td>
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<td>I think Group B will find...</td>
<td>Is this suited to...?</td>
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<tr>
<td>- I think Group C will find...</td>
<td>What is the importance of...?</td>
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<tr>
<td>- What do you think?</td>
<td>Use several frames of reference, (i.e., from Northern white, Negro slave, Free Negro, etc., European leader.)</td>
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<tr>
<td>Use analogy that has characteristic similar to the concept or theme of lesson.</td>
<td>Shift sensory channels or vary style of teaching.</td>
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<td>Explain verbally another way of...</td>
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<td>Emphasize verbally word or part...</td>
<td>Call me if...</td>
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<tr>
<td>Repeat... Pause... Go on (Use literal repetition and figures of speech.</td>
<td>Do you think...</td>
</tr>
<tr>
<td><strong>Application</strong></td>
<td>Shift sensory channels or vary style of teaching.</td>
</tr>
<tr>
<td>Cueing 5-10 minutes in advance so student can find ahead of think of answer.</td>
<td>You want to become able to...</td>
</tr>
<tr>
<td>You mentioned your...</td>
<td>How does this relate to what you did?</td>
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<td>You didn't quite understand...</td>
<td>What do you think of that response?</td>
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<tr>
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<td>Can you cite other examples?</td>
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<tr>
<td>- So I think you...</td>
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<td>I think Group B will find...</td>
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<tr>
<td>- I think Group C will find...</td>
<td>What is the importance of...?</td>
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<tr>
<td>- What do you think?</td>
<td>Use several frames of reference, (i.e., from Northern white, Negro slave, Free Negro, etc., European leader.)</td>
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<td>Use analogy that has characteristic similar to the concept or theme of lesson.</td>
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<td>Call me if...</td>
</tr>
<tr>
<td>Repeat... Pause... Go on (Use literal repetition and figures of speech.</td>
<td>Do you think...</td>
</tr>
<tr>
<td><strong>Summarizing</strong></td>
<td>Shift sensory channels or vary style of teaching.</td>
</tr>
</tbody>
</table>
Organizes materials in appealing ways.

Were you ever curious about...? Do you want to find out more about...?

Show film, play record, etc. to review what studied so far.

Make a statement. Pause a long time to give student time to think about it.

Do you remember answer to...?

Define words or concepts.

If... then what, why, etc.?

Can you think of a related problem we studied?

What startled you, was unusual, made you think, "Oh, my goodness." in movie?

Do you remember how we talked about...?

Ask questions in small steps as in program.

Give hint of answer.

Give clue to answer.

Steps 1,2,63 are... What's next?

Does that answer the question? Is that on this subject?

Clarify by:

Let's look again at... That's possible.

Hmm... Very interesting (TV quotes)

Remember now, we were talking about... Let's not get this confused with...

Now think carefully...

Is that actually...?

Let's get back to the original question (state question again)

You have said... How would this affect...?

We talked about...

What do you think would occur if...?

Now that we have listed all the... we can think of, let's try to list... Such as?

Clarify by comparison or contrast. Then ask student to tell in one (limited) sentence idea.

You did... Tell or draw or act to show meaning.

Can you act out what was said?

Can you make a chart from what you have found?

What stood out for you--something that happened in movie?

Now I'm asking you--something that happened in movie?

What do you have to say about that?

You can do more

Can you think of a different but similar idea? (Example, etc.)

What can we do with these things?
Teacher Behavior #6

The Teacher is Able to Use Reinforcing in a Way that Will Result in the Use of Valid Reinforcements for Producing:

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Presentation</th>
<th>Development</th>
<th>Summarizing</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>You were successful when you attempted this recently so...</td>
<td>Show enthusiasm for...</td>
<td>&quot;Yes, that's the correct answer&quot; (plus two variations)</td>
<td>&quot;John or Group I suggested that...&quot;</td>
<td>Wasn't that an interesting idea? (Pause)</td>
</tr>
<tr>
<td>You expressed interest in...</td>
<td>If... you can do...</td>
<td>&quot;You have gotten off to a good start. I especially like...&quot;</td>
<td>Mary, you look as if you understand the concept or idea well enough to explain it to others.</td>
<td>I believe you can figure out... (predict, differentiate, etc.)</td>
</tr>
<tr>
<td>I think you can...</td>
<td></td>
<td>Smile, frown, facial expressions. Bodily posture. Unhmm. Right. Partly right.</td>
<td>Listen to John's theory.</td>
<td></td>
</tr>
<tr>
<td>Make mental notes of what each child says for future leads.</td>
<td>Ask question you know student can answer correctly. Did you hear Tom's remark? Listen to what Tom has said again. Sue tells me you are doing a fine job. Judy tells me you contributed... idea to group.</td>
<td>Do you agree? Disagree? You can record this for others to use.</td>
<td>Well, that's an interesting idea, John.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>If student attacked by peers, teacher says &quot;Well that's something we all need to work on.&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Billy really knows...

We can be proud of...

Paul, this is one point we haven't touched on.

Encourage students to say "I didn't understand that. Could Jim explain what he means?"

Does anyone have a different idea? (Student then hear correct response.)

That's fine, good, weak, all right, part of it true, etc.

Yes, no.

Approve, criticize, correct, amplify student's responses

I like the way (Jane, Group A) is...

Of course you feel disappointed because...

No wonder you feel sad. Where did you ever get that idea?

I said to...

We shouldn't...

Where do you think you are?

Go on.

Now, this is a good point.

Tell joke to release tensions so can think anew.

You certainly could do this...

I see.
The teacher is able to ask questions that result in:

I. Determining the FOCUS

II. Concept Formation

III. Generalizing and making inferences from data

IV. Valuing for policy-making: identifying alternative courses of action

V. Application

VI. Analysis and evaluation

VII. Selecting a policy consistent with values of highest priority

As a final step in the policy-making process, in order to make a meaningful decision, identify and state the problem appropriately. The problem statement must be brief, clear, and concise. The teacher must then use generalizations and principles of the problem to develop and describe the working question in the task. The teacher asks the following questions:

1. What can we learn from the problem statement?
2. What do we need to know to solve the problem?
3. What are the possible solutions to the problem?
4. What are the consequences of each possible solution?
5. Which alternative action is the best possible choice?
automated? concepts by asking questions (c) make reasonable inferences based on the data itself, and (d) develop a generalization, arrange value positions into a set of priorities, and (e) analyze alternatives for consistency with stated value priorities and the priorities established.

1) What other things might Sam Adams have done?
2) What other solutions are possible?
3) What else would be possible?
4) How would you describe Roger Williams' attitude?
5) How do you feel about this solution?
6) What did the mayor do that made a difference in your community?
7) Based on logical, factual evidence, how did the syllogism hold?
5) What would you do if you were in that position supported by data? How well do you understand your predictions and hypotheses?

(a) Comparing and contrasting (differentiating)
1. What did you note? Find?
2. What else would be possible?
3. How can you distinguish among things partly the same and partly different?
4. How would you describe Roger Williams' attitude?
5. How do you feel about this solution?
6. What did the mayor do that made a difference in your community?
7. Based on logical, factual evidence, how did the syllogism hold?
5. What would you do if you were in that position supported by data? How well do you understand your predictions and hypotheses?

(b) Interpreting data
1. What does this you think he means?
2. How does it relate to other important data?
3. Does the evidence support or refute your conclusion?
4. Is the solution likely, possible?
5. What would you do if you were in that position supported by data? How well do you understand your predictions and hypotheses?

(c) Making inferences
1. What can you infer? Imply?
2. What does the you think he data suggest?

(d) Evaluating
1. What evidence do you have to support your conclusion?
2. What evidence do you have to refute your conclusion?
3. What evidence do you have to modify or revise your conclusion?

(e) Analysis of evidence
1. What is the nature of the evidence? Facts? Inferences? If then propositions?
2. What does it agree with the values we listed yesterday?
4. Do we have to modify or revise our solution to make it agree with the highest value we have listed?
5. Is it possible to work out a compromise that most people would agree to?
6. Would the compromise still be in agreement with the values we listed?

2. What things are the same? Different?
3. How can you distinguish among things partly the same and partly different?
4. How would you describe Roger Williams' attitude?
5. How do you feel about this solution?
6. What did the mayor do that made a difference in your community?
7. Based on logical, factual evidence, how did the syllogism hold?
5. What would you do if you were in that position supported by data? How well do you understand your predictions and hypotheses?

3. Dabs it agree with the values we listed yesterday?
4. Do we have to modify or revise our solution to make it agree with the highest value we have listed?
5. Is it possible to work out a compromise that most people would agree to?
6. Would the compromise still be in agreement with the values we listed?
<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>(d) Developing Generalizations</td>
<td>8) Which of these attitudes or values is the most important? The least important? Why?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. What can you conclude?</td>
<td></td>
<td>9) How did you decide on this order of priorities?</td>
<td></td>
<td></td>
<td>3. Does the proposed solution meet the criteria established by the federal government for urban renewal programs?</td>
<td></td>
</tr>
</tbody>
</table>
DISCUSSION
(Focused on the Learning Process)

The teacher is able to guide a class discussion that results in:

| I | Determining the Focus |
| II | Concept Formation |
| III | Generalizing and making inferences from data |
| IV | Valuing for policy making-identifying values, priorities, alternative courses of action |
| V | Application |
| VI | Analysis and evaluation |
| VII | Selecting a policy consistent with values of highest priority |

The teacher guides children in preparing discussions in which problem in values can be identified both the classified and discussed room situations and the children. Discussion is emotions and the encouraged which deals life space with the priorities situations of values and the the children. solution of problems in which alternate values may be considered, probable appraisal. A. Uses examples from history in which new situations of the causal values tions. were not too apparent or controversial. B. Considers problems that may arise in the class. Discussion emphasizes the analytical process of valuing.

The teacher encourages situations in which discussion of children is focused on the development of a policy. Children, through discussion, should gain experience in planning policy that could be followed in a real or hypothetical situation. A. Children are able to develop policies through discussion that would guide their behavior in the classroom. B. Discussion centers on choice of alternatives and the related values.
or idea?

3. How many of you understand what we are trying to do?

B. The teacher tries to determine if the children perceive the focus of the problem.

C. Creates hypothetical situations in which values and situations can be changed. Children can make decisions using these situations.

D. Uses a more formal debate format to encourage discussion of current issues. Children are aware of conflicting values.
## TEACHER BEHAVIOR # 3

### USE OF RESOURCES

(Focused on the Learning Process)

The teacher is able to handle resources that result in:

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining Concept Generalizing and Valuing for policy Analysis and Selecting a policy the Focus Formation making inferences making-identifying of action evaluation consistent with values of highest priority</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the Focus</td>
<td>Formation</td>
<td>from data</td>
<td>making-identifying</td>
<td>of action</td>
<td>consistent with</td>
<td>highest priority</td>
</tr>
<tr>
<td>Through the Through the Through the use of films,</td>
<td>Through the use of films, film-</td>
<td>Maps, globes,</td>
<td>Maps, globes,</td>
<td>Chalk boards, bulletin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>use of films, use of maps,</td>
<td>strips, tape recordings, books,</td>
<td>charts, globes,</td>
<td>charts, globes,</td>
<td>boards, flannel boards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>films, filmstrips, charts, globes,</td>
<td>tape record-</td>
<td>maps, globes,</td>
<td>maps, globes,</td>
<td>class constructed</td>
<td></td>
<td></td>
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<tr>
<td>globes show, globe show</td>
<td>recordings, tape record-</td>
<td>books, trade</td>
<td>charts, globes,</td>
<td>graphics, pictures</td>
<td></td>
<td></td>
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<tr>
<td>indicate, show relationships</td>
<td>strip recordings, tape record-</td>
<td>books, pupils can</td>
<td>charts, globes,</td>
<td>would assist pupils</td>
<td></td>
<td></td>
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<tr>
<td>locations</td>
<td>recordings, tape record-</td>
<td>pupils can</td>
<td>charts, globes,</td>
<td>in visualizing those</td>
<td></td>
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<tr>
<td>Through the use of films,</td>
<td>recordings, tape record-</td>
<td>pupils can</td>
<td>charts, globes,</td>
<td>activities growing</td>
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<td></td>
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<tr>
<td>use of weather films,</td>
<td>recordings, tape record-</td>
<td>pupils can</td>
<td>charts, globes,</td>
<td>out of decisions</td>
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<td>maps, reliefs,</td>
<td>recordings, tape record-</td>
<td>pupils can</td>
<td>charts, globes,</td>
<td>and/or judgments</td>
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<td>textbooks, models, pictures</td>
<td>recordings, tape record-</td>
<td>pupils can</td>
<td>charts, globes,</td>
<td>which have been made</td>
<td></td>
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<tr>
<td>identify children</td>
<td>recordings, tape record-</td>
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<tr>
<td>locate, point, can enumerate,</td>
<td>recordings, tape record-</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>out, trace</td>
<td>recordings, tape record-</td>
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<tr>
<td>Through the use of text, from bulletin books, trade boards, chalk boards, records, pupil-made pictures, overhead projectors,</td>
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<tr>
<td>Through the differentiates, use of pictures, identify, bulletin boards, determine overhead projector order of items</td>
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</tbody>
</table>

*Note: Some resources are used in multiple roles.*
<p>| | | | | | |</p>
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<tr>
<td>By asking questions that interest, challenge, intrigue.</td>
<td>By planning ways to record the data e.g. data retrieval.</td>
<td>By projecting use of ideas and weighting of data. By exploring plans for valuing, feeling, and responding to data.</td>
<td>By planning ways to test out applications in new situations. By planning the use to be made of the data in school and out of school situations. By helping pupils to determine the directions that the application of the data will lead them.</td>
<td>By planning useful and acceptable methods of assessing the conclusion or solution found.</td>
<td>By assessing resulting values from previous planning session and making individual decision concerning values and valuing.</td>
</tr>
<tr>
<td>By using inquiry procedures to gain or give information relative to planning. By channeling goals toward the possible. By guiding away from the impossible.</td>
<td>By using pupil responses as data. By generalizations eliciting are developed.</td>
<td>By using role playing to explore plans and alternatives before taking action. By discussing why they feel as they do and planning ways to find out what led to this feeling. Why do we feel this way? Is there any way to find out what causes our feelings to be what they are? Let's make believe and try to act as...</td>
<td>By agreeing on procedures and practices related to evaluation. By dividing responsibility for evaluation according to the group and individual aptitude.</td>
<td>By planning for activities which grow out of decisions and/or judgments which have been made. Are we sure this is the thing to do? How might we double check in order to be sure.</td>
<td></td>
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</table>

**TEACHER-PUPIL PLANNING**

(Focused on the Learning Process)

The teacher is able to develop plans with pupils that result in:

<p>| | | | | | |</p>
<table>
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<tbody>
<tr>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td>V</td>
<td>VI</td>
</tr>
<tr>
<td>Determining the Focus</td>
<td>Concept Formation</td>
<td>Generalizing and making inferences from data</td>
<td>Valuing for policy making-identifying values, priorities, alternative courses of action</td>
<td>Application</td>
<td>Analysis and evaluation</td>
</tr>
</tbody>
</table>

By asking questions that interest, challenge, intrigue. By using inquiry procedures to gain or give information relative to planning. By channeling goals toward the possible. By guiding away from the impossible. By using pupil responses as data. By generalizations eliciting are developed. By using role playing to explore plans and alternatives before taking action. By discussing why they feel as they do and planning ways to find out what led to this feeling. Why do we feel this way? Is there any way to find out what causes our feelings to be what they are? Let's make believe and try to act as...
By helping the children formulate their questions, or redefining grouping or labeling. Would act in such a situation. What will we need to do this?
## TEACHER BEHAVIOR # 5

### CUEING
(Focused on the Learning Process)

<table>
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<tr>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining the Focus</td>
<td>Concept Formation</td>
<td>Generalizing and making inferences from data</td>
<td>Valuing for policy making-identifying values, priorities alternative courses of action</td>
<td>Application</td>
<td>Analysis and evaluation</td>
<td>Selecting a policy consistent with values of highest priority</td>
</tr>
</tbody>
</table>

- **You will be interested in**
  - Use analogy that has characteristic similar to the concept or theme.
- **Do you want to become able to...so I think you will like...**
  - Cue student: You can do more ahead so he can find or find out what you think.
- **Do you ever curious about...? Do you want to know more about...?**
  - Define concepts. Let's try to list those you think are important.
- **Do you stand what you remember to do? How does this relate to what you did?**
  - Give me an example that uses our findings on... (teacher quotes...)
- **I think Group A will do well at finding...interesting pictures.**
  - When did you find...interesting clues from comparison or contrast? Then ask:
- **Group B will like...**
  - Would you...pupil to tell in

- **You were absent yesterday, but I think you can figure out the answer to this.**
- **Yesterday we...**
  - Can you think of what you did?
- **What did you think?**
  - You said earlier...
- **- What startled you, was unusual, made you think, "Oh, my goodness." Why?**
- **- We talked about look at data?**
  - What would happen if...?
- **- Does that occur if...?**
  - What can we do...?
- **- What do you have to say of that?**
  - We will have had said.
- **- Let's get back about that...?**
  - Good point, are there other thoughts on this?
- **- Let's talk about that...**
  - In other words, why...?
- **- Tell me others what you mean in a different way?**
  - Bill asked question again.
- **- Bill asked question again.**
  - Should film, play, record, etc. to review what studied so far.
- **- We found...Can you explain?**
  - Repeat...Pause...Go on.
- **- Hmm, very interesting. I want you to follow up...something else?**
  - Use figure of speech...
Group C will find... challenging. Would you like to give us an example?
This morning we wondered if... What does it mean? What did you note?
Let's look again at... Remember now we were talking about...

... Let's not get this confused with... what you... Would you like found?
A to find...? Emphasize one word.*

one sentence idea.
-Use several frames of reference as free Negro, Negro slave, etc.

-Who wants to check book, film, briefly tell us to see how others points covered?
-What do you see?*
-Do you remember how we talked about...?*
-Ask questions in small steps as in programs.
-Step 1,2,3 are...

...What is next?** Highlight visually.*

-We've already said...*
-Clarify*
-You mentioned you didn't quite understand...
Let me state in a different way,*

*Behavior can be used in nearly every column.
The teacher is able to use reinforcing statements or questions to stimulate or alter pupil behavior that will result in:

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining the Focus</td>
<td>Concept Formation</td>
<td>Generalizing and Making Inferences from Data</td>
<td>Identifying values, priorities, alternative courses and action</td>
<td>Application</td>
<td>Analysis and Evaluation</td>
<td>Selecting a policy consistent with values of highest priority</td>
</tr>
</tbody>
</table>

- Paul has mentioned a point gotten off we have to a good start, Sue; I off to a good State point. especially interested in... I think you can... -Ask question -Where do you see interest notes of what can answer? -That's fine, each child had correctly, good, weak, all says for future -Does any, part of it lead in one have a differ or true, etc. -Approve, different idea? -Use smile, frown, (Student then facial expressions, disappointed) -Correct, amplifies correct, hear correct body posture. -Billy really knows... -Is said to... -Yes, no, un ham, right.

- John (or Group A) suggested that... -You have gotten Jane. -Now that's a good start. I especially point... -Listen to what Tom has said again. -You can record this for others to use.

- Paul, this is one point we haven't touched on. -If pupil attacked by peers, teacher says, 'Well, that's something we all need to work on.'

- You have gotten John's remark? -Encourage students to say, 'I didn't understand that.' -Could Jim explain how doing a fine job what he means? -I'd be happy too if that happened to me.

- Mary, you look as if you understand the concept -Listen to J's idea well enough to explain it to others. -You can figure out... -Go on.

- You certainly could do this. -Teacher tells joke to release tensions so pupil a good point. -Partly right.

- Wasn't that an interesting idea? Tom's remark? -If...you can do... Encourage students to say, 'I didn't understand that.' -Sue tells me you could be proud of.

- If you...you could do this. -You were successful when you attempted this recently.

- Disagree? -We shouldn't... -I like that!
POST-TEACHING TASKS

The focus in this segment is on the post-teaching tasks that the teacher is expected to perform following the teaching-learning act(s). The tasks define the behavior of the teacher in an evaluative role; one in which there is analysis and evaluation of teacher and pupil experiences in the instructional setting.

For each of the tasks an illustrative example is given to further clarify teacher behavior. Specific acts the teacher can perform are suggested but there is no intent to sequence or structure the tasks or the acts stated in the examples.

ON THE COMPLETION OF A UNIT OF WORK OR A SPECIFIC LESSON:

1. The teacher selects and/or develops an evaluative instrument or activity designed to measure how well behavioral objectives have been achieved by the pupils.

   In view of the objectives stated the teacher studies measurement instruments of all types and compare them with performance activities to determine which would indicate most about the progress made. The instruments and activities include role playing, oral reporting and construction activities or teacher-made and standardized tests. The teacher must know how to administer and appraise each.

2. The teacher compares pre-instructional pupil behavior with post-instructional behavior to assess the levels of specific attitudes, understandings, and skills.

   Following instruction, the teacher looks for changes in attitudes including rapport with other students, changes in opinion or the use of supporting evidence in discussions. When the teacher determines that understandings and skills are adequate, he takes note of applications in a variety of situations apart from the social studies class. Additional indications might appear in listening to others seriously, in fair play and in the level of operation.
3. The teacher evaluates pupil thinking to determine the extent to which it has been enhanced by instruction.

After careful study of the pupil's questions and statements in addition to his deliberations, the teacher may find that the student is performing at the knowledge level only. He then plans activities that require varying levels of thought such as analysis, evaluation, syntheses and interpretation. It may be necessary at times to teach the thinking process directly to the advanced student.

4. The teacher reviews the media and other instructional resources used during the unit and lesson and determines the effectiveness of each in relation to stated objectives.

If the teacher uses the recommended variety of media and materials, he is in a position to make some comparisons regarding their relative effectiveness. Should he find that only part of a film, tape or book was effective in terms of time spent, he plans to use only that part in the future. In teaching map or reference skills, notes are made regarding the most effective media for the entire group and for individuals. These will be carried over for future use.

5. The teacher is able to identify the major elements of that lesson or unit and trace the development in terms of the stated behavioral objectives.

The teacher may find that the discussion did not center around the intended topics. Those elements of the lesson are reviewed to determine the reason and whether the unintended direction was less effective. Any time the development of the lesson does not result in meeting the objectives an analysis should indicate the reasons and point to a clarification.

6. The teacher conducts individual conferences with the children for the purpose of helping them see strengths and weaknesses and for planning follow-up activities that will help (1) take advantage of strengths and (2) overcome specific deficiencies.

The pupil is even more concerned than the teacher about his personal development, even when he denies it. Care should be taken to direct the pupil individually to recognize both successes and failures or strengths and deficiencies. Then a program of extension and correction can be planned. After the child has recognized that he is having difficulty with interpretation...
of map and globe information, specific exercises are planned for him to overcome this deficiency. The child who has a firm grasp of process and content can be encouraged to participate in further activities such as analyzing a news event.

7. The teacher conducts group critiques for purposes of helping them evaluate individual and group work.

    How does the group react to the contribution of individual members, and how do they feel about the total accomplishment? A concerted look at the product in view of the goals and purposes will help answer both questions. The maximum use of resources and time may return a great deal more; if pupils work in small groups or individually on different tasks for a time. On still other occasions a short concerted effort of the entire group can save time and be more productive.

8. The teacher graphically analyzes the interaction patterns that occurred.

    Occasionally the teacher keeps a tally of individual pupil participation and may even make documented anecdotal records of some. Recording an entire social studies session affords an opportunity to use an interaction analysis such as Flanders' for a careful study of both pupil and teacher verbal patterns.

9. The teacher appraises the strengths and/or weaknesses of the total performance of the group.

    Apart from pupils' analyses, the teacher considers the work of the entire group in such activities as class discussions, sharing of resource materials, and group dynamics. He seizes upon the findings to develop responsibility, leadership and participation of the members.

10. The teacher identifies the weaknesses of his planning and/or implementing and plans accordingly to overcome them.

    Should the teacher find that not enough time was allowed for the amount of content or type of strategy used in teaching, he makes specific plans to adjust either or all factors. Finding that pupils' time is wasted with unnecessary instruction, the teacher may plan more pre-testing or diagnosis. If only part of a class needed instruction given, different grouping procedures may be planned. If pupils are not participating enthusiastically, the teacher may take more time for involving them in the original planning.
The teacher locates ideas and information which he can use to improve performance in specific instructional tasks.

Regardless of the level of teaching performance, indications of potential improvement are constantly appearing. Every teacher knows how to contact the services of professional and commercial sources. Curriculum guides and materials offer suggestions for organization and learning activities. Professional journals are essential to keeping us with innovation. The teacher must be able to select that story, film, book, or machine that will best do a particular task. Use of library reference data is basic to the location of any information needed.
<table>
<thead>
<tr>
<th>Terms</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generalization from Discipline</td>
<td>A. &quot;The simpler a culture is, the fewer are the materials and the narrower is the range of knowledge of which the inventor can be possessed, so that as a consequence the possibilities of invention are more limited.&quot; John M. Hofstrand: <em>Social Science Generalizations for Use in the Social Studies: Creating Tools, Technics, and Social Studies in Elementary School</em> as cited in John U. Michaelis, editor. 32nd Yearbook of the NCSS, p. 86, Number 40, 1962.</td>
</tr>
<tr>
<td>Lower order or child-size generalizations</td>
<td>B. 1. The environment can be used in different ways by different groups of people. 2. The more understanding a people have of their environment, the more choices they have as to how they will use their environment.</td>
</tr>
<tr>
<td>A Big Idea or Main Idea (possible)</td>
<td>C. Change in one aspect of life affects other aspects of living.</td>
</tr>
<tr>
<td>Key Concepts from the Original, lower order, and &quot;Big Idea&quot;</td>
<td>D. environment culture (groups, people) knowledge (understandings) inventor invention (choices) materials aspects of life</td>
</tr>
<tr>
<td>Content Samples</td>
<td>E. Plains Indians, Early Settlers</td>
</tr>
</tbody>
</table>
Functions

(It is assumed that the class has had similar experiences previously. Hence the class could be divided into two groups, with one handling the Plains Indians as indicated and another handling the early settlers in the Great Plains).

Cognitive skills: Cognitive Task I--Concept Development.

Academic Skills: Note-taking, use of index, table of contents, and card catalog.

Cognitive Skills: Discrimination--Locating relevant information.

F. Learning Experiences

1. Given the question: "What can you tell me about the way the Plains Indians used their environment?" the students are able to participate in a group discussion led by the teacher in which they list the items of information, group the items that go together (giving the basis for the grouping), and label the groups. (Teacher saves copy for use in learning experience 2.)

2. Given a variety of textbooks and trade books, within their reading ability, the pupils are encouraged to augment their information from other sources as well. Given a review of note-taking skills and procedures for using the index, table of contents, and card catalog, they are able to work independently in employing these skills to find and record, their information for the following questions:

   a. What was the environment like?
      1. Weather
      2. Topography
      3. Chief vegetation
      4. Chief animal life
      5. Chief rivers
   b. What were the homes like?
   c. What did they use for food?
   d. What did they use for clothing?
   e. What work did they do?
   f. What tools did they use?
   g. What did they use for transportation?
   h. What did they use for communication?
   i. How were they governed?
Provision for individual differences:
  a. Reading ability
  b. Learning styles

Cognitive Skills:
  a. Discrimination of relevant information
  b. Verification

Cognitive Skills:
  a. Discrimination
  b. Analysis
  c. Synthesis

(First part of a data retrieval chart used to facilitate recording and organizing information in preparation for later comparisons. Other columns will be added on for other content samples.)

Preparation for Cognitive Task II--Interpretation of Data.

3. Given pictures, films, filmstrips, and recordings pertaining to the Plains Indians, the pupils are able to augment (and verify, at times) their information from other sources.

4. Given the following data retrieval chart, the students are able to record their information from learning experiences 2 and 3 above in the appropriate places.

   Plains Indians
   ____________________________
   Environment
   Homes
   Food
   Clothing
   Work
   Tools
   Transportation
   Communication
   Government

5. Given the above chart in a completed form the pupils are able to participate in a teacher-led discussion where they focus on the following question: "What can you say about the environment on the ways in which they learned? They are able to make inferences which go beyond the factual data they have located and are able to state several generalizations.
Functicria (cont)

Generalizations in pictorial form. Provision for individual differences in learning style.
(Visual)

Cognitive Skills:
Cognitive Task IV--Analysis and Evaluation

(If class is divided into two groups with the first engaged in learning experiences 1 - 7, the following learning experiences would be undertaken simultaneously with the second group. See assumption opposite learning experience 1.)

Cognitive skills: Cognitive Task I--Concept Development.

Learning Experiences (cont.)

6. Given the preceding experiences, the pupils or group of them) are able to make a mural which illustrates the ways in which the Plains Indians were dependent on their environment.

7. Having completed the above learning experiences, the pupils are now able to compare their findings from learning experiences 2 - 7 with their initial impressions recorded in learning experience 1. They are able to point out the discrepancies reported in the initial experience, what the corrections should be, and give the data which supports the corrections indicated.

8. Given the question: "What can you tell me about the ways early settlers of the Great Plains used their environment?" The pupils are able to participate in a group discussion led by the teacher in which they list the items of information, group the items that go together (giving the basis for the grouping), and label the groups. (Teacher saves copy for use in Learning experience 14.)

9. Given a variety of textbooks and trade books within their reading ability, the pupils are encouraged to augment their information from other sources as well. Given a review of note-taking skills and procedures for using the index, table of contents, and card catalog, they are able to work independently in employing these skills to find and record their information for the following questions:
Cognitive Skills: Discrimination—Locating relevant information

Provision for individual differences:

a. Reading ability
b. Learning styles

to the early settlers of the Great Plains, the pupils are able to augment (and verify, at times) their information from other sources.

(Second part of a data retrieval chart used to facilitate recording and organizing information in preparation for later comparisons. Other columns can be added for other content samples.)

Preparation for Cognitive Task II—Interpretation of Data.

a. What was the environment like?
   1) Weather
   2) Topography
   3) Chief rivers
   4) Chief vegetation
   5) Chief animal life
b. What were the homes like?
c. What did they use for food?
d. What did they use for clothing?
e. What work did they do?
f. What tools did they use?
g. What did they use for transportation?
h. What did they use for communication?
i. How were they governed?

10. Given pictures, films, filmstrips, and recordings pertaining to the early settlers of the Great Plains, the pupils are able to augment (and verify, at times) their information from other sources.

11. Given the following data retrieval chart, the pupils are able to record their information from learning experiences 9 and 10 above in the appropriate places. (It is assumed that the data on the Plains Indians will have been reported earlier to the whole class by Group I and duly recorded. At this point Group II will make their report to the full class for recording in the second column ("Early Settlers").
### Functions (cont.)

- **Cognitive Skills**
  - **Cognitive Task II--Interpretation of Data**
  - **Summarizing generalization for content sample II (Verbal)**

### Learning Experiences (cont.)

#### 11. Continued (Data Retrieval Chart)

<table>
<thead>
<tr>
<th></th>
<th>Plains Indians (from Group I)</th>
<th>Early Settlers (from Group II)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clothing</td>
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<tr>
<td>Work</td>
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<td>Tools</td>
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<tr>
<td>Transportation</td>
<td></td>
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<tr>
<td>Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 12. Given the above chart in a completed form, the pupils are able to participate in a teacher-led discussion where they focus on the following question: "What can you say about the effect of the environment on the ways in which the settlers lived?"

The pupils are able to make inferences which go beyond the factual data they have located and are able to state several generalizations.
Functions (cont.)

Generalizations in pictorial form. Provision for individual differences in learning style. (Visual)

Cognitive Skills:
Cognitive Task IV: Analysis and Evaluation

Cognitive Skills:
Cognitive Task II--Interpretation of Data
Making inferences
Making generalizations
Making generalizations on generalizations

Learning Experiences (cont)

13. Given the preceding experiences, the pupils are able to make a mural which illustrates the ways in which the Plains Indians were dependent on their environment.

14. Having completed the learning experiences for numbers 8 - 13 above, the pupils are now able to compare their findings from learning experiences 9 - 13 with their initial impressions recorded in learning experience 8. They are able to point out the discrepancies reported in the initial experience, what the corrections should be, and give the data which supports the corrections indicated.

15. Given the completed data retrieval chart suggested in learning experience 11 above, the pupils are able to participate in a teacher led discussion in which they are asked to compare the way in which the environment affected the life of the Plains Indians with the way it affected the life of the early settler. "What can you say about the ways the same environment is used by people with different backgrounds?" (Total class discussion).

16. Given the fact that before long a number of important inventions became available to settlers who lived in the Great Plains, (i.e. the steel plow, the Colt revolver, the reaper, and the windmill), and given the necessary reference materials, and given a column on the data retrieval chart for 'later settlers,' the pupils are able to record the appropriate data.

Academic Skills: Note-taking, use of index, table of contents, and card catalog.

Cognitive Skills: Discrimination--locating relevant information, making inferences following analysis and synthesis.

(It is assumed that the pupils will have internalized the steps to this. If not, it is assumed the teacher will provide guidance necessary.)
Cognitive Skills:
Interpretation of data
Making inferences
Making generalizations

Cognitive Skills:
Cognitive Task III--Application of principles.

Affective:
Identifying conflicting values
Identification of alternatives and possible consequences.

Learning Experiences (cont.)

17. Given the completed chart including the data for both "early settlers" and "later settlers," the pupils are able to participate in a teacher-led discussion in which they are asked the question: "What changes did the inventions mentioned in experience 16 make in the way settlers of the Great Plains used the environment?"

18. Given the discussion in experience 17 as a background, the pupils are able to make inferences and generalize about the effects these changes on the Plains Indians and their use of the environment. They are able to cite support for their inferences and generalizations.

19. Given the idea that the changes in the original environment introduced by the settlers were threatening to the Indians and their ways of life with the result that fighting soon broke out between the Indians and the settlers, the pupils are able to participate in a teacher-led discussion dealing with the feelings of the Indians and settlers, with the focal question: "To whom did the land belong?" followed by the use of the data retrieval chart suggested below:

<table>
<thead>
<tr>
<th>Indians</th>
<th>Settlers</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Who owned the land?</td>
<td></td>
</tr>
<tr>
<td>b. On what basis was it claimed?</td>
<td></td>
</tr>
<tr>
<td>c. How was the matter settled?</td>
<td></td>
</tr>
<tr>
<td>d. What might have been the result of each?</td>
<td></td>
</tr>
<tr>
<td>e. How was each affected?</td>
<td></td>
</tr>
<tr>
<td>f. What might have been the result of each?</td>
<td></td>
</tr>
<tr>
<td>g. In what way was the actual settlement beneficial to each?</td>
<td></td>
</tr>
</tbody>
</table>
Functions (cont.)

Affective
  Ordering of values
  Choosing courses of action reflecting values assigned highest priority.

Cognitive Skills: Generalization

Inquiry session
  Application of Principle

Cognitive Skills: Cognitive Task IV -- Analysis and Evaluation

Cognitive Skills: Verification of hypothesis

Learning Experiences (cont.)

20. Given the foregoing experience as a background, the pupils are able to discuss the question "In the light of what you know today, what settlement of the conflict would you recommend?" identifying the values implicit in their proposals. Having identified the values, they can rank them in terms of importance and identify those settlements proposed which are consistent with the highest values.

21. Given the above experiences as a background, the pupils are able to summarize the effects of inventions on the lives of the settlers and of the Indians. "What can you say about the influence of inventions on the way people live?"

22. Given a picture of fenced land in the Great Plains region, what changes would be likely to occur for settlers?

23. Given the predictions of the pupils to experience 22 above, they are able to analyze their predictions in terms of adequacy of data to support them and in terms of the feasibility of the predictions for the people involved.

24. Given the background of experience 23, above the pupils are able to verify their predictions from data on what actually took place secured from books, films, etc.
APPENDIX B

An Example of
THE TEACHING - LEARNING PROCESS

I. PRE-TEACHING TASKS:

(These are examples of Pre-Teaching Task #9)

Behavioral objectives for a short unit of study on the concept of division of labor (about 4-5 lessons over 1 week.) 3rd grade.

1. The pupils will be able to give orally a definition of division of labor. This definition will include the following elements:
   a. more than one person is involved to make the product.
   b. each person makes a part and when all parts are put together the object is completed.
   c. each person makes the same part over and over.

2. The pupil will be able to conclude that working by dividing duties produces the product faster than making it by himself.

3. The pupils will discover as evidenced by their verbalization the idea of specialization, i.e., that by doing only one part of the whole many times, he will be able to do that part better than trying to do all parts well.

4. The pupils will write three objects or areas in which the concept of division of labor is used. All elements of the definition in (1) will be evident in the examples given.
II THE TEACHING-LEARNING ACT USING THE TRI-U SYNTHESIS MODEL

I. Determining the Focus

3. The Teacher will identify the task for the students. (details to be added).

-------------------

Note: Students will learn the concept of "division of labor" through an inductive approach. A model of the "assembly-line" process will be compared with a group of individual craftsmen each of whom works alone to fashion the product. Since a pre-determined model will be used, the teacher has elected to bypass BC Task I (Concept Formation) temporarily, in order to generalize and make inferences about the model, BC Task II. The teacher will then return to Task I in order to label and define the concept "division of labor." This is an intended rotation of strategies.

II. Concept Formation

Given the generalizations developed in (II) based on the observations from the two groups, the students will be able to label and define the process involved (division of labor). (Note that "grouping," a part of BC Task I, was already accomplished in the pre-set model.)

Cognitive Task I

**Teacher Activities:**
Tell me again how Group B made their product? Go over characteristics? What was the main difference?

Can we give this way of making things a name?

**Pupil Activities**
Listing

Labeling

Concept:
Division of Labor
III. Generalizing and Making Inferences from Data

The teacher is able to select and organize appropriate learning activities in such a way that children will be able to identify appropriate points of data, explain, relate, and make inferences about the data, in order to formulate generalizations about the division of labor.

Cognitive Task II

Teacher Activities:
1. Organize class into 2 groups.
   Group A - Make product individually,
   Group B - Divide duties. (Equal number of children in each group.)
2. After several items are made, activity is stopped and a class discussion is conducted. How did the 2 groups make products?

Pupil Activities: Identifying Points

Data Retrieval Chart

<table>
<thead>
<tr>
<th>Who did</th>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>What?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Many?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Long?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Looking at chart, what happened here? How do we know that what you say is true?

Developing Generalization:
Division of Labor
Faster Production

Interpreting How product was made to how made and the length of time it took.

Making inferences.
Cognitive Task III:

Teacher will be able to select and organize appropriate learning activities in such a way that children will be able to predict consequences and develop hypotheses, explain and support predictions and hypotheses, verify the predictions and hypotheses in order to apply principles to new situations.

**Teacher Activities**

<table>
<thead>
<tr>
<th>Problem: Making school lunches. What would happen if one person made our lunches?</th>
<th>Why do you predict that this would happen? Are there other alternatives?</th>
<th>1. How should it be done? 2. How can we prove this?</th>
</tr>
</thead>
</table>

**Pupil Activities**

<table>
<thead>
<tr>
<th>Predicting Consequences Hypothesizing Example: It would probably take too long, she would make something very simple -- hot dog.-- We would have no lunches.</th>
<th>Explaining, supporting predictions/hypotheses</th>
<th>1. List conditions 2. Visit cafeteria</th>
</tr>
</thead>
</table>

Application of principle

Division of labor is used in making school lunches for faster production (and possibly application of other generalizations such as specialization.)
III. POST-TEACHING TASKS

The pre-teaching objectives listed on p. 1 will be evaluated by:

A. Children's verbal responses in classroom discussion as indicated in the behavioral objectives (01, 2, 3).

B. Children's written responses in class assignment as indicated in behavioral objective #4.

C. Passing of an objective test (given below) at a 90/90 level.

Objective Test:

1. What was the main difference between the way Group A made the product and the way Group B made it. (Select one)
   a. The colors of the paper were different.
   b. Group A had more people than Group B.
   c. The people in group A had to make the product all by themselves, whereas the people in group B made parts and put them together.

2. We call the way Group B made their product:
   a. Parts of a whole
   b. Division of labor
   c. Addition of labor
   d. None of the above

Etc.
### APPENDIX C
SYNTHESIS MODEL OF THE TEACHING-LEARNING PROCESS RELATED TO ITS SOURCES

<table>
<thead>
<tr>
<th>Structure-Inquiry Model</th>
<th>Taba Model</th>
<th>Michaelis - California Models</th>
<th>Tri-U Synthesis Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level I, Type I</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cognitive Task I</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-What did you see?</td>
<td>1-Observation</td>
<td>1-Observation</td>
<td>Determining the Focus</td>
</tr>
<tr>
<td>Note? Find? (enumeration)</td>
<td></td>
<td>2-Classification</td>
<td>1- Stating a problem</td>
</tr>
<tr>
<td>2-What belongs together?On What</td>
<td></td>
<td>3-Definition</td>
<td>2- Analyzing the setting</td>
</tr>
<tr>
<td>criterion (grouping)?</td>
<td></td>
<td></td>
<td>3- Identifying the task</td>
</tr>
<tr>
<td>3-What would you call these groups? What belongs under what (labeling)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Analytic Mode</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Integrative Mode</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Policy-Making Mode</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Level II</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cognitive Task II</strong></td>
<td>4-Contrastive Analysis</td>
<td>4-Comparison</td>
<td>II-Generalizing &amp; Making Inferences from data</td>
</tr>
<tr>
<td>1-What did you note?</td>
<td></td>
<td></td>
<td>A- Comparing and Contrasting (differentiating)</td>
</tr>
<tr>
<td>See? Find?</td>
<td>5-Generalization</td>
<td>6-Communication</td>
<td>B-Interpreting</td>
</tr>
<tr>
<td>2-Relating points to each other</td>
<td>6-Communication (Reading tables, graphs, etc.)</td>
<td>2-Identify alternative positions &amp; values represented.</td>
<td>C-Making inferences</td>
</tr>
<tr>
<td><strong>Data Retrieval Chart</strong></td>
<td></td>
<td></td>
<td>D- Developing Generalizations</td>
</tr>
<tr>
<td><strong>Contrastive Analysis</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3- (Cognitive Task II)</td>
<td>5-Generalization</td>
<td>6-Communication</td>
<td>II-Generalizing &amp; Making Inferences from data</td>
</tr>
<tr>
<td>What does this mean?</td>
<td>(Reading tables, graphs, etc.)</td>
<td>6-Communication</td>
<td>A- Comparing and Contrasting (differentiating)</td>
</tr>
<tr>
<td>What would you conclude?</td>
<td>Generalizing</td>
<td>6-Communication</td>
<td>B-Interpreting</td>
</tr>
<tr>
<td>&quot;Accommodation, Taba, Piaget.&quot;</td>
<td>Generalizing</td>
<td>6-Communication</td>
<td>C-Making inferences</td>
</tr>
<tr>
<td><strong>Generalization</strong></td>
<td>5-Generalization</td>
<td>6-Communication</td>
<td>D- Developing Generalizations</td>
</tr>
<tr>
<td>3- (Cognitive Task II)</td>
<td>(Reading tables, graphs, etc.)</td>
<td>6-Communication</td>
<td></td>
</tr>
<tr>
<td>What does this mean?</td>
<td>Generalizing</td>
<td>6-Communication</td>
<td></td>
</tr>
<tr>
<td>What would you conclude?</td>
<td>Generalizing</td>
<td>6-Communication</td>
<td></td>
</tr>
<tr>
<td>&quot;Accommodation, Taba, Piaget.&quot;</td>
<td>Generalizing</td>
<td>6-Communication</td>
<td></td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>5-Generalization</td>
<td>6-Communication</td>
<td></td>
</tr>
<tr>
<td><strong>Questions</strong></td>
<td>Generalizing</td>
<td>6-Communication</td>
<td></td>
</tr>
<tr>
<td><strong>Inferences (Positions on value continua)</strong></td>
<td>Generalizing</td>
<td>6-Communication</td>
<td></td>
</tr>
<tr>
<td>Level III</td>
<td>Cognitive Task III</td>
<td>Omitted</td>
<td>Omitted</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------</td>
<td>------------</td>
<td>---------------</td>
</tr>
<tr>
<td>If-Then</td>
<td>Application of principles - &quot;What would happen if..?&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7-Inference (Is this psychologically misplaced?)</td>
<td></td>
<td>7-Inference (Should it be placed after step 5?)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level IV</th>
<th>Cognitive Task IV</th>
<th>Evaluation</th>
<th>Evaluation</th>
<th>5-Testing consequences of alternatives</th>
<th>V-Analysis and Evaluation</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Footnotes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1See Appendix E below.</td>
</tr>
<tr>
<td>3Adapted from the draft version of the California Statewide Framework for a New Social Science Curriculum. Authorized abridgement (1968, mht).</td>
</tr>
</tbody>
</table>

6-Deciding (VI-Added Dimension for policy-making) Selecting a course of action consistent with values of highest priority.
### APPENDIX D

**Cognitive Task IV**

**Analysis and Evaluation**

<table>
<thead>
<tr>
<th>Overt Activity</th>
<th>Covert Mental Operation</th>
<th>Eliciting Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identify Points</td>
<td>Discriminates regarding kinds of evidence available, extent of each kind.</td>
<td>What is the nature of the evidence? (Facts, inferences from facts, logical inferences--If-then)</td>
</tr>
<tr>
<td>2. Considers the possibility</td>
<td>Appraises adequacy of support-data, number of samples from which it is drawn, adequacy of samples, logic of reasoning.</td>
<td>Is (the position) supported by data? How many samples bear it out? Does the syllogism hold? Are the necessary conditions available? Likely to be?</td>
</tr>
<tr>
<td>3. Examines the feasibility/desirability</td>
<td>Evaluates in terms of operant forces evident: credibility, capability, dominant values, influence of power structure.</td>
<td>Is (the position) consistent with the criteria: e.g., temperament, social arrangements, economic conditions, etc? What changes are required? What problems of acceptance are indicated?</td>
</tr>
</tbody>
</table>

Note: This cognitive task can be combined with Cognitive Tasks II and II of Taba's model.
# APPENDIX E
## STRUCTURED INQUIRY

<table>
<thead>
<tr>
<th>Levels</th>
<th>Random--Concept Development</th>
<th>Comparative--Interpretation of Data</th>
<th>If-Then--Application of Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Low)</td>
<td>Picture: Primitive Agriculture</td>
<td>Picture: (same place as--)</td>
<td>Picture: Present an agricultural scene from Non-Western (or early American) source.</td>
</tr>
<tr>
<td>1</td>
<td>What can you tell from the picture?</td>
<td>Agriculture Then (primitive) Agriculture Now (&quot;modern&quot;)</td>
<td>If you introduced (a specified innovation) what changes would you expect?</td>
</tr>
<tr>
<td></td>
<td>Type I: Map: Roseboro</td>
<td>Production chart: Then</td>
<td>If you introduced (a specified condition) what changes would you expect?</td>
</tr>
<tr>
<td></td>
<td>What can you tell about Roseboro from the map?</td>
<td>Production chart: Now</td>
<td>If you were planning for an orderly development for (Roseboro) in 1980, given present trends, what would your plans for land-use be?</td>
</tr>
<tr>
<td></td>
<td>Type II: Development of some models: Central place, transportation, special purpose.</td>
<td>How do you account for the importance/significance of these two groups of data?</td>
<td>Transfer from categorical use of models by teacher to pupil use of models as a tool.</td>
</tr>
</tbody>
</table>
## Appendix E (cont.)

Reflection on the Process of Inquiry--Analysis and Evaluation

<table>
<thead>
<tr>
<th>Level</th>
<th>Reflection on the Process of Inquiry--Analysis and Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Appraisal of question strategies with the pupils</td>
</tr>
<tr>
<td></td>
<td>Questions used in a random search</td>
</tr>
<tr>
<td></td>
<td>Questions that eliminated some of the randomness of the search--narrowed the focus</td>
</tr>
<tr>
<td>(high)</td>
<td>Questions employed in a series by an individual to produce relevant information efficiently</td>
</tr>
<tr>
<td></td>
<td>Questions that verified theories, tested hypotheses</td>
</tr>
</tbody>
</table>

This strategy can be used at all levels to increase efficiency.

Note: These patterns are intended to serve as inquiry counterparts for the cognitive tasks. Thus the two systems can be rotated to enhance learning.