A STUDY OF STUDENT TEACHERS' COMPREHENDING

OF INSTRUCTIONAL DESIGN

by

PETER WEIR FARIS

B.A., Queen's University, 1953
B.D., Queen's University, 1967

A THESIS SUBMITTED IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS (EDUCATION)

PETER WEIR FARIS 1968

SIMON FRASER UNIVERSITY

February 1968

EXAMINING COMMITTEE APPROVAL

A.R. MacKinnon	Dean of Education Simon Fraser University Senior Supervisor
T.J. Mallinson	Centre for Communication and the Arts Simon Fraser University Examining Committee
Selma Wassermann	Professional Foundations of Education Simon Fraser University Examining Committee
Marc Belth	Faculty of Education Queen's College, N.Y. External Examiner

ABSTRACT

This study explored the active process of comprehending as it occurred in individuals as compared with a group, given a similar task involving carefully controlled and sequenced instructional material.

Twelve student teachers, six as individuals and six as a group, were given the task of thinking aloud during the process of trying to discover the principles employed by I.A. Richards and Christine Gibson in their design of materials for beginning reading. The number and occasions of discovery were tabulated and compared. The utterances were then analysed and compared employing I.A. Richards' schema for comprehending.

There were significant differences found between the comprehending of individuals and the group. Individuals tended to make discoveries by using various language strategies. Patterns of comprehending developed and then became fixated. The individuals tended not to recognize the successes they had made. In the group context comprehending developed over time. As the trials proceeded, the group returned to earlier successes and "errors" and amplified its discoveries; helping various members to make additional discoveries and validating those that members had made.

The findings were related to studies in teaching, teacher education, group process and curriculum design. Present research literature indicates a concern for multi-variant, wholistic, contextual and process oriented studies in education. The "intelligencing" and "conceptualizing" powers of the person; the "evidencing" and "convincing" powers of instructional design; the "facilitating" and "validating" powers of social interaction have been suggested by this study as dimensions of the nexus condition for comprehending. Teachers who take responsibility for seeing that learning is brought about should take into account the nexus conditions as they operate in any learning situation.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

A STUDY OF STUDENT TEACHERS'

COMPREHENDING OF INSTRUCTIONAL DESIGN

CHAPTER I

INTRODUCTION

"The teaching they gave to their pupils was ready but
rough. For they used to suppose that they trained
people by imparting to them not the art but its pro-
ducts, as though anyone professing that he would im-
part a form of knowledge to obviate pain in the feet
were then not to teach a man the art of shoemaking or
the sources whence he can acquire anything of the kind,
but were to present him with several pairs of shoes of
all sorts: for he has helped him to meet his need, but
has not imparted to him any art."

Aristotle, De Sophisticis Elenchis*

The focus of recent educational research has been shifting from

achievement to process. The carefully controlled experimental study aimed

at producing measurable results has given way to multi-variant, contextual,

process studies. The net effect has been to bring research and develop-

ment into a more meaningful and reciprocal relationship.

This movement has been evident in such areas as intelligence testing.

The concept of intelligence as an innate, measurable, capacity or poten-

tial, reflected a product orientation. Given certain limits of potential,

certain test results might be expected. There is a measure of bitter

truth in the saying "intelligence is that which intelligence tests, test".

Margaret Donaldson (1963) argues that intelligence may still be con-

sidered in terms of potential, without necessarily being considered innate.

In her terms, intelligence is attainment potential. It is achievement

which is itself potential. We are (in her words) "dealing with a poten-

tial ability which develops and increases in the measure in which it is

realized". (p.8). Future ability depends upon present potential developing

over time.

Several investigators such as Adrian (1954), Broadbent (1958), Cofer

(1957), and Piaget (1958) have suggested that the study of intelligence

---

* Quoted in Richards, I.A. Interpretation in Teaching. London Routledge
                              and Kegan Paul. 1938.

can become more meaningful when it is directed towards the process of "intelligencing". This implies not the study of product, but of persons actively engaged in attempting to solve problems. Such studies would by nature be multi-variant, contextual, process studies.

The study of persons actively striving presents its methodological difficulties. Such a study requires the development of inquiry procedures which will reveal the activity overtly. These procedures function by the activity of comparing and they themselves must bear close examination and comparison. The activity might well be termed comprehending the activity of comprehending.

Margaret Donaldson (1963) suggests the basic issue involved in such procedures. She maintains that achievement may continue to be measured as a product, but if little is known about the process of striving to achieve, then the measurement is meaningless.

Israel Scheffler (1965) would appear to share Donaldson's concern. He makes the point that knowing is achievement relative to striving to know. It follows that to study the nature of knowing one must study persons striving to know, for knowing is both a product of striving to know and a condition for striving to know. Knowing is both product and potential.

Both Scheffler and Donaldson have recognized the importance of the active element of intelligence and knowledge. They are concerned for what might be called "intelligencing" and "striving to know". This has been noted by a number of others including for example, Jerome Bruner (1956) who is concerned with the process of "conceptualizing"; I.A. Richards (1955) who expresses his concern for the problem of "comprehending"; and Dewey (1910), Hullfish and Smith (1961), and Whitehead (1950) who have demonstrated concern for what may be described as the conditions for comprehending the activity of comprehending. This condition is a nexus condition. The nexus may be described as the conjunction of cognitive process, task, task design, and social relationship. The nexus involves what is being comprehended and the manner of comprehending. This is a task which presents itself to all who would engage in teaching and learning.

The problem for educators goes beyond the nature of knowledge, the nature of cognitive processes and the nature of social interaction. It is the nexus of these which forms the basis of this study.

Comprehending, including as it does, in the case of the teacher, the

comprehending of other persons' comprehending has been explored in a piece-meal fashion. Studies of cognitive processes, instructional design and social interaction have developed into major areas of research where each area functions virtually autonomously.

For the teacher who is engaged with an active process and in a situation involving a nexus of cognitive process, task, task design and social interaction, these isolated endeavours provide fragmentary and sometimes conflicting insights. The relationships between theory and practice and laboratory to classroom have assumed a somewhat insurmountable problem. In the words of Guba (1967):

> "Researchers and practitioners have taken turns castigating one another, on the one hand, for being so "ivory-towerish" and writing in ways that are incomprehensible to the practitioner; and on the other, for being so practice-oriented and functionally illiterate in the basic social discipline areas on which the praxiology of education is based."
>
> (pp.10-11)

In the clash of interests, teachers have tended to ignore the fragmented insights and have relied instead upon available intuition of the active process.

There are hopeful signs of a changing emphasis in education studies, however, in which cognitive processes, instructional design and social interaction are studied as a nexus of relationship. Taba (1967) argues for the study of teaching in the classroom with special attention paid to the way in which types of teaching acts are combined and patterned. Ausubel (1967) suggests the importance of discovery through applied or engineering research in the classroom.

One of the salient concerns in such procedures is obviously the teacher. MacKinnon (1959) for example, studied children engaged in learning to read under a variety of conditions. He studied the total nexus in the process of varying the instructional design and the social interaction. He was able to examine the differences in process under different conditions. His study suggested the possibility that children engage in significant learning together when the instructional design and the social context were such as to facilitate the active process of comparing and contrasting. Given an effective design and a suitable social context there was offered a meaningful invitation to learning, fewer possibilities for error, mutual confirmation of what was learned and increased readiness to move on to new

tasks. There was ample evidence that children helped each other to learn. In this study he found (p.220) that many teachers ignored and fragmented the nexus situation.

Comprehending of instructional design in a social context would appear to be an important component of teaching. This present study, accordingly, looks intensively at those who are preparing themselves to be teachers. It is concerned with these persons as they take up the task of comprehending instructional design, both as individuals and as individuals together. The task of the investigator was to study the process of persons engaging in the activity of comprehending.

The procedures employed in the study of nexus involved the selection of an appropriate instructional design and the structuring of opportunities for persons to engage in comprehending. These opportunities had to be provided over time, in a variety of social contexts and under controlled conditions enabling the investigator to study the nexus of comprehending.

The materials prepared by I.A. Richards and Christine Gibson (1957) were judged suitable for a number of reasons. The control of kind and number of words employed, their arrangement in sentences, the sequencing of sentences and the highly picturable quality of the material, were among the controls exercised to provide clear, simple and familiar meaning for the beginning reader. The materials provided a workable task for persons comprehending and at the same time made it possible for observational control and reporting of data by the investigator.

The persons selected for the study were students beginning their preparation as teachers. Half the students were engaged in the study as individuals and half as individuals together.

Eight trials of fifteen minutes duration were provided for individuals and individuals together. All of the trials were as similar as possible with regard to duration, presentation of materials and other physical conditions. A minute-by-minute record was obtained of responses by use of an audio tape recorder and a note-taking, non-participating observer.

The data was then subjected to analysis. The criteria for judging discoveries made by students was established and the number, type and occasion of discovery was tabulated. The verbatim transcript of utterances was then subjected to analysis employing I.A. Richard's schema for comprehending (1955).

The developing comprehending, over time, of individuals was compared to that of individuals together. This comparison suggests the importance of process studies, which take into account the total nexus of comprehending rather than studies based upon isolated presuppositions such as the teacher, the learner, curriculum design or the social interaction. When these are considered in the nexus condition, important interrelationships become apparent.

CHAPTER II

REVIEW OF LITERATURE

I

From the earliest times scholars have considered the active engage-
ment of persons with each other in the process of comprehending. The con-
ditions of such engagements do not easily lend themselves to categoriza-
tion. While some writers have placed special emphasis upon the learner,
or upon knowledge, or upon the interaction between persons, others have
been concerned for the total process.

Aristotle put the matter bluntly: "We learn an art or a craft by do-
ing the thing that we shall have to do when we have learned it."* He
attacked the Sophists for their emphasis on imparting knowledge as a pro-
duct and emphasized the active, process nature of learning. Time has not
resolved the issue.

In the modern context, Bruner (1966) suggested that it is vitally im-
portant for children to learn a way of thinking, that "the best introduc-
tion to a subject is the subject itself". (p.155). The learner should very
quickly be given an opportunity to think, to solve problems, to learn the
art.

Hawkins (1966) pressed beyond the Aristotelian idea of abstractions,
wherein the forms of knowledge are evolved in the course of experience.
He suggested that "the mind exists and is formed only in the rich commerce
between itself and nature". (p.480).

Current literature in a variety of areas shows this concern for the
"rich commerce" between the mind and the world. It is evident that many
thinkers feel the need for an emphasis which clarifies the process nature
of comprehending, as against the product orientation of comprehension.

Israel Scheffler (1965) for example, examined epistemological concerns
against the background of educational interests. He argued that education-
al concerns go beyond epistemological concerns. The nature of knowledge
in educational concerns must take into account "the manner of knowing"
(p.2). He suggested that an active interrelationship exists between "knower"
and knowledge, which he called "striving to know" (p.33). He suggested

---

* Nichomachean Ethics, Book II, Section I.

further that "knowing has an independent factual reference which rules out the notion that knowing is simply a cognitive task, faculty, activity, state, process or performance" (p.26).

Knowing, according to Scheffler, implies an active relationship between knower and his environment, each of which is relatively independent of the other but interrelated in the activity of striving to know. Comprehending in terms of active relationships would be analogous to knowing in Scheffler's terms. It implies an active state of interrelationship between the person comprehending and his environment.

Scheffler's arguments about the nature of the relationship between striving and achievement are relevant. He distinguishes the strategies of striving, the inquiry processes and the "subservient task activities", from the "state" of knowing. These efforts to attain knowledge are the strivings which are relative to knowing as achievement, but knowing is "not itself a task relative to anything else (it itself involves no striving)". (p.33). He quotes Gilbert Ryle: "For a runner to win, not only must he run" - the striving - "but his rivals must be at the tape later than he", i.e. the achievement state. (p.29). The implication here is that one must study striving to know, rather than knowing as achievement.

Jean Piaget shows a similar concern for the active relationship between knower and knowledge. This relationship he describes in terms of functional interaction. When discussing intelligence, Piaget (1947) suggested that it is "essentially a system of living and acting operations" (p.47). The beginning sensory-motor operations of the organism are continuous with the developing operations of reasoning and formal thought. These continuous, developing, adapting operations are the means and the end of growth.

He describes this interacting relationship between means and end in terms of functional equilibrium between assimilation and accommodation, which are the sub-operations of the adapting process.

> "Assimilation may be used to describe the action of the organism on the surrounding objects .... the living being .... instead of submitting passively, modifies its environment by imposing on it a certain structure of its own" (p.7).

> "Conversely the environment acts on the organism .... we can describe this converse action by the term accommodation". (p.8).

"We can define adaptation as an equilibrium between
assimilation and accommodation, which amounts to the
same as an equilibrium of interaction between subject
and object." (p.8).

The developing, adapting process operates at increased spatio-temporal
distances, becoming more complex in the process. There is an attendant
development of attainment potential on the part of the organism. This
attainment potential is not an innate capacity, but rather achievement
relative to striving. Relating this to the previous discussion of Israel
Scheffler, it may be argued that Piaget sees intelligence as active,
striving towards intelligence; as achievement relative to striving to
intelligence.

Piaget concerns himself with the process operating in a person's
intelligencing. His studies have a primary purpose of rendering overt
these operations. I.A. Richards (1955) explored the possibilities of dev-
eloping a theory of comprehending. In his view comprehending turns upon
itself. (p.18). Comprehending "seeks to comprehend what comprehending may
be". (p.18) When the process of comprehending is rendered overt and is ex-
amined in terms of utterances, this living process can be exemplified.

"Utterances in situations" develop "comparison fields". (p.23). These
comparison fields operate when other partially similar situations with
partially similar utterances occur. In Richard's terms:

"A Comprehending, accordingly, is an instance of a nexus
established through past occurrences of partially similar
utterances in partially similar situations - utterances
and situations partially co-varying." (p.23).

This process, developed over time, determines comprehending and is in
turn determined by comprehending. The inference is that comprehending can
and ought to be studied as it takes place, as it determines and is deter-
mined. This is in contradistinction to the study of the product of com-
prehending.

Richards suggests a schema for comprehending. The task, as he sets
it forth, is to establish dimensions or "respects" for comparing "comparison
fields". For a start, he posits seven active functions or kinds of work
that an utterance performs. These become the dimensions for comparing com-
prehending. These kinds of work include indicating, characterizing, rea-
lizing, valuing, influencing, controlling and purposing. They have no
fixed temporal order. One utterance may perform a variety of work.

Margaret Donaldson (1963), in accord with Piaget and Richards, argued that the study of the active process is a legitimate and necessary task. (p.33). Adults forget how they used to think. Research frequently attempts to hypothesize and to explain behaviour without fully knowing what the behaviour actually is. She suggested that much behaviour can be rendered overt by asking persons to "think aloud" as they engage in solving problems. (p.29). The effect that this thinking aloud may have upon the activity of persons may be significant. It could affect the process by the very act of talking about the process. She argued that it can lead to productive results as well.

Donaldson studied persons solving problems; in other words persons intelligencing. She quotes Bartlett (1958): "Thought is essentially a means of moving on". (p.23). The direct study of the process is necessary to take into account the variety of ways in which persons arrive at similar solutions. Donaldson noted (p.24) that a number of persons have been actively engaged in studying and interpreting the active process with some success. The psychoanalysts are most prominent in this endeavour. It could be added that sociologists, anthropologists and other field workers in the social sciences are also engaged in living with and studying problem solving and the comprehending of persons in a variety of social contexts.

Objections have been made about the validity of such studies. Chief among them is the argument that persons are not able to accurately describe what they are doing. Donaldson suggested that the keyword is describe. If persons engage in doing rather than describing, there is not the same risk of misrepresentation. Persons can engage in thinking aloud at the time of doing.

She agreed that thinking aloud may alter the thinking process, but she made the point that she is not arguing for complete discovery of the entire process of thinking. Even taking into account the effects of thinking aloud, it is a more effective way of study than inferences drawn from study of the end product. Further, the study of processes through thinking aloud can provide hypotheses which are testable in other similar situations where thinking aloud does not occur.

Her studies with children solving matching problems are significant in terms of purpose, method and findings. Briefly, she proposed the beginning of an ambitious study of human intellectual development, and at the

same time proposed ways of assessing development more accurately. It is her thesis "that a better understanding of the course of development with particular reference to the difficulties that have to be overcome, may make it possible to further that development by teaching that is conducted in the light of increased understanding." (p.34).

In her study, Donaldson set children to solving five types of problems while thinking aloud. These ranged from matching type, through three-term series, series extrapolation, related series, to formal deductive reasoning. She described these as problems with a right or wrong solution and suggested that studies in problem solving, while they begin with this type, must ultimately move to the consideration of less structured problems.

In analysing the data, she identified three general categories of error. Error, in this case, is defined as a flaw in the process rather than a mistaken end result. She designated the following categories of error: (1) structural (2) arbitrary and (3) executive.

She noted that many of the errors the children made were not a result of failure to appreciate relationships or to grasp essential principles, but failure to be constrained by the conditions of the problem as given. The children "were often constrained by their knowledge of what is 'true'." (p.184). These arbitrary errors were of a wide general nature and not related to the structure of the particular problem. They were not errors arising out of failures in attention or memory, but a total disregard of the given, even when questioned more closely.

In the case of structural errors, she noted the importance of persons perceiving consistency in relationship and the substitution of absolute for relative judgments. Children failed "to appreciate the fact that objects and persons may enter into different relationships at one and the same time". (p.192). Children failed to grasp the possible forms of relationship. She discussed this in relation to the theories of Jean Piaget (1958). His argument is that at this particular age level (nine to ten years) concrete thinking develops into formal thought as a whole new series of operations, combinatorial in nature, come into play. The child is able to conceive of the logically possible and, at the same time, to take into account deductive necessity in eliminating all possibilities but the correct one.

Donaldson has shown that in many cases, formal reasoning involves the combinatorial schemata but that "the making of a firm deduction on the

basis of a survey of possibilities can happen long before the appearance
of the formal schemata". (p.199).

In the case of arbitrary errors, the outstanding feature is lack of
rigour. She argued that this does not appear to be restricted to problems
which pose too great a demand on the person's capacity. Instead, the per-
son seems "to lack the ability to limit himself to the problem as stated
and to prevent the intrusion of other notions which the data brings to
mind". (p.207). This occurs most readily, she pointed out, when the problem
refers to people or events.

She referred to Goldstein and Sheerer's (1946) theory of two modes of
behaviour; the abstract and the concrete.(p.200). The concrete attitude is
characterized by a rigidity in apprehension of objects or situations. The
person is unable to shift intentionally and at the same time is susceptible
to the varying stimuli of the moment. She related this to the problem of
control by the use of language and the studies of Luria (1941) and suggest-
ed that this lack of volitional control is evidenced in errors of the
arbitrary kind.

Donaldson's general argument is that one can profitably study persons
engaged in solving problems. Further, she argued that one can and ought
to study the relation between a person's intelligencing and the structure
of the problems with which he is dealing. The errors which she identified
arise within the relationship and are evidenced most clearly in action.

Not only have a number of persons been concerned with the active na-
ture of comprehending, conceptualizing and striving to know, but also,
they have, in the main, sought out ways of studying persons engaged in the
process. They have argued strongly for the value of such studies in order
to discover: (1) what is happening (2) how persons are comprehending and
(3) further hypotheses to explain comprehending.

Persons engaged in teaching are also engaged in comprehending how
learning is coming about. They are engaged essentially in comprehending
persons actively comprehending instructional design. In Aristotle's terms,
"this is the doing which they will have to do when they have learned it".*
This study is based predominantly on the proposition that the study of the
comprehending of persons who are comprehending instructional design is

---

* See p.8.

worthwhile; that it can be done through the clinical study of persons engaged in the activity, and that useful hypotheses for further study can be obtained.

II

The first section of this review of literature dealt primarily with the characteristics of comprehending, learning and striving. The emphasis was placed upon the operating, adapting, striving element in the interaction of persons with their environment. The emphasis here is placed upon the environment; the structure, order and sequence of materials and events which constitute the environmental element of the interaction. The intention here is not to separate the elements that interact, but rather to pay more attention to the important matter of instructional design.

Israel Scheffler (1965), in his discussion of the evidence condition of knowing, argued for the importance of the design of the structure of knowledge in relation to the knower. In striving to know, the knower confronts reality. He seeks to acquire evidence, to develop theories and to organize arguments. But the knower requires more than evidence - he requires an appropriate pattern of argument. He is required to grasp "the general principle which characterizes the relevant item as a reason and this further means that he must have a general 'ability' to recognize comparable reasons in analogous arguments elsewhere". (p.72). The 'ability' is relative to the nature of the evidence - to its organization in the form of evidential argument. The knower must appreciate the force of the argument. He must be convinced and his conviction is achievement relative to the organization of the evidence. Scheffler suggests that this achievement of being convinced enables the knower to move on beyond the present case to be convinced in analogous situations.

Scheffler seems to be speaking of the conjunction of the power of the knower and the power of the organized evidence. The knower must be in a state of readiness to be convinced, but the evidence must invite and extend possibilities to the knower. The evidence invites, provides opportunities for the knower to organize, select, compare and relate.

Angus Sinclair (1951), in studying conditions of knowing, suggested that "experiencing the present can be described in metaphor as the outcome of a way of selecting and grouping in attention". (p.73). "The event is the selection and grouping that each man makes or takes for himself". (p.75). He made the point that we conceive of knowing as the relationship between knower and what he knows, whereas it might also be expressed "as a relation in which something that is known stands to something else that is known". (p.109). He raised the question of what the relations are which

make this movement possible and which invite knowing.

Bruner (1958) has also considered the problem of instructional design. He argued in terms of the effectiveness of devising systems "to present various subject matter so as to guarantee maximum ability to generalize". (p.294). The chief criterion for material design should be that it makes possible maximum movement beyond the information given. He has been greatly influenced by Piaget's studies in the development of thought processes. These have prompted him to a consideration of a spiral curriculum in which instructional materials are designed in relation to the stage of development of the learner, which in turn make it possible for the learner to grasp the structure as he proceeds through various sequences of the spiral.

Bruner (1966) suggested that in the matter of curriculum construction there must be close collaboration between teacher, subject matter specialist and psychologist. The building process must take into account "the inherent structure of the materials, its sequencing, the psychological pacing of reinforcement and the building and maintenance of predispositions to problem solving". (p.70).

Earlier, Richards and Gibson (1957) in their construction of materials for children beginning the study of reading, took up the question of design. Their materials demonstrated concern for the active, invitational structuring and sequencing of tasks that make movement possible. Richards (1938) was concerned with "passing on the gains of the past from the more experienced to the less experienced in the least hampering way". (p.3). This means, in part, minimizing the possibilities for error involved when complex tasks invite confusion. Certainly the problem of beginning reading offers many opportunities for error. Richards' reading materials were designed to minimize the possibilities of error, to invite the learner into activities of thought and to maximize the evaluative feed-back which enables the learner to know what he has successfully done. This, in turn, provides the invitation to move on to new tasks. The emphasis is on creating receptivity, encouraging the development of effective strategies, reinforcing success and offering opportunity for greater commitment.

To achieve this, Richards carefully controlled the movement from simple to complex tasks. In the beginning, he used only a limited number of letters and the confusable letters, for example b and d, p and q, were

avoided entirely. He combined the letters into highly picturable words which were related to unambiguous stick-figure drawings. Always the words were combined in short, clear, complete sentences. The number of words was controlled and these were restricted to the minimally confusable in sense and syntactic function. The first sentences demonstrated the pointing-naming function of spoken language and made the transition easier for the child who had already achieved success in the use of the spoken word. While the intake of letters and words was controlled, the structuring words which change meanings and alter contexts were introduced and ample opportunity was provided for their mastery. These structuring words connected thought in a variety of ways, but always the shifts in meaning were carefully controlled, so that the person was not presented with too many tasks at any one time. The emphasis was upon reading, comparing, contrasting and moving on. These are all the active, process aspects of comprehending.

MacKinnon (1959) suggested that the design of materials can elicit an ordering process inherent in children, rather than imposing one. He stated "what the Richards-Gibson material appeared to do was to stimulate the learners to move out directly from their consummate skill in handling speech to further growth in seeing how that speech could leave its tracks on paper". (p.228). He took up the task of studying children engaged in beginning reading using this material. His concern for the aspect of social interaction will be dealt with in Section III. However, it is interesting to note here that MacKinnon argued for the use of such carefully designed and ordered materials as an instrument to explore the stages children go through in comprehending. (p.9). With careful controls, methodical ordering and sequencing, a firm base is provided for studying the effect of social interaction in persons learning in groups. The study reported here accepts this point as valid and it becomes a corner-stone in the study. Given a well established base it is possible to study persons comprehending Richards' instructional design in a variety of social contexts.

The materials prepared by Richards and Gibson were employed as instruments in this study for several reasons. They were carefully designed to take into account the comprehending needs of children. The principles and concepts incorporated in them can be recognized and identified; that is

they constitute a relatively "structured" problem in Margaret Donaldson's terms. (p.36). At the same time, they offer opportunities for observation of the behaviour of persons trying to identify the principles and as such, serve as useful instruments for rendering overt the behaviour of persons. Further, the problem of comprehending instructional design in beginning reading is an important task for teachers and is therefore a valid area for study.

On a broader scale, the teaching of reading is a primary concern of every teacher. The development of language is closely related to the development of the human being. Richards (1955) spoke of language as an organ; "the supreme organ of the mind's self-ordering growth". "Language is an instrument for controlling our becoming". (p.9). While the initial stages of learning reading are of tremendous importance, the concept of continuing development is equally important.

Ellis (1964) investigated the effect of student teachers writing linear programmes for programmed instruction, upon the preparation of lessons. He argued that preparing programmes develops the power of comprehending in that it requires that the teacher take into account the ordering and sequencing of materials in ways that make possible more effective learning.

Raths, Wasserman, Jonas and Rathstein (1967), in their study of thinking, emphasized the responsibility of the teacher in the development of curriculum which provides opportunities for thinking. (p.29). They argued that many of the mental processes operative in high school youth may be observed in the early grades of elementary school. They suggested that teachers should be concerned for curriculum that engages students from the beginning in the process of thinking.

It should be the concern of every teacher not only to understand the basic principles in the structure of language, but to take into account the expression of these principles in the construction of curriculum at any point in the developing life of the person. What is argued here is that one of the principal learning tasks that faces every beginning teacher is one that they will have to take up continuously - the comprehending of instructional design. This is particularly true of language development, but also true of science, art and every other subject. It is one of those things that teachers will have to do when they have learned it. It is

this concern which led to a study of student teachers' comprehending instructional design.

III

In the two previous sections the nexus of task and learner has been examined. It has been pointed out that a person with his cognitive powers, his ordering strategies, his problem-solving operations, interacts with his environment which has an ordered structure and an evidencing power. Teachers obviously should take into account this nexus which includes the cognitive functioning of the person and the invitational, maintaining powers of instructional design.

Comprehending involves not only cognitive processes and instructional design, but also the element of social interaction. The total nexus ought to be taken into account not only by teachers but also by students. The activity of teaching is characterized by social interaction. Basically it is the interaction of "the more experienced with the less experienced". (Richards, 1938). The more experienced are undertaking the same tasks as the less experienced. The common task is comprehending. It is both the end and the means to the end.

However, looking at the matter in another sense, it can be seen that there is a difference in the tasks of the more experienced and the less experienced. The more experienced are undertaking tasks which will later have to be taken up by the less experienced. The more experienced are those persons whose comprehending powers have been developed through engagement in the task of comprehending. These tasks are primarily social tasks. The more experienced have developed "generalizing powers", or "general insight", to use the terminology of Richards (1938). These persons "recognize in new problems elements of the old which they have already mastered". (p.9).

The task for the teacher emerges in the context of the nexus of comprehending. This task is comprehending the conditions of comprehending. Seen in this light, the task of the teacher once more appears as remarkably similar to that of the student. As Richards (1938) points out:

> "The beginner, in studying the most elementary matters, is
> doing nothing which is (or should be) for him any simpler
> than we are doing when we try to follow a new and difficult
> author. And we can only help him in a fashion parallel to
> that in which we ourselves would wish to be helped or to help
> ourselves: that is, not to be supplying the 'right answers'
> to the difficulty (with some unexamined criterion of 'right

answers') but by making clearer what the difficulty itself
was, so that when we meet it again we shall not have to
'remember the answer' but shall see what it must be from our
understanding of the question." (p.4).

When the literature pertaining to social interaction is reviewed, it be-
comes obvious that the element of nexus is frequently missing from con-
siderations of instructional design or task. In a rather comprehensive
documentation of studies in group process, Hare, Borgatta and Bales (1955)
reviewed early theory and research as well as current theory and research.
While the nature and function of groups and individuals within groups has
been studied in detail, the major concern has been with the relation be-
tween cognitive processes and social interaction. Few of these studies
take into account the element of instructional design.

Studies of group influence, leadership, syntality, opinion and size
of group by such scholars as R.B. Cattell (1948), F.Redl (1942) and
L. Festinger (1954) pay little attention to the nature of the tasks which
are set for groups or which groups set for themselves.

The major exception to this may be found in studies of problem solv-
ing. Heise and Miller (1951), for example, studied the relationship of
group performance to group organization and to types of problems. They
concluded that the type of task or problem determines the relative effi-
ciency of the communication network and that the group's task is the most
important variable. They suggested further study of group interaction in
a variety of problem situations. Torrance (1954) studied the consequences
of power differences on decision-making taking into account several varie-
ties of problems. He concluded that the power differences varied with the
type of problem presented to the group. Carter, Haythorn and Howell
(1950) studied criteria for leadership related to a variety of work tasks
including reasoning, intellectual construction, clerical, motor coopera-
ion and mechanical assembly. They concluded that a certain generality of
leadership performance persists in a group, but that noticeable differences
in the groupings of relationships occurred when different kinds of tasks
were undertaken.

Margaret Donaldson's studies (1963), while they probe the active pro-
cess of comprehending in problem solving situations, are restricted to the
problem-solving activities of individuals. She pays particular attention
to the cognitive processes and the design of problems. Her findings would

seem to relate particularly to individuals rather than to individuals in social interaction.

Bruner (1966), although he was concerned primarily with the relation of cognitive processes to the structure and form of knowledge, touched only briefly on the aspect of social interaction. He expressed some concern for the tutor as provisional evaluator providing reinforcement until the learner establishes self-evaluation (p.53), but did not advance further in the investigation of social interaction.

Belth (1966) argued for "the awareness of how knowledge is constructed" (p.2). This implied, for him, the use of models for thinking. The weight is upon comprehending the structure of knowledge. He did not relate this aspect to a nexus involving social interaction.

Ellis (1964) studied the effect on the development of teacher competence of writing linear programmes. While it is presumed that student teachers writing programmes take into account the nexus of cognitive processes, instructional design and social interaction, it is significant that the student teachers functioned only as individuals in the preparation of the programmes.

MacKinnon (1959) attempted to study the nexus, taking account of the active process of comprehending, the design of instructional materials and the element of social interaction. He studied children beginning reading using two forms of instructional design under two different conditions of social interaction, namely as individuals and as individuals together. He discovered that children working together helped each other in their learning. The children working together not only achieved greater language power using one form of instructional design, but also demonstrated improved growth in social relations. The children working together with Richards-Gibson material were prone to fewer errors, were provided with greater opportunity to handle language as a tool, accepted more readily the invitation to learning, and displayed more effective confirmation of their learning than those working as individuals, and those working in the two types of social relationships with the other type of instructional design.

Language would seem to be the key to the problem of nexus. Its basic relation to social interaction, to comparing activity; its active, arranging nature; its inseparable connection to cognitive processes, suggest that language is the instrument which is required for comprehending com-

prehending. Here Richard's dictum is important, that "the exploration of comprehension is the task of devising a system of instruments for comparing meanings. But these systems, these instruments, are themselves comparable." (p.19).

Richards (1938) argued that the basis of comprehending was to be found in the development of language powers.

"Language, with its inexhaustible duplications (which are here duplicities), ceaselessly presents to us the old as though it were new, familiar ideas in novel disguises, understood distinctions as fresh opportunities for confusion, already assimilated combinations as unforeseeable conjunctions." (p.4).

In (1955) he described language as "the supreme organ of the minds self-ordering growth" and suggested that "language is an instrument for controlling our becoming." (p.9). He spoke of the work that utterances perform in comprehending, and suggested a theory of comprehending based upon this premise. To paraphrase his words; "powers of comprehending are derived from the very forces which we must do our best to control." (p.38).

The artificial way in which this chapter treats the nexus, as if it could be divided into parts and examined in separation, is an excellent example of the ways in which comprehending is generally considered. There is no question that studying the nexus as nexus is difficult. This thesis argues that it is possible and fruitful.

CHAPTER III

DESIGN OF THE STUDY

This is a study of the active process of comprehending. The first problem which emerged was that of selecting procedures which would make overt the behaviour of persons engaged in the activity of comprehending. This involved not only the selection of a form of instructional design that would permit observation, but also the utilization of some procedure which would yield overt responses on the part of those comprehending. A second problem in design was to provide opportunities for comprehending in at least two different social contexts in order that comparisons and contrasts might be made.

The subjects engaged in the study were twelve student teachers. These twelve student teachers were all enrolled in the Professional Development Program at Simon Fraser University. They were all enrolled in the first semester of the program and had completed the first eight weeks of the semester. The nature of this program has been described by MacKinnon (1967). Several aspects of their experience are significant.

The first eight weeks of the program is an intensive learning experience of the internship type in a classroom under the guidance of an experienced teacher. The students observe, teach and evaluate within a group of four student teachers. They have an opportunity to get a "feel" for the role of teacher and make a significant contribution to each other's learning. They discover strengths and weaknesses, re-examine their criteria and generally take up the important initial tasks of teaching in a carefully controlled situation where the full range of tasks are not yet their responsibility. Evaluation is continuous and largely devolves upon the student himself.

The second eight weeks of the semester constitute a reading period. The students engage in seminars and workshops relating to a variety of concerns increasing the range and depth of contact with persons in the total university community, as well as with those outside. During this period the students are engaged in reflecting upon their recent experiences and in planning for the next semester during which they work with a classroom teacher for the full sixteen weeks.

The important task which these students undertake in the first eight

weeks and continue to engage upon, is one of perceiving and comprehending the ways in which learning is taking place both in pupils and in themselves. This condition makes it appropriate for their involvement in the present study of comprehending.

Six of the student teachers were male and six were female. Three of the male and three of the female students were involved as individuals - the remaining six constituted a group of "individuals together".

The students ranged in age from twenty to forty-five. Four of them were married and might be described as mature students. One of these was a graduate (B.A.) of another university. The remainder had at least three semesters of academic work beyond the Grade Twelve level. They were all preparing for teaching in the Elementary Schools, five at the primary level and seven at the intermediate level.

Several criteria were established in the process of selecting materials with which to examine comprehending of instructional design. It was deemed advisable to use material presently in use and available to teachers. It had to be of tested validity. The principles and concepts employed in the design had to be identifiable, verifiable and recognized as valid.

A number of instructional designs were considered. A film strip, designed by the National Film Board illustrating the work of Jean Paul Riopelle (1963), was considered. It was examined, trials were devised, and it was then rejected, largely because of the extreme complexity of its rather unstructured design. It presented too many possibilities, too many discriminations and too many possibilities for error. Its non-verbal representations produced a great deal of uncertainty on the part of those seeking to understand its possible meanings. It presented great difficulties to those trying to comprehend, largely in the area of verification.

The pilot study indicated that the instructional design to be used in studying the activity of comprehending should have a number of clear-cut principles which could be discovered by the student teachers. Further, it seemed important to have material which related quite closely to the interests of those preparing themselves to be teachers. Reference was made, accordingly, to materials which had been carefully designed to encourage first steps in learning to read.

MacKinnon (1959) employed materials designed by Richards and Gibson (1957) to study the ways by which children help each other to learn to read. He studied children, individually and in groups, engaged in beginning reading. He compared the performance of individuals and groups employing the Richards-Gibson material, with individuals and groups employing another set of materials currently in use in the Edinburgh Corporation Schools.

The study was not confined to attainment of certain scores but included a cumulative record of growth in learning to read. It was designed on a "clinical" basis to provide a better understanding of the learner and how he learns. Detailed observations of behaviour were reported.

MacKinnon's findings are significant in a number of ways. He found that the group members aided each other. They helped each other in the tasks of discriminating and comparing. This help increased as the members developed a mutual criticism, as they shared the tasks of remembering, and as the less experienced were able to see the more experienced success-fully undertake tasks of increased complexity.

In comparing the learning of children using the Richards-Gibson materials with those using the Nisbet material, MacKinnon found that the care-ful ordering and sequencing of tasks and control of complexity enabled the former to identify more clearly the tasks to be undertaken at any given time. It also enabled the students to move on to tasks of increasing com-plexity and difficulty and to confirm at each stage what was being done in order to know what had been accomplished.

The Richards-Gibson material employed in MacKinnon's study put its emphasis on a small number of picturable words clearly related to unam-biguous, non-verbal abstractions, and a high proportion of structural, operating words gave the children ample opportunities to see how language works and to handle changes in meaning.

The design of the materials not only enabled the children to move with greater ease from one task to another with a growing sense of success and accomplishment, but it also lent itself to effective reporting of observa-tions on the part of the investigator.

For these reasons, the Richards-Gibson material was deemed suitable for use in this study of teachers' comprehending of instructional design.

One further experience reported by MacKinnon was significant for this

study. When the Richards-Gibson material was previewed by teachers prior
to his study, their comments were elicited with regards to the suitability
of these materials for children beginnng reading. It was apparent from
their detailed comments that they employed a wide range of criteria for
making judgments. Many of these judgments were in disagreement. Some of
the criticism involved judgments about children's "interests". Some in-
volved judgments about the use of the materials for "slow" children and
others about their use with "brighter" children. In some cases, the com-
ments concerned such criteria as perceptual configurations, phonics and
vocabulary control.

The materials designed for beginning readers by Richards and Gibson
involve a number of control principles which not only provide a simple,
clear invitation to the learner to engage in the learning task, but also
sustain the activity through continual validation of success. Sentences
are employed from the beginning and provide a molar context. The sentences
relate directly to stick-figure, non-verbal abstractions in an unambiguous
fashion. As few as possible alternative meanings are available to the
student in the process of trying to fit the sentences as captions to the
pictures. The sequence of development is carefully controlled. Small
variations are made while the basic structure remains constant. These
minimal variations invite and permit the active comparing and contrasting
operations in the learner.

The molar principles are further developed in the form of patterns.
These patterns follow a progression from the simple pointing-naming pat-
tern through pointing-naming-qualifying to the more complex pointing-
naming-qualifying-locating pattern.

Complimenting these molar principles, the designers have exercised
molecular controls. The materials employ a minimum of letters, only seven
in the beginning (a,h.i.m.n.s.t) and, omitting at this time, the confus-
able letters such as b and d, p and q, c and e. New letters are gradually
introduced in a controlled fashion according to the molar principles.

The number of words is limited and the kinds of words are carefully
controlled. The first words are highly picturable. The structural words
which provide changes in meaning are gradually introduced and, once intro-
duced, employed with relatively high frequency.

Specifically, the principles employed in the instructional design,

as identified by the investigator, were as follows:

Molar Principles

1. All words imbedded in sentences from the beginning.

2. Sentences employed in situations involving non-verbal abstractions.

3. Sequence controlled to provide for comparing and contrasting.

4. Pointing-naming patterns employed.

5. Pointing-naming-qualifying patterns employed.

6. Pointing-naming-qualifying-locating patterns employed.

Molecular Principles

7. Number of letters limited.

8. Kinds of letters controlled (elimination of confusables).

9. Number of words controlled.

10. Kinds of words controlled.

The persons involved in the study met with the investigator on eight separate occasions of fifteen minutes duration. This was specified from the beginning. On each of these occasions the individuals and the group members were given the following instructions:

> "I am going to show you, on a series of cards, materials prepared for children beginning reading, by I.A. Richards and Christine Gibson. I ask you to consider the materials, to think aloud about them and to try to discover the principles employed in the construction of the materials. Please try to discover as many of the principles as you can. There will be eight sessions. Each session will consist of fifteen minutes and will be recorded on tape, for the purpose of recall, by the investigator. You may request a reshowing of any cards and you may wish to see more than one card presented simultaneously. I shall change the cards, exposing new ones when you request it. There is no need to finish all the cards in any one session ... Please try to discover as many of the principles as you can."

The Richards-Gibson materials were reproduced, by the investigator, from a film strip made in conjunction with the book, "First Steps in Reading English", (N.Y., Washington Square Press, 1957). The first twenty frames of the film strip were projected on to twenty white cards, eleven by fourteen inches. The image was then traced in black ink. The letters were all of uniform size, seven sixteenths of an inch in height.

The cards were ordered in the same sequence as the film strip at the beginning of each session. The individuals were seated thirty inches from the cards, which were propped up on a normal table at an angle of approximately eighty degrees. In the case of the individuals in the group, the

instructions were identical with the additional invitation to discuss aloud among members. The problem of seating six persons in relation to the cards required that participants sit in a wide arc each approximately forty-eight inches from the presentation cards. In each session, the persons moved one seat to the left and sat in the same relative position to each other.

The investigator in each case sat beside the presentation cards changing them at the request of the participants. The investigator made notes in condensed form, including the time of exposure of each presentation card.

Each session was put on audio tape by means of a microphone placed on a desk stand beside the presentation cards. The persons were told that the tape recordings and notes were for the purposes of recall by the investigator.

All of the participants were requested not to discuss the study with anyone between sessions. The investigator did not discuss the study with the participants before, during or after any of the sessions except the last. In each session the investigator responded only to requests for card changes.

CHAPTER IV

RESULTS OF THE INVESTIGATION

As a first step in the analysis of data, the tape recordings of the trials and the observer's notes were examined to determine the number of principles discovered by each individual and by the group. The findings were then analysed to determine the occasion of discovery of the principles.

A simple form of vector notation was employed in recording data. Individuals were designated by numerals 1 through 6. Trials were designated by numerals 1 through 8. The numerals 1 through 20 indicated the particicular presentation card. An example of this vector notation would be 2.4.16. In this case the notation indicates individual 2, in trial 4, viewing presentation card 16. In the case of the group, the initial number was replaced by the letter G.

The criteria employed in judging the successful discovery of principles are set forth below:

Principle 1. This principle involved the recognition that Richards imbedded all his words in sentences. Where persons noticed this fact, or noticed that attention was not given to individual words or letters, it was considered a discovery. For example:

    3.1.1.   "The words are organized in a sequence; in other words in a sentence."

    6.1.1.   "You're presenting a basic sentence."

Principle 2. This principle involved the recognition that the sentences were employed in situations involving non-verbal abstractions. Where persons recognized the relationship between words and pictures, or between words, pictures and speech, or suggested that the pictures would assist the child in the discrimination of meanings, it was considered a discovery. For example:

    1.1.1.   "The pictures would help put across the words."

    1.1.4.   "The illustrations are close to the words they refer to, so that the child isn't likely to be mixed up."

    2.1.6.   "I think the pictures are very important in that he can always reinforce his knowledge of the words."

Principle 3. This principle involved the recognition that sequence was controlled in order to allow the beginning reader to make comparisons and

contrasts. It involved the recognition that new words and letters were introduced slowly and carefully in order that the unfamiliar might be discriminated amidst the familiar. Where individuals recognized control of the input of words and letters, where they noticed the activity of persons making comparisons and contrasts, where they noticed the sequential development and the fact that children could already read the familiar, such utterances were considered to be a discovery of the principle. For example:

1.1.2. "The only new letter introduced is the 'd'. They've already taken all the other letters."

1.1.3. "There are no new letters introduced. There's only the new concept of the word 'in'."

1.1.4. "This doesn't show any new letters. They are still using the same letters, but now they've grouped them to form a new word 'and'."

5.1.2. "It follows a sequence, if they should get this one, they shouldn't have much trouble with the next one."

Principle 4. This principle involved the recognition of the use of a pointing-naming pattern. In the cases where it was judged to have been discovered, it appeared in conjunction with principles 5 and 6. Where persons recognized the operations that words perform, where they recognized the structuring words which point, they were judged to have discovered this principle. For example:

3.1.7. "The sentence points to the stick figure and says 'This is a hand'. The same thing happens with the head, 'This is a head'."

6.1.1. "You're presenting a basic sentence 'This is a' or 'This is' or 'This'."

Principle 5. This principle involved the discovery of the pointing-naming-qualifying pattern. Where individuals recognized that words established relationships such as possession, where they recognized the change made by the use of "his", where they noticed the ways in which the "hat" was established as belonging to the man and the same with "hand" and "head", they were judged to have discovered this principle. For example:

3.1.3. "Then you have 'This is a hand' relating to that picture of a hand and 'It is his hand'. You're abstracting hand to a pronoun 'it'; also you're relating the hand to the man."

6.1.1. "The first is a man, the second is a hat. Then the idea is to say 'This hat' and make reference back to a previous statement ... you refer back by saying 'This hat is his

hat' ... then the important word is 'his'."

Principle 7. This is the first of the molecular principles. It involved the recognition that the number of letters was controlled. Where individuals recognized that a small number of letters was employed and counted them, where they noticed the careful and gradual introduction of new letters, where the number of letters was counted at the beginning and at the end and compared, it was judged that the principle was discovered. For example:

4.1.2.   "The letters can be used to make any word on the card."

4.1.3.   "Again you can use the letters at the bottom to make each and every word on the page."

4.1.5.   "All the letters to make each of the words."

4.1.7.   "Same letters, nothing new."

4.1.8.   "No new letters introduced."

Principle 8. This principle involved recognition of the control of the kinds of letters employed. Where individuals noticed the omission of confusable letters, or made comparisons between the letters that were included and not included, they were judged to have discovered this principle. For example:

5.6.5.   "The letters that are used are different from one another so that they wouldn't be confused except for the 'm' and the 'n'. The 'a' is made so that it doesn't become confused with 'd'. There is no 'b' and no 'c'."

Principle 9. This principle involved recognition of the control of the number of words. This principle was closely akin to principle 7 and the same criteria were employed in judging this principle.

Principle 10. This principle involved the recognition of the control of the kinds of words employed. Where individuals recognized the exclusive use of the verb "to be" in its present tense, where persons recognized the frequent use of structuring words and the omission of words that were not highly picturable, where persons noticed the omission of proper nouns and words indicating qualities, they were judged to have discovered the principle.

The findings were recorded in tabular form. Table I indicates the number of molar principles discovered by the individuals.

TABLE I

NUMBER OF MOLAR PRINCIPLES DISCOVERED BY INDIVIDUALS

Principles	Individuals						
	1	2	3	4	5	6	Totals
1. All principles employed in sentences			x		x	x	3
2. Sentences set in context of situations	x	x	x		x	x	5
3. Sequence is controlled	x	x	x			x	4
4. Pointing-naming patterns employed			x			x	2
5. Pointing-naming-qualifying patterns employed	x	x	x			x	4
6. Pointing-naming-qualifying-locating patterns employed	x		x			x	3
Totals	4	3	6	0	2	6	21

The individuals discovered all six of the molar principles. The maximum number discovered by any single individual was six (all). The minimum number discovered by any individual was zero. The average number discovered was 3.5 or 58.3%.

Table II indicates the number of molar principles discovered by the group.

TABLE II

NUMBER OF MOLAR PRINCIPLES DISCOVERED BY THE GROUP

	Principles					
	1	2	3	4	5	6
Group	x	x	x	x	x	x

The group discovered all of the molar principles.

TABLE III

NUMBER OF MOLECULAR PRINCIPLES DISCOVERED BY INDIVIDUALS

Principles	Individuals						Totals
	1	2	3	4	5	6	
7. Control of number of letters	x			x	x		3
8. Control of kinds of letters					x		1
9. Control of number of words	x	x			x		3
10. Control of kinds of words	x				x		2
Totals	3	1	0	1	4	0	9

All of the molecular principles were discovered by an individual at least once. The maximum number discovered by any one individual was four. The minimum number discovered by any one individual was zero. The average number discovered was 1.5 or 37.5%.

TABLE IV

NUMBER OF MOLECULAR PRINCIPLES DISCOVERED BY THE GROUP

	Principles			
	7	8	9	10
Group	x	x		x

The group discovered three of the molecular principles or 75%.

TABLE V

OCCASIONS OF DISCOVERY OF MOLAR PRINCIPLES BY INDIVIDUALS

Molar Principles	Trial								
	1	2	3	4	5	6	7	8	Totals
1	2								2
2	5								5
3	4		1						5
4	1	1							2
5	2	1	1						4
6	1	1		1					3
Totals	15	3	2	1					21

All of the molar principles which were discovered were discovered in the first four trials. 75% of the discoveries took place in the first trial. The principles discovered most frequently were #2 and #3.

TABLE VI

OCCASIONS OF DISCOVERY OF MOLECULAR PRINCIPLES BY INDIVIDUALS

Molecular Principles	Trial								
	1	2	3	4	5	6	7	8	Totals
7	3								3
8						1			1
9	1	2							3
10	2								2
Totals	6	2				1			9

The most frequently discovered principles were #7 and #9. 89% of the molecular principles were discovered in the first two trials.

TABLE VII

RELATIVE FREQUENCY OF DISCOVERY OF ALL PRINCIPLES BY INDIVIDUALS

Principle	No. of times discovered
1. All words in sentences	2
2. Sentences in situations	5
3. Control of sequence	5
4. Pointing-naming patterns	2
5. Pointing-naming-qualifying patterns	4
6. Pointing-naming-qualifying-locating patterns	3
7. Control of number of letters	3
8. Control of kinds of letters	1
9. Control of number of words	3
10. Control of kind of words	2

The next task of analysis was to establish criteria for making judgments in the assignment of various functions undertaken by utterances in comprehending. The schema for comprehending designed by I.A. Richards (1957) served as a basis for the overall analysis. The criteria established followed basically from his seven varieties of work or dimensions for comparing meanings.

1. Indicating - this implies an utterance pointing to, selecting or identifying.

2. Characterizing - this implies saying something about that which is indicated.

3. Realizing - this implies coming alive to, waking up to, becoming aware of.

4. Valuing - implies caring about.

5. Influencing - this implies changing or preserving unchanged.

6. Controlling - this implies managing, directing and administering itself.

7. Purposing - this implies moving on.

These varieties of work have no fixed temporal order, relationship or priority. They continually vary their interrelationship throughout the period of a discourse. The elements appear to derive their powers from each other at the same time exerting control over each other. Richard's diagram (p.26) is here reproduced with one change: the time dimension of discourse is represented by the third dimension. The diagram represents the on-going, interrelating, non-sequential nature of the seven varieties of work.

Figure 1.

1. Indicating

2. Characterizing

3. Realizing

4. Valuing

5. Influencing

6. Contoiling

Time ──────→

7. Purposing
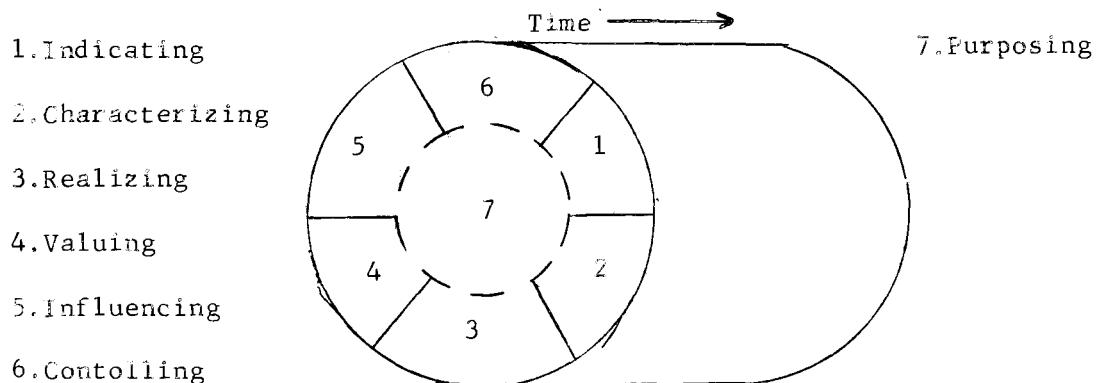
The way in which judgments were made is demonstrated in two
examples from the tape recorded data. The same vector notation was
employed as in Table IX.

Example 1.

> 2.1.1. "Well, I think a child looking at this would probably
> draw some conclusions as to the nature of everything,
> being that pictures are there; that anything that we
> see or draw can be written or printed in letters.
> The different combinations of letters and repeating
> the letters quite often let the child ... help the
> child to realize that one letter can be used in many
> different ways."

Analysis of Example 1.

Respect #1. (Indicating) This subject selected a child, an activity,
pictures and letters.

Respect #2. (Characterizing) The subject suggested that children
look at pictures, and written letters; that words are made
up of letters in combination; that letters are repeated and
used in different ways.

Respect #3. (Realizing) This subject realized that children engage
in the activity of drawing conclusions and that one of the
conclusions is that things can be represented by written
speech. The subject also realized that the activity of con-
cluding is related to discriminating combinations of letters
and that the repetition of letters plays a part in this dis-
criminating.

Respect #4. (Valuing) This subject believes that the activity of
designing and presenting pictures and written material in
combinations by repetition helps children to learn to read.

Respect #5. (Influencing) Not evident at this point.

Respect #6. (Controlling) This respect is only beginning to appear
since it involves the relationship between other respects.
However, the initial indicating is significantly related to
the realizing by the characterizing that controlling can be
judged to be operating.

Respect #7. (Purposing) Is evident in the total activity and becomes
more evident in succeeding utterances, since purposing is
evidenced over time.

Example 2.
    6.1.1.   "You're presenting a basic sentence: 'This is a' or
              'This is' or 'This', and providing visual reinforce-
              ment, to help the child to find out exactly what it
              is. The first is a 'man'. The second is 'hat'. Un-
              doubtedly the child should recognize it if he has
              ever seen one."

Analysis of Example 2.

Respect #1. (Indicating) The subject is speaking about you, (the
             designer), an activity of presenting sentences, pictures
             and a child.

Respect #2. (Characterizing) The subject says that 'the sentence
             is basic', 'the pictures are visual and related to written
             words', 'the activity is helpful', the child is trying to
             relate and find meaning.

Respect #3. (Realizing) The subject realized that the material is
             organized in a purposeful sequence, that the activity of
             designing invites the activity of the learner who relates
             written to visual symbols. There was a partial realizing
             of the pointing-naming function of language reflected in
             his recognition of the importance of 'this'.

Respect #4. (Valuing) The valuing was not clear. If the child has
             seen a man and a hat then he would be able to relate and
             would be helped. It might be called a qualified valuing.

Respect #5. (Influencing) Not yet evident.

Respect #6. (Controlling) Is evident as above in the relationships
             between 1, 2 and 3.

Respect #7. (Purposing) Requires further time to be evidenced.

     With this process established, the next step was to analyse the
data in such a fashion that the development of the comprehending
activity in both individuals and the group could be compared.

ANALYSIS OF INDIVIDUAL COMPREHENDING

Trial #1

The initial indicating of all of the individuals was relatively
similar. All the individuals paid attention to the molecular ele-
ments, the words, letters and pictures on the presentation cards.
The differences in indicating lay chiefly in the recognition of the
designer and/or children engaged in the activity of learning to read.
This indicating came out in such utterances as:

> 6.1.1. "You're presenting a basic sentence ...."
>
> 2.1.1. "A child looking at this would ...."
>
> 3.1.1. "The organization of words in a sequence ...."
>
> 5.1.1. "The pictures get it across to the child ...."
>
> 1.1.1. "The pictures help put across the words ...."

Where the indicating did include this recognition, the character-
izing consisted of speaking about the activities: "Pictures relate",
"pictures get across", "words and objects are related", "words are
repeated", "words are combined" etc. Where the recognition of activ-
ity did not appear in the indicating, the characterizing was res-
tricted to describing the ways in which letters and words were grouped
in words and sentences.

While the majority paid attention in indicating and character-
izing to the design of the material and to the learner, they did not
all pay attention to both. The realizing of those who paid attention
to one or the other or both was different.

Where the indicating included the referent point of design and
characterizing emphasized repeating, combining and relating, realiz-
ing emphasized sequence and reinforcement. Individuals, for example,
realized the following principles involved in the design:

> 1.1.5. "Again the sentences are reinforced by the pictures."
>
> 3.1.7. "Each step that is taken from first to last is a con-
> tinued process."

Indicating thus included the referent points of design and chil-
dren. Characterizing emphasized repeating, combining, helping and
discriminating. Realizing included references to the way in which the

design affected the child's learning. For example:

    2.1.2.   "Using the same letters, the child has to learn to recognize the letter next to the different letter."

    2.1.3.   "If the child has mastered the other two then he wouldn't have a problem because he has learned to discriminate."

In these examples it can be seen that the early emphasis in indicating of letters persisted all the way through, and while realizing developed, it was restricted and limited by indicating.

When valuing was considered by the subjects, some clear differences in comprehending became apparent. Where there was no indicating which included the relating of design to children learning, there was an almost complete absence of valuing. For example:

    2.1.3.   "If the child has mastered the other two then he would have no problem with this."

    5.1.2.   "It follows a sequence; if they get this one they shouldn't have very much trouble with the next."

When influencing was present, the same differences in comprehending appeared. The individuals who considered that the design would affect the child's learning, were the only ones who offered suggestions about changing the material. In the other cases little or no valuing and influencing appeared until later trials.

Controlling began to be evident in the first trial. At this time the initial choices in indicating seemed determinative. Characterizing, while it served indicating, would appear to be determined by the content of the indicating. This is most evident in the differences between individuals. The assigned task was to discover the principles employed in the design of materials. Where the initial indicating was limited to the molecular elements of the material, the characterizing was also limited to the relation between these elements. Within this limitation, however, the characterizing operated and realizing developed with particular concern for the patterns and relations between elements.

Where individuals included in initial indicating such elements as the learner, the learning task and the designer, then characterizing was different and realizing also. While the nature of controlling was evident in the ways in which characterizing and indicating fed forward into realizing and then realizing back into further indicating,

the managing of its own affairs was largely internal. In this controlling some persons seemed able to move more rapidly than others. Where the patterns, the repeating, combining and relating could be named as reinforcement; where the activity of the learner could be named as comparing, discriminating, contrasting and relating; in these cases realizing fed back more rapidly into increased indicating and further characterizing. This process tended to be seen in lengthy utterances. One short sample serves to illustrate:

> 6.1.1.   "You're presenting a basic sentence ... providing visual reinforcement, to help the child find out...." ✗

In this part of the utterance, indicating included "you", a sentence, a picture (implied) and a child. Characterizing included presenting, providing, finding out. Realizing included recognition of process in design and in the child's activity.

> 6.1.1.   (cont'd) "Then the idea is to say 'this hat' and make a reference to a previous statement which you have made ... You refer back by saying 'this hat is his hat' ... and then the important word is 'his' which shows possession."

The characterizing of the earlier part which included presenting and providing (the designer) and finding out (the learner) was fed forward and is implied in the latter part of the utterance. The realizing included recognition of the process. This realizing fed back into the indicating which included such things as "the idea is", "make a reference to" and "refer back". The subject realized the structuring nature of language implied in the word "his". The pointing-naming-characterizing function of language was realized implicitly.

In the latter part of trial #1 it became more evident in the indicating process that the individuals were paying attention to the overall process of learning to read. A majority of the subjects included in their indicating that the child was comparing, contrasting and discriminating. A few examples illustrate this:

> 1.1.8.   "The child without being told, should be able to see or figure out for himself that 'it' is taking the place of 'this hand'.

> 5.1.6.   "It's the man's head that would make 'his' easier. 'Head' and 'hand' ... they would get the similarity

> between each: 'hand' and 'head' - the last letters
> are the same."

The two subjects who did not do this were those who had already dev-
eloped a pattern of utterance which was employed in every presenta-
tion.   For example:

4.1.5.   "All the letters to make each of the words."

4.1.6.   "And the letters required to make 'head'."

4.1.7.   "The same letters, nothing new is introduced."

4.1.8.   "The letters are all required to make up the words."

4.1.9.   "No new letters added, no additional letters that are
not used in the words."

3.1.4.   "You've now introduced 'hat' and 'hand'."

3.1.6.   "All you're introducing here is a new word."

3.1.7.   "You're introducing a new concept for head."

In this first trial patterns and strategies began to develop.   Ini-
tial indicating was largely determinative, but realizing fed back
into increased indicating.

Trial #2

The first significant development in this trial can be seen in
the different strategies employed by subjects to begin the trial.
Half of them   started from the beginning and half went through the
cards to begin where they had left off.   The three who started at
the beginning followed an indicating pattern which was remarkably
similar to the beginning of Trial #1.   As illustrated above they
developed patterns of indicating.   In one case the pattern was simi-
lar for each presentation.   In another case the pattern was similar
for each trial.   In this case each time a particular card was viewed,
the indicating was similar to that in the previous trial.   For one
individual there was very little characterizing at all.   The material
on each card was read aloud and followed by comments about the new
words, new letters or new pictures introduced or the absence of any-
thing new.   For example:

4.2.5.   "Again the man, his hat, his hand.   All the letters
to make each of the words."

4.2.6.   "Again the man with his hand and his head and the new
letter required to make head."

In the second case there was increased characterizing largely devoted to what the designer was doing. For example:

3.2.1. "We're still trying to introduce the simple sentence."

3.2.2. "You're relating hat to the visual picture."

3.2.3. "You're abstracting hand to a pronoun 'it'."

3.2.4. "You're using a demonstrative pronoun."

The realizing in this case was related to the material as language curriculum. Increasingly this subject became concerned with grammar and phonetics. For example:

3.2.5. "Here you're using the demonstrative pronoun 'this' to refer to different objects ... the phonetic sound 'and' is being used in two words."

3.2.11. "A new type of pronoun ... and a synonym for man. Also you're introducing 'seat' as a noun."

The third person who started at the beginning showed a significant change in indicating. For example:

6.2.1. "If I was to use these cards to teach a student in grade one to read and to use this as a sort of programmed instruction ..."

For the first time a subject noted himself as a form of indicating. His indicating also included the material. He characterized the organization of material as programmed instruction and himself as a person engaged in teaching. The remainder of the trial then involved speculation about what he would do and the possible reaction of the students. The emphasis was placed upon influencing. There was feedback to realizing when the subject indicated the activity which the teacher had invited the child to perform. For example:

8.2.1. "The kids can pick things out in their environment and name them and maybe after you have them name it the ideal thing is to have them write it in some fashion."

The subject implicitly realized the pointing-naming function of language and the fact that reading involves the recognition of relationship between the verbal and the written.

The other half of the individuals began to view the cards where they had left off in the previous trial. Their indicating took up where they had left off. At this point, while they indicated the elements of the material, the words, sentences and pictures, they

also indicated the patterns and sequence. Their characterizing in-
cluded the activity of designer and learner. For example:

5.2.9. "There's very few letters to differentiate between."

2.2.15. "You're going through the same process now as you did
with the other words, as they were introduced. Like
'this is an arm' and 'this is an arm', repeating it.
Beginning always with something the child can read
already."

1.2.12. "Here we introduce a number of new words, but they are
all pertaining to the body and they are all familiar
to the child."

The realizing developed as indicated above, and a common phenomenon
was the development of language to express the realizing. Where the
individual could label a process or an activity the realizing became
clear. In this trial the individuals tried out a number of different
ways of expressing what they had realized about the control of se-
quence, control of input and general control of changes. Little
success was achieved but the process was evident. For example:

1.2.10. "There's no introduction of new vowels."

1.2.11. "There's not actually any new letters."

1.2.12. "They introduce a number of new words ... they are
all familiar."

1.2.14. "So far the only verb they've had is 'is'."

1.2.15. "Still have no new letters."

1.2.18. "The cards only try to introduce one concept at a
time."

2.2.6. "You put a head, but you didn't put any eyes or a
mouth, probably because when they look at it they
would say 'head' without saying 'face'."

2.2.9. "There's very few letters to differentiate between."

There was still very little of what might be called valuing,
but where it occurred it was in relation to the effect of design on
the learner. For example:

5.2.12. "The arrows would help."

5.2.10. "I imagine the children could help each other."

2.2.18. "(The child) would probably get very excited about
being able to read.

Influencing appeared in the same relationship. The individuals
suggested some changes where the material did not seem to them to do
the job. It was largely related to small details. For example:

1.2.17. "The diagram would not be clear to a child.
The arrows are confusing."

In this trial overall strategy patterns developed. In some cases strategies developed into almost rigid formulae. Realizing of molar patterns and processes involved in materials and in the process of learning fed back into indicating and increased realizing.

Trial #3

It became apparent at the beginning of this trial that the strategy patterns developing in the first two trials were relatively well established. In some cases rigidity was apparent.

In the case of the individual who had developed a strategy pattern for each presentation card, there was an almost complete absence of characterizing, realizing, valuing and influencing. In this case each trial started with card one, regardless of whether the previous trial had been completed. The sentences were first read; input of letters and words was noted. The time of viewing was short.

In the case of the individual who developed a strategy pattern for each trial rather than for each card, there developed a check list of items. The earlier pattern of concern for grammar and phonetics continued. The indicating was predominantly molecular. The words, sentences and pictures were dominant items. In the characterizing some labelling developed as this individual began to name the functions of each card. For example:

3.3.1. "This is establishing visual relationships ... introducing possessives ... phonetic sounds introduced."

3.3.2. "This shows the relationship between a sentence and the visual meaning of the sentence."

This summarizing appeared to be realizing, but its repetition on the occasion of each trial suggested that realizing had become indicating. There was little valuing and no sign of influencing in these utterances.

Just as Trial #3 in some cases revealed development of patterns, it also revealed certain breaks in pattern. For one individual there was an increase in valuing and influencing. For example:

5.3.9. "I think repetition of the sentences over and over, at least adding one sentence to another makes it easy for them to read."

5.3.11. "I don't know why they put 'seat' instead of 'chair'."

5.3.13. "I don't know if they would recognize that as a seat."

5.3.14. "The ear is very clear, but the hair ... I think that would be confusing."

Two individuals continued indicating as a procedure for relating design to learner. In both cases the earlier indicating had changed to include previous realizing. For example:

2.3.1. "The child is seeing the first relationship between printed symbols and actual things."

2.3.2. "The repetition of letters ... sticking to the parts of the man ... he can sort of keep things organized."

2.3.7. "Here it's just reinforcing the new word he had previously."

In the utterances of both of these individuals, controlling appears relative to the development of concepts. Realizing was fed back into indicating and characterizing. The controlling was somewhat determined by previous indicating, and yet the outcomes of indicating and characterizing through realizing led to further indicating and characterizing.

One individual further developed in his indicating the aspect of self. The point of reference appeared to be the projection of self as teacher into the active use of the material in teaching. In Trial #3 this individual increased the time spent in viewing cards number one and two. In all, fourteen minutes were spent in viewing them simultaneously. It appeared to be something in the nature of a summation. The indicating included such processes as holding parts constant while change was introduced, sequence of growth, development of process, building upon knowledge and working from the general to the particular. The realizing ranged from recognition that the child engages in activity himself, to the work of the material design and the teacher. This individual was the only one to openly question what he was doing and what he was trying to do.

This trial saw the further development of strategy patterns on the part of some persons. It saw the shift of other persons to summarizing. It appeared that persons perceived the end of the task was at hand. This perception was largely unconscious.

Trial #4

During this trial strategy patterns developed further. Individual
number 1 continued to explore the material in sequence. New indicating
and characterizing appeared and new realizing. Valuing and influencing
remained minimal. Individual number 2 appeared to have completed the task
and a measure of boredom was apparent in behaviour. Long pauses and hesi-
tations appeared. Valuing and influencing of a negative order began to
occur with increased frequency. Individuals 3 and 4 continued to employ
their highly developed pattern. Individual number 5 appeared to have com-
pleted the task and desultory skimming of material began to be evident.
Individual number 6 continued to explore in a somewhat detailed fashion.
The strategy of putting self into the role of teacher employing the mater-
ial continued.

Trial #5

From this point to the end of trial #8, very little new indicating,
characterizing or realizing took place. There was an increase in valuing
and influencing. Skimming and skipping became more evident. Some persons
became restless with the task. Others developed patterns which might
almost be called rituals.

SUMMARY OF INDIVIDUAL COMPREHENDING

All of the individuals employed language strategies in making their
discoveries. These appeared in the earliest trials. The first signs
appeared in the indicating. Individuals included in their initial
indicating a variety of content and orientation. Some were concerned with
the molecular elements, the material itself. Others included a variety
of removals, for example, children, teachers, and the material designer.

Others included grammatical elements, phonetics and vocabulary. As
characterizing developed and realizing appeared, controlling was evidenced.
This appeared in the form of various testing procedures; comparing, con-
trasting and retrial. The indicating-characterizing-realizing interaction
produced, in the early stages, discoveries relative to its effective
operation.

The development of realizing was closely linked to a summarizing,
labelling activity, for example, persons employed the labels sequence and
reinforcement. These fed forward into increasing realizing. In some
cases, however, the summarizing and labelling was really the development
of jargon. This became evident when the jargon was merely repeated and
did not lead to further productive discoveries.

Controlling appeared in the form of strategy patterns. These were,
in their beginnings, means of testing and speculating. They were produc-
tive in various degrees, but it appeared early in the trials that the con-
trolling operated in two ways. It operated by means of combining, com-
paring and contrasting to produce new insights. It also operated as a
check. This was evident in the repetition of patterns over and over with-
out productive results. By the end of trial #4 in almost every individ-
ual's utterances, there was apparent a strategy pattern. Its breadth was
largely determined from the beginning by the early interaction between
indicating, characterizing and realizing.

Valuing and influencing played a relatively small part in the early
trials. As valuing and influencing became increasingly evident, controll-
ing became apparent in the development of strategy patterns. Persons
appeared to reach the end of their task without realizing it, and at that
point valuing and influencing became more evident.

ANALYSIS OF GROUP COMPREHENDING

Indicating began in much the same way as it did with the individuals.
It included words, sentences, the child learning to read and the design
of the material. In the beginning the utterances incorporated indicating,
characterizing, realizing and valuing in the same utterance. For example:

> G.1.1. (They) "Read sentences the same way as they more or less
> think and why should they learn just one word in isolation.
> Possibly this is better to learn a whole group of words."

The utterance not only performed a variety of work, but the direction in
which it was aimed was towards the rest of the group and was met by an
immediate response of valuing.

G.1.1.   "That's true because ..."

Further indicating of pictures and of the activity of the learner fol-
lowed this. This valuing was then challenged by another individual who
questione d whether the nature of the design would enable the learner to
relate the pictures to the written material. The challenge was not taken
up and the next contribution was a further characteristic of indicating
which included the alphabetical ordering of the letters at the bottom.
This was not taken up by the rest of the group.

The next indicating was concerned with the relationship of learner
to design. The teacher was indicated as an important part of the relation-
ship.

It was clear in the first interaction that persons were paying atten-
tion to each other as well as to the material. This appears in the organi-
zation of indicating, characterizing, realizing and valuing, into eviden-
tial argument. This evidential argument was marked by the use of the
interrogative as well as the indicative mode and by a somewhat tentative
offering of opinion in some cases. This appears in such prefaces as "I
think", "I see", "That's true", "I still say".

As the trial progressed, the individuals not only continued to pay
attention to their own previous indicating and continued to develop their
arguments, but the earlier supportive and challenging relationships dev-
eloped.

When the group had had an opportunity to see several cards, the
indicating began to turn to similarities and differences between cards.
Persons began to pay more attention to the material. The previous indica-
ting began to be characterized in greater detail. This was accompanied
by a decrease in valuing and an increase in realizing. Here is a sample
of a joint discovery:

G.1.3.   "They're in alphabetical order, aren't they?"
          "Yeah, they are."
          "See, they're spaced."
          "Right."
          "Hey, we're learning."

While this discovery was explored a little further by increased character-

izing, the valuing shortly increased when the purpose of the alphabetical ordering was questioned.

Trial #2

The initial indicating in this trial was related to the bottom line on each of the cards.

> G.2.1. "I got to thinking about the 'st' at the bottom of this card."

What followed indicated that this person had not realized the alphabetical ordering of this line, although it had been discovered in the previous trial. The reply to the implied query in her utterance was a reference to this alphabetical ordering. However, it was phrased in the form of a tentative question.

> G.2.1. "I wonder if they're not just giving the letters of the alphabet? If you'll notice all the letters at the bottom are in the words at the top."

This characterizing indicated a partial realizing, but not sufficiently related to the matter of alphabetical ordering to help the person questionning. The individual who offered this tentative answer was the same person who initiated the discovery in the previous trial, but this suggests that the initial discovery had little significance at the time of discovery and this person was still trying to figure out the significance of the alphabetical ordering.

The indicating which followed this incident, while it may be seen as misleading, revealed the range that indicating may take in a group.

> G.2.3. "What about teaching them consonants and vowels?"

The original questionner replied:

> G.2.3. "Still, I was thinking of what significance the 'st' has."

The group left this card and went on.

The next indicating was the word "in". The characterizing included a statement that a child employing the word might thereby enable himself to think ahead. Several other members of the group developed the characterizing by demonstrating the use of the word "in" in its locating function.

> G.2.3. "They could guess what the word would be, you know, "where is his hat?". It is 'in' his hand."

In spite of a variety of characterizing, the group were unable to make their realizing more specific. They were unable to identify the language function they were dealing with.

This led, however, to a prediction that the next card would use the "hat" in another context; "on a head". The card was turned and the indicating was that this card instead of advancing, <u>combined</u> and demonstrated <u>possession</u>. The card was quickly passed over and the following card was examined. It was indicated that while this card dealt with the word "in", it returned to the earliest context "this is a man" and really constituted an <u>overview</u> and a <u>reinforcing</u> card.

The realizing work here increased as the indicating and characterizing related again to the design of the material and its function. The realizing developed as the conceptual labelling was tried out.

Immediately following this increased realizing, the indicating took off in several directions. The relative size of the picture figures was indicated and also the phonetic sounds. Among these indicatings the activity of the teacher and the learner occurred again.

G.2.4. "In teaching it, the teacher could say 'what is this?' and 'what is this?' and the kids would reply 'this is a man'."

The indicating did not lead to an overt realization of the pointing-naming function of language. This could have been a result of the difficulty these individuals had in labelling and conceptualizing the language functions. The continued use of examples and relevant ones at that, suggested that these individuals realized the functions without being able to name them.

In all of this trial so far there was little or no valuing or influencing. The individuals ceased to contend with each other. Their indicating and characterizing increased, however.

Another round of indicating and characterizing followed relative to the alphabetical line at the bottom. This was initiated by an individual who had not realized the alphabetical nature in spite of several exposures previously. The rest of the group were able to help this person to see the significance of the ordering.

Trial #3

In the first utterance an individual indicated the lack of features on the face of the stick figure. It was also indicated that this face had been brought out in the previous trial, when such an event had not actually occurred. Either this individual thought about it between discussions or

discussed it with someone else, or thought about it in the previous trial and said nothing at the time. In raising the point, the indicator questioned the reasons for the omission. A second individual picked up the point and noticed the lack of fingernails on the drawing of the hand. The rest of the group tackled this question. The first indicating included the lack of color, the lack of other pictures etc. Then the discussion was brought back. Another individual reminded the group that it was the "head" they were talking about, and the child looking at the head might be confused by the features and call it a face instead of a head.

G.3.6. "That's a good point. It would be distracting."
It is significant that the initial questionner was here helped by the indicating and characterizing of others to a new realizing.

Attention returned to the alphabet. A lengthy discussion of the purpose of teaching the alphabet followed. This discussion was marked chiefly by a lessening of indicating and realizing, a sharp increase in valuing and a decrease in realizing. It was concluded by the suggestion that the group was getting off the subject.

What followed was desultory indicating and characterizing relative to the activity of the designer. A number of labels were employed here such as "another reinforcement", "just showing possession" and "possession".

Then a card with a change in input occurred. This change was noted in the indicating. Very little characterizing occurred before a valuing discussion followed. This discussion was marked by the tendency of some persons to take up sides. On several occasions other members indicated and characterized, but the valuing seemed to override.

Trial #4

Indicating began with the number of letters, the limited number of words and the form of the sentences. Suddenly the valuing began again and resulted in a rather sharp argument between two individuals. When this ended, a short period of indicating followed relating to the discriminating, comparing and contrasting activities of a child. This led to a heated discussion. This time the other members of the group began to participate, not taking sides, but attempting to indicate and characterize. While the pair continued their argument, they were at the same time affected by the rest of the discussion. The indicatings were incorporated into

their arguments and their differences were more easily resolved.

Trial #5

While the tendency to discuss continued, the valuing lessened as the other members began to disregard the contentious persons. Indicating and characterizing increased and with it the work of realizing. The indicating turned again to the child reading and to the nature of the design of the material. This was the time of greatest realizing in all the trials. The group realized the sequencing pattern, the control of input both in quantity and quality, the control of confusable letters, the lack of opportunity for distraction and error on the part of the reader. The child was recognized as actively reading, as relating written notation to speech.

Where valuing occurred it was petty, and largely related to the monotony of diet and what was entitled "phonetic confusion".

Trial #6

Up to this point the group had begun each trial where they left off. In this trial the total sequence was completed. The indicating continued to centre around the child reading. There were several productive discussions about the activity of children and the way in which the design of the material would help or hinder this activity. Several characteristics of the child's activity were considered including comparing, contrasting, and self-correcting. The control of ambiguity in the materials was emphasized.

The tendency to valuing continued in the arguing of two members. An interesting phenomena occurred. Other members kept coming into the argument with comments related to the activity of the learner.

G.6.20.   "We're teaching the child to read aren't we?"

G.6.20.   "It's easier for them to understand with the pattern."

G.6.20.   "The child has learned to speak first."

G.6.20.   "They already speak a language."

During this trial the members paid little attention to the contentious activity, refused to take sides and did not challenge. They increased their indicating, characterizing and realizing.

Trial #7

The group began at the first of the cards for a second time.
During this trial they viewed cards simultaneously and spent the longest
time on a single presentation card of any of the trials, almost nine
minutes. There was very little new discovery, but several discussions
amplified and clarified previous realizing. As the realizing was con-
firmed and as fewer fresh inputs of indicating occurred, the tendency to
valuing and influencing began to grow. From this point to the end of
trial #8 it was a matter of desultory comment full of valuing and
influencing.

Trial #8

The group ranged around the cards, viewing some simultaneously ex-
ploring small points in greater detail, holding little discussions but
not excited and not contending.

SUMMARY OF GROUP COMPREHENDING

From the beginning of the trials there was a wide range of work per-
formed by the utterances of the group. Indicating, characterizing, reali-
zing, valuing and influencing appeared in close conjunction. This was
reflected in the way persons addressed their utterances to other members
of the group. They gave opinions, expressed tentative theories, asked
questions, both real and hypothetical, and on occasions offered challenges
to each other. At this time there appeared a high incidence of valuing and
influencing in the utterances. A variety of relationships developed be-
tween members and it was possible to see persons testing out strategies
for themselves.

As the early trials progressed, persons pursued their own strategies;
testing and comparing. At times their indicating, characterizing and
realizing were picked up by other members who in turn extended the range
of indicating, contributed to the characterizing and joined them in a
simultaneous realizing. Other persons seemed able to go on with their own
thoughts at the same time as these little discussions, arguments and
interchanges were taking place.

Some persons, who appeared to have missed out on earlier discoveries,
asked questions later. On these occasions group members increased their
indicating and characterizing and helped the questionner to make the dis-

covery. During these occasions there was often an increase in the
realizing of the helping person.

As the trials progressed, individuals brought up points from pre-
vious occasions. This suggested that they were comparing and contrast-
ing what had gone before with what came later. On occasions persons
attempted to predict what would follow and engaged others in the group
in the speculation. There was ample evidence of persons being conscious
of the sequential, developing nature of the material relative to their
own comprehending as well as relative to the child beginning reading.

On occasions the indicating and characterizing led off into particular
areas of concern to individuals. On occasions the group would ignore the
opportunity; at other times there would be a challenge and a discussion.
The remainder of the group would sometimes suggest moving on or try to
sum up the discussion or even join in the argument. There were times
when members simply indicated strongly that the discussion was off the
track in their opinion. The increase in valuing on these occasions was
evident. In later trials, the valuing decreased as indicating, character-
izing and realizing increased. This was accompanied by longer discussions
with more participation. Persons seemed able to enter in when the
challenging and valuing decreased. On these occasions persons contributed
insights of their own from previous occasions and recalled the insights
of others. While these occasions occurred in the middle trials and were
not the first times when persons were judged to have discovered principles,
they were occasions for helping others to share discoveries and to amplify
by increased comparing and contrasting, the discoveries already made.

When the group had viewed all of the presentation cards, there was
a significant move towards review and summation. At times this took the
form of polling the opinions of group members. During the review, per-
sons paid more attention to the molecular elements of the instructional
design. They began to count, to review and compare other cards and gener-
ally prepare to complete the task. During this period a number of exten-
sions of discovery were evidenced.

Throughout the trials there was a movement towards cooperation
evidenced in the group. Although challenging continued to the end, it
had reached its peak earlier and was disappearing. Persons not engaged
in challenging behaviour showed signs of by-passing and making discoveries

in spite of others. There was evidence that persons took account of each other's strategies and related to each other in a variety of ways. These relationships changed during the course of the trials. Persons were able to recognize when they were moving away on a tangent and were able to express their recognition by laughing at themselves. When they pressed their point too hard they knew it.

CHAPTER V

DISCUSSION OF OUTCOMES

Procedures

This study was an attempt to open up for observation and examination the process of student teachers engaged in the activity of comprehending instructional design. From the thinking aloud of persons engaged in the activity of comprehending it was possible to obtain more than the product of their thought. It was possible to get a great deal of sequentially linked behaviour which could in turn be interpreted by other persons. The basic design of the study entailed an examination of the process of comprehending in a social context. Towards this end a comparison was made between individuals and individuals together engaged in comprehending the same instructional design.

The procedures followed had several underlying purposes. The first was to provide as wholistic a context for comprehending as possible. Persons were given a task and occasions to engage in the carrying out of the task. The second was to exercise a minimum of control over the activity so that the persons engaged were observed by a non-participating observer. The third purpose was to maximize the observable, reportable behaviour in order that meaningful comparisons and contrasts might be made and the conditions of comprehending might thus be studied.

To satisfy these requirements student teachers with an interest in instruction as it pertained to children beginning the study of reading were chosen. The instructional material was chosen because its principles of design, its carefully sequenced and ordered control would facilitate observation and examination. Such procedures grew directly from those employed by Donaldson (1963) and MacKinnon (1959).

Donaldson (1963), in her study of children solving mathematical problems, was concerned with the difficulties which children encountered in the process of solving them. She gave individual children five different types of problems and invited them to think aloud as they worked. Each of the different types of problems was first

analysed according to the nature of the problem. For example, the matching problem contained five variables: a) the content, b) the number of objects, c) the type of representation, i.e. the nature of the object: physically presented or pictorially represented, d) the manner of presenting information, e) the way in which the task was described.

Comparisons were made of the "errors" made by the children. These were not mistakes made in the answers to the problems, but errors made in reaching the answers. Three categories of errors were established: a) arbitrary, b) structural, c) executive.

The present study set only one problem for all the persons involved. The social context was varied. Some persons tried to discover the principles of the instructional design as individuals and some tried in the context of a group. The principles of the instructional design were analysed and ten principles were established. The performances of the individuals were then compared with each other and those of the individuals were compared with the group. The comparisons were first made in terms of the number and occasions of discovery. The detailed analysis of process was done in terms of Richards' (1957) seven dimensions or respects of comprehending. The ways in which the persons handled their problems through their spoken language was compared in this way.

The present study differed from that of Donaldson in the type of problem employed. This difference was not so evident in the measurement analysis as in the analysis of the process. Donaldson's study involved comparison of persons solving a variety of problems. This study was concerned with comparisons of individuals with individuals together, given one similar task. While she maintained that the types of errors, as related to the types of problems, were evidence for interpreting the process of problem solving, this study suggests that the ways in which persons' language functions within a social context must be considered when interpreting the process of comprehending.

What appeared to be most similar in the two studies was the way in which the procedures allowed for comparisons in a total context. The relation between the errors and the occasions when the errors

occurred was very similar. There was also a similarity in relation-
ship between the work performed by utterances and the occasion of
utterances. In other words, the procedures of both studies were
concerned with comparing what came before, what occurred with and what
followed and similar results were found.

While the children in Donaldson's study were engaged in taking
account of a variety of information related to their problem and in
making comparisons and contrasts, the student teachers in the present
study were actively engaged in taking account of a variety of informa-
tion relative to their task, and were engaged in the activity of com-
paring and contrasting. The children had to take into account the
different types of problems, while the student teachers had to work
within the different social contexts. As individuals this meant
taking account of instructional design, children learning to read,
teachers and a variety of elements not present. The individuals
together had to take into account these and the other persons who
were sharing in the activity.

Donaldson maintains that her study could enable designers of
intelligence tests to determine not only what questions caused chil-
dren to make mistakes but also to enable testers to find out how the
children went about solving the problems and committing the errors.
The present study suggests that the same mental and social operations
can enable persons, for example teachers, to discover what they are
doing in comprehending and how they engage in the activity.

Process

When the evidence of process as revealed in the present study
was compared to the evidence of Donaldson's study, several things
become apparent. For example, what Donaldson termed "errors" had
their counterparts in this study. Her children were given a task and
information necessary for the solving of the problem. They committed
arbitrary errors. They often went beyond the given information and
added information. For example, some children appealed to real life
experience. On occasion they ignored part of the information and
acted upon the remainder. She discovered that the tendency to commit
arbitrary errors was in part related to the types of problems. For
example, arbitrary errors were more evident in problems involving

persons than in problems involving numbers.

In the present study persons were given a task and certain information, i.e. the instructional design. Other information related to the task was quickly introduced. How children were taught to read in school was discussed; how designers constructed materials was explored, etc. As the student teachers engaged in their task of discovering the principles of design they combined, contrasted and compared with a variety of information. They were faced, as the children were, with control in all of these activities. The ways in which they exercised control was evident throughout their thinking aloud.

The control of comprehending was shown in the variety of "indicating". Some individuals included in their indicating the design elements: children, teachers and the designer. Others were limited to the design itself. In the case of individuals working together, the indicating was significantly different. Each individual made his own contribution. In taking account of each other in the social context, the indicating of one person contributed to others. Not only was there greater breadth of indicating, but the way and the occasions in which additional indicating was made were significantly different. Indicating, which was frequently triggered off by realizing, quite often came about as one person remembered and associated what was said at the time with something that had been said previously.

At the same time it was evident that both individuals and group members were distracted and confused by increased indicating. In these cases there was evidence of "errors" similar to the arbitrary errors found by Donaldson. Here the persons in the group were somewhat more likely to be challenged and to have the matter discussed than were individuals likely to challenge their own "errors".

In this regard, it was evident that arbitrary error had its counterpart in persons placing greater emphasis on certain information and failing to consider other elements. For example, persons who placed great emphasis on the actions of teachers, who included in their presuppositions the necessity of having a teacher to explain, assist and guide children in learning to read with these materials,

sometimes failed to consider the child's powers and the possibilities of other children with more experience helping each other.

The "structural errors" of Donaldson's study had their counterpart in the present investigation. These errors were evident when persons were unable to grasp the implications of the instructional design. It is somewhat significant to notice in this regard that product measurement was not very helpful. Tabulation of the discoveries made by individuals and by the group gave very little indication as to whether persons had grasped the overall principles of rigorous control employed in the material. One individual who paid attention only to the materials and generated no additional information discovered only one principle. His strategy was totally fixated and yet he came relatively closest to the discovery of the general principle of control of error. The minute-by-minute information provided a picture of what and how persons were doing and gave a better indication as to their grasp of the whole problem. Product measurement (in terms of number of principles attained) gave indication only of a grasp of parts of the problem.

The fixation of certain strategies ("executive errors") appeared when patterns of thought were examined over time. It was here that significant comparisons were possible between individuals and the group. It was noted in the findings that some individuals developed patterns of viewing. For example, one individual indicated the same molecular elements in every presentation while another commented on the same elements in every trial. In the case of the group there was evidence that while individuals pursued their own strategies, these changed over time as other members took up their points or challenged them. The presence of other persons, agreeing and disagreeing, and the necessity of taking other people into account, tended to prevent the same kind of fixation of strategy.

Individuals tended to develop other patterns which might be compared to executive errors. There were cases of self-removal, when individuals put themselves into the position and role of teacher or child or designer. This happened in the group, but when others entered into the removal and participated either by agreeing or disagreeing, the patterns changed more readily.

Individuals in their utterances tended to develop jargon. In some cases this was useful in summation and appeared to take the form of increased indicating. In other cases it appeared to be part of the fixation of strategy. In the group, these short forms were countered and questioned or led to other indicating and further discussion. The demand for explanation and explication tended to cause revision and sometimes rejection of this jargon.

When the findings were compared with those of Donaldson, it was apparent many aspects of the comprehending process could be usefully discussed using her analysis of errors. However, it was also obvious that the difference in the degree of structure of the problems was important. This suggests that as the structure of problems increases in complexity, the necessity of rendering the process overt increases and additional forms of analysis are needed beyond the study of "errors".

When the procedures employed in this study were compared with those used by Richards (1938), some obvious differences were apparent. Richards tried to develop ways of rendering overt the activity of students' comprehending. He attempted this through the analysis of essays and written comment. Only one-shot comparisons were possible in this "protocol" method. The study of comprehending over time and in a variety of social contexts was thus quite limited.

Richards (1957) was, however, engaged in primarily speculating about the nature of comprehending. His general speculations would appear to have been supported in the present study. Richards suggested that "we must gain our powers, from that over which we must exercise control" (p. 38). The evidence from this study appears to bear out that contention.

For example, one of the most difficult exercises of Richards' schema for comprehending was the interrelating of the seven dimensions or respects. Controlling was not something that an utterance does directly by means of particular words or actions. It appeared to do its work by varying the ratios between the other dimensions. It was an internalized control. As a person's indicating was characterized and this was attended by realizing, what followed was of crucial importance. No rule could be set or principle of control

enunciated. Valuing might follow or be a part of the total utter-
ance. Influencing might be implied in relation to valuing and the
rest. Controlling often appeared when that which followed appeared
to have been allowed to develop. That is to say the person 'let'
himself pursue the implications of what came before.

MacKinnon (1959) described this activity in terms of the elicita-
tion of a natural ordering process. He attributed it in part to the
nature of the instructional design. The findings of this study
suggested that the instructional design was certainly influential
in doing this. In the early trials, persons paid more attention to
the instructional design. In varying degrees they manifested in
their utterances a relationship between controlling and being con-
trolled. Most of the discoveries occurred in the early trials. In
some cases these discoveries were made when viewing the first five
presentation cards. It was apparent that Richards' principles of
design could be identified very early; as early as the first three
cards. His control of input both in quantity and quality was evident.
Sequencing, movement from familiar to unfamiliar in small increments
was also evident. The design principles were based upon the overall
principle that persons require maximum possibilities of making succ-
essful choices and minimum possibilities for error in the making of
choices. The evidence indicates that in the early stages persons
paying attention to the design experienced greatest success. As the
trials continued, the introduction of information outside the design,
the development of strategies and patterns and the development of a
wider frame of reference for the task increased the possibilities and
occasions of "error" of all kinds.

Richards' schema for comprehending rendered just this process
overt. Where persons took account of extraneous information, this
was evident in the work their utterances performed. When their indi-
cating moved too far beyond the instructional design and where they
did not continually test their comprehending against the design, the
possibilities for error increased measurably. In this regard,
Richards' theorizing was born out in the fact that the balance
between controlling and being controlled shifted. The utterances
indicate that in some cases initial indicating limited realizing.

In other cases, too much indicating limited realizing. The same was
true of characterizing. Too much characterizing wrapped up indicat-
ing so that realizing was not possible. While the paradoxical shift-
ing nature of controlling was evident, it was also evident that the
instructional design played an important part in facilitating com-
prehending.

When the comprehending process of the group was compared to the
foregoing, a number of things became evident. The relation of the
instructional design to the total nexus was different. When persons
had to take each other into account, they did not relate to the
instructional material in the same way. Persons in the group incor-
porated their indicating, characterizing etc. in utterances addressed
to each other. As was suggested in the analysis of utterances, per-
sons offered opinions, arguments, and asked questions in a tentative
fashion in early trials. Other persons developed arguments counter
to those that went before. Some persons followed their own leads and
moved away from the group, only to make contact at a later time.

While persons paid attention to the instructional design, they
paid attention to different things. Insofar as they paid attention
to each other it was on those occasions when they found common con-
cerns in the material or in each other's thoughts. In the initial
stages they tested out their own process as well as that of others
in the group. There were signs that persons paid little attention
to each other when they could not make any connections. When these
could be made they offered comments supportive or contrary. Their
utterances contributed and carried on from others. Sometimes this
took the form of additional indicating, or characterizing. Sometimes
they articulated a realization arising from the thought of another
person. Controlling in the group context, while it was even more
complex because of the interrelationship, was still identifiable.
Persons recalled, restated, summarized, and engaged in a variety of
relationships, both to the instructional design and to each other.
Over the period of the trials, a significant development in these
relationships occurred with attendant advances in comprehending.

The implications of this study for the understanding of the
process of comprehending are several. The difficulties in explaining

the process are related to knowing what is happening. This in turn
is related to developing instruments for comparing and contrasting.
Donaldson's "errors" and Richards' dimensions for comparing are a
beginning. In the context of this study, these instruments reveal
that knowing what is going on is relevant to taking account of what
persons are taking account of. Persons are taking account of each
other, of instructional design, and of the task. This taking account
of is related to the work that their comprehending powers can accom-
plish. Language, in this study, was obviously the major representa-
tion of the comprehending powers in action.

General Implications

The above considerations generally argue for a reassessment of
research on teaching. Much of traditional research in teaching has
focussed upon the teacher. The activity of teaching viewed from this
reference point has caused attention to be focussed upon the know-
ledge possessed by the teacher, as well as the skills required in im-
parting and transmitting knowledge. Some side issues have gained
prominence: teacher attitudes, personlaity, skills and effectiveness
are among the aspects which have been studied at length.

Comparative and correlative studies have been undertaken which
have further developed this emphasis. Domas and Tiedeman (1950),
Barr, Eustice and Noe (1955) and Brimm (1958), for example, have
studied the relation between teacher characteristics such as intelli-
gence and teaching effectiveness. These studies have shown incon-
sistent relations and have raised further questions about the estab-
lishment of meaningful criteria for such concepts as teacher effect-
iveness. Getzels and Jackson (1962) and Mitzel (1960) point out the
difficulties involved in determining the nature of and measuring
teacher personality. They also suggested that the relationship of
teacher personality to teacher effectiveness has not been determined
Teacher characteristics have also been related to measurements of
pupil achievement. Chung Phing Shin (1965) for example, could dis-
cover no significant difference in pupil achievement relative to the
teacher's academic record, degree, certification or years of exper-
ience.

What this present study questions is the orientation of this
research and in part the way in which it has been carried out. The
basic assumption that teaching can be abstracted and then compared
with learning in terms of the amount of learning which is brought about
has led to the designing of many tests to measure achievement and many
experiments to relate factors to achievement. Attendant upon this has
been the development of statistical studies employing a wide variety
of comparisons and correlations. Careful control of the experimental
process has been exercised with the result that there has developed
an artificial environment only slightly resembling the classroom
learning situation.

The present study suggests that the activity of comprehending
need not be dependent upon the presence and guidance of a teacher.
It was greatly facilitated by the nature and construction of the in-
structional design itself and was significantly different for persons
in different social contexts.

This study has suggested further that one of the important areas
for further research in teaching is that of teachers' comprehending.
Raths, Wasserman, Jonas and Rothstein, (1967), have pointed to the
lack of skill and appreciation on the part of teachers in the develop-
ment of children's thinking. Their study of teachers revealed that
college education had prepared them inadequately for appraising and
encouraging the processes of thought (p.4). It would appear that many
teachers do not know what is taking place in their classrooms, do not
feel adequate in assessment of learning, and engage largely in intui-
tive comprehending.

Such a finding is confirmed by other studies. Rugg (1951) in a
survey of college teachers found that thinking about teacher educa-
tion programmes was generally split between the emphasis on techniques
and methods and on subject matter. Jamrich (1954) surveyed 332
colleges engaged in the preparation of Secondary School Teachers. He
found that generally the sequence of preparation began with courses
and concluded with teaching practice. There seemed to be relatively
little coordination between the two parts. Seventy per cent of the
colleges included in their curricula courses in methodology.

Much of the research in teacher education has been related to

teaching effectiveness. Major efforts have been made to establish
relationships between some measurable factor or factors in pre-ser-
vice teacher education and some identifiable criteria for teaching
effectiveness. Other research has been of a survey nature and some
comparison of methods and programmes. In most of this research the
crippling problem has been to develop criteria and to provide mean-
ingful reference points.

More recently there has been an emphasis on process criteria.
The climate of classrooms was investigated by Perkins (1950). The
critical incident analysis has been employed to study the relationship
between preparation factors and responses to critical incidents.
There has also been a move towards systematic observation of class-
room teaching Medley and Mitzel (1963) reviewed this trend. They
point to the best potential of this approach for gaining further
understanding of the teaching process. They argued that this type
of research is "not a pastime for amateurs: it is a full-time occupa-
tion for technically competent professionals".

It is here that this study suggests a reassessment of the empha-
sis on the teacher in teacher education. Both methodology and prac-
tice teaching tend to emphasize the role and behaviour of the teacher
with the subsequent distortion of total nexus. Setting the teacher
in the classroom as quickly as possible, with the emphasis on total
comprehending of the relationships between task and learner, would
seem to be a fruitful approach. When the student teacher is given
the opportunity to work with other persons who are learning, student
teachers and students, the opportunities for exploration of their own
learning in the context of comprehending the learning of others would
appear to be called for.

Attention paid in this total context to the ways in which design
of instruction and social interaction can function together, might be
more effective than the introduction of specialists in teaching prac-
tices, curriculum design, etc. In this regard, the primary emphasis
would be placed upon knowing, comprehending and other process aspects.
Attention would have to be paid to knowing what is going on and to
what ought to be going on in bringing learning about.

Studies in group process, group dynamics, sensitivity training

and other aspects of social interaction have developed to a high
degree in fields associated with education. Much of this develop-
ment has been carried on in the laboratory under controlled con-
ditions. Some studies have been carried out in the classroom. Again
much of the emphasis has been placed upon the importance of the
teacher as leader, as the employer of techniques and as director of
group learning. O'Hare (1964) studied teacher attitudes towards the
development of group process in elementary school. He suggested
that this is the point of reference for many teachers. This is part-
icularly evident in experiments in ability grouping. Here the criter-
ia of teaching effectiveness has led to a spate of studies relating
ability grouping to academic achievement, changes in grades, student
responses and many other factors. An eight-year longitudinal study
reported by Tobin (1965) included in its general findings the state-
ment that "ability grouping can be a vehicle for increased achievement
if proper educational environment is provided".

This study suggests that the importance of group interaction lies
more in the area of qualitative change rather than quantitative pro-
ducts. Persons learn to take account of each other, to help each
other through mutual comparing and contrasting. One of the important
values may well be the way in which persons are enabled to look at
what they are doing and the way in which they are learning while the
process is taking place. The findings of the present study suggest
that group interaction is significantly different in quality when
viewed in terms of validation of knowing. Individuals made signifi-
cant discoveries and passed over these without noticing. They com-
pleted their task without knowing that it was complete. They were
prone to continue and developed hampering strategies in the process.

What is called for in this context is greater attention to pro-
cess of comprehending relative to instruments for comprehending. It
is here that Donaldson, Richards and MacKinnon, among others, point
the way to possible and meaningful process studies, set in a holistic
context where research is closely linked with development and where
the teacher becomes a "specialist" with a high order of understanding
of the comprehending process.

Research in the area of curriculum design suggests a further

point of connection for this study. Bruner (1966) has made the point
that "curriculum reflects not only the nature of knowledge itself
but also the nature of the knower and of the knowledge-getting pro-
cess" (p. 72). This study suggests that effective instructional
design can facilitate the activity of comprehending in that it invites,
maintains and validates. It also suggests that this facilitating
operates in conjunction with the other conditions of comprehending.
Such a finding has substantial implications for every area of educa-
tion and for all age levels.

BIBLIOGRAPHY

Adler, Marilynne. "Some Implications of the theories of Jean Piaget and J.S. Bruner for Education". Research Service. The Board of Education for the City of Toronto. June 1963.

Adrian, E.D. "Science and Human Nature". Advancement of Science, II 1954. pp. 121-128.

Anderson, Robert H. Teaching in a World of Change. New York: Harcourt Brace & World, Inc., 1966.

Ausubel, David P. Learning Theory and Classroom Practice. Bulletin No. 1. Toronto: Ontario Institute for Studies in Education, 1967.

Barr, A.S. "Research Methods". Encyclopedia of Educational Research. Edited by Chester W. Harris. New York: The MacMillan Company, 1960. pp. 1160-1166.

Barr, A.S., P.E. Eustace and E.J. Noe. "The Measurement and Prediction of Teacher Efficiency". Review of Education Research, 1955, 25, 261-269.

Bartlett, F.E. Thinking: An Experimental and Social Study. London: George Allen and Unwin, 1958.

Belth, Marc. Priority in Teacher Education. Unpublished manuscript, Canadian Teacher's Federation, Panel on Teacher Education, 1967.

Biber, Barbara. "A Learning-Teaching Paradigm Integrating Intellectual and Affective Processes". Behavioural Science Frontiers in Education. Edited by Eli M. Bower and William G. Hollister. John Wiley & Sons, Inc., 1967. pp. 111-155.

Brim, O.G. Jr. Sociology and the Field of Education. New York: Russell Sage Foundation, 1958.

Broadbent, D.E. Perception and Communication. London: Pergamon, 1958.

Bruner, Jerome S., Jacqueline J. Goodnow and George A. Austin. A Study of Thinking. New York: Science Editions Inc., 1962.

Bruner, Jerome S. The Process of Education. Cambridge: Harvard University Press, 1960.

-------- On Knowing: Essays for the Left Hand. Cambridge, Mass.: Belknapp Press of the Harvard University Press, 1964.

-------- Toward a Theory of Instruction. Cambridge, Mass.: Harvard University Press, 1966.

Carter, L.F., William Haythorn and Margaret Howell. "A Further Investigation of the Criteria of Leadership". Small Groups: Studies in Social Interaction. Edited by A.P. Hare, E.F. Borgatta and R.F. Bales. New York: Alfred A. Knopf, 1955. pp. 523-526.

Cattell, Raymond B. "Concepts and Methods in the Measurement of Group Syntality". Small Groups: Studies in Social Interaction. Edited by A.P. Hare, E.F. Borgatta and R.F. Bales. New York: Alfred A. Knopf, 1955, pp. 107-126.

Cofer, C.N. "Reasoning as an Associative Process III: The Role of Verbal Responses in Problem Solving". Journal of General Psychology, 57, 55-68, 1957.

Davis, O.L. and June J. Slobodian. "Teacher Behaviour Toward Boys and Girls During First Grade Reading Instruction". American Educational Research Journal, Vol. 4, No. 3, May 1967. pp. 261-269.

Domas, S.J. & D.V. Tiedeman. "Teacher Competence". Journal of Experimental Education, 1950, Vol. 19, 101-218.

Donaldson, Margaret. A Study of Children's Thinking. London: Tavistock Publications (1959) Ltd. 1963.

Ellis, John F. The Contribution of Writing Linear Programs to Certain Competencies of Student Teachers. Doctor of Education Thesis, University of California, Berkeley. 1964.

Festinger, Leon. "A Theory of Social Comparison Processes". Small Groups: Studies in Social Interaction. Edited by A.P. Hare, E.F. Borgatta, R.F. Bales. New York: Alfred A. Knopf, 1955. pp. 163-187.

Getzels, J.W. and P.W. Jackson, Creativity & Intelligence; Explorations with Gifted Students. New York: Wiley, 1962.

Gibson, M. and I.A. Richards. First Steps in Reading English. New York: Washington Square Press, Inc., 1957.

Goldstein, K. and M. Sheerer. "Abstract and Concrete Behaviour: An Experimental Study with Special Tests". Psychology Monographs, 53, No. 2 1941.

Guba, Egon. Educational Improvement and the Role of Educational Research. Bloomington: The National Institute for the Study of Educational Change, 1967.

Hawkins, David. "Childhood and the Education of Intellectuals". Harvard Educational Review, Vol. 36, No. 4. 1966. pp. 477-483.

Heise, Geo. A. and Geo. A. Miller. "Problem Solving by Small Groups Using Various Communication Nets". Small Groups: Studies in Social Interaction. Edited by A.P. Hare, E.F. Borgatta, R.F. Bales. New York: Alfred A. Knopf, 1955. pp. 353-367.

Hunt, David E. and Bruce R. Joyce. "Teacher Trainee Personality and Initial Teaching Style". American Educational Research Journal, May 1967, Vol. 4, No. 3.

Jamrich, John X. "A Study of Current Practices in Conducting General Methods and Related Courses in the Preparation of Secondary School Teachers". Journal of Educational Research, 1954, Vol. 48: 57-65.

Luria, A.R. The Role of Speech in the Regulation of Normal and Abnormal Behaviour. New York: Liveright Pub. Corp., 1961.

Lippitt, Ronald, Robert Fox, Richard Schmuck. "Innovating Classroom Practices to Support Achievement Motivation and Ego Development". Behavioural Science Frontiers in Education. Edited by Eli M. Bower and William G. Hollister. John Wiley & Sons, Inc., 1967. pp.317-334.

MacKinnon, A.R. "A Study of the Effects of Group Formations on Primary Grade Reading Standards". M.A. Thesis, Queen's University, Kingston, 1952.

MacKinnon, A.R. How Do Children Learn to Read. Toronto: The Copp Clark Publishing Co. Ltd., 1959.

----- "Learning in the Nexus of Task and Group". Lecture delivered at the University of Chicago, Graduate School and Department of Education, March 1, 1963.

----- "Toward a Theory of Teacher Education". W.J. Gage Ltd., 1967. Education 6:19.

May, Frank B. and M. Vere DeVault. "Hypothetical Dimensions of Teachers' Communication". American Educational Research Journal, May 1967 Vol. 4, No. 3.

Mitzel, H.E. "Teacher Effectiveness". Encyclopedia of Educational Research. Edited by C.W. Harris. New York: MacMillan, 1960, pp. 1481-1486.

Ogden, C.K. and I.A. Richards. The Meaning of Meaning. London: Routledge and Kegan Paul, 1941.

O'Hare, M.R.D. Teachers Attitudes Towards the Development of the Group Process in the Elementary School. Doctoral Dissertation, Fordham University, 1964.

Perkins, Hugh V. "The Effects of Climate and Curriculum on Group Learning". Journal of Educational Research, 1950, Vol. 44: 269-286.

Piaget, Jean. The Origins of Intelligence in Children. Translated by Margaret Cook. New York: International Universities Press, 1962.

Piaget, Jean and Barbel Inhelder. The Growth of Logical Thinking from Childhood to Adolescence. Translated by Anne Parsons and Stanley Milgram. New York: Basic Books, 1958.

Raths, Louis E., Arthur Jonas, Arnold Rothstein and Selma Wassermann. Teaching for Thinking: Theory and Application. Columbus: Charles E. Merrill Books Inc., 1967.

Redl, Fritz. "Group Emotion and Leadership". Small Groups: Studies in Social Interaction. Edited by A.P. Hare, E.F. Borgatta, R.F. Bales. New York: Alfred A. Knopf, 1955. pp. 71-86.

Richards, I.A. Interpretation in Teaching. London: Routledge and Kegan Paul, 1938.

-----Speculative Instruments. London: Routledge and Kegan Paul, 1955.

Riopelle, John Paul. A Filmstrip with Manual. Produced for the National Gallery of Canada, Ottawa: National Film Board, 1963.

Rugg, H.O. "Teacher of Teachers: a Preface to Appraisal". Journal of Teacher Education, Vol. 2, 3-8, March, 1951.

Scheffler, Israel. Conditions of Knowledge, an introduction to epistemology and education. Chicago: Scott, Foresman and Co., 1965.

Shin, Chung-Phing. "A Study of the Cumulative effect of four Teacher Characteristics on the achievement of Elementary School Pupils". Journal of Educational Research, Vol. 59, No. 1, Sept. 1965.

Sinclair, Angus. The Conditions of Knowing. London: Routledge and Kegan Paul,195

Suchman, J. Richard. The Elementary School Training Program in Scientific Inquiry. University of Illinois, 1962.

Taba, Hilda. "Teaching Strategies for Cognitive Growth". Behavioural Science Frontiers in Education. Edited by Eli M. Bower and William G. Hollister. John Wiley & Sons, Inc., 1967. pp. 157-176.

Thelen, Herbert A. "Group Interactional Factors in Learning". Behavioural Science Frontiers in Education. Edited by Eli M. Bower and William G. Hollister. John Wiley & Sons, Inc., 1967. pp. 257-287.

Tobin, J.F. An Eight Year Study of Classes Grouped within Grade Levels on the Basis of Reading Ability. Doctoral Dissertation, Boston University School of Education, 1965.

Torrance, E. Paul. "Some Consequences of Power Differences on Decision Making in Permanent and Temporary Three-Man Groups". Small Groups: Studies in Social Interaction. Edited by A.P. Hare, E.F. Borgatta, R.F. Bales. New York: Alfred A. Knopf, 1955. pp. 482-492.

Whitehead, A.N. The Aims of Education. London: Williams and Norgate, 1932.

APPENDIX

The appendix which follows constitutes a verbatim transcription of the utterances of the six individuals and the group. In most cases it is complete. However, in the case of Individual #5, trial #8 was almost impossible to transcribe since the individual in question spoke infrequently and almost inaudibly. Several trials of individual #6 were not transcribed. The repetitious nature of the utterances made them redundant.

Where examples have been drawn from the transcripts and employed in protocols within the study, the appropriate passages have been underlined.

In the case of the group transcription, each individual in the group was given a number which remained constant during the eight trials. The utterances of the individuals have all been given the individuals number in the transcription.

VERBATIM TRANSCRIPTION OF UTTERANCES

Individual 1.

Trial #1
Card #1

The first thing that's most obvious is like in all primary readers, the repetition of the words and letters especially. There are only about, what, about six different letters used altogether in the three sentences. The pictures, I suppose, would help to put across the words, although I think they would need someone to point out which word refers to what. So that they know that "this" doesn't refer to the drawing at the side. That it's a hat or a man. "His" is in a little box. So perhaps this is a word they are trying to emphasize. It is found also in "this", and the "is" in "is", and, of course, in the word "his". The repetition of the "h's", hat, his. Also throughout there are no long vowels used. There are only short vowels used in the three sentences.

Card #2

I don't know what you want really ...... Well, this is going on. They could use the rhyming of the words, "man", "hand". The same vowel sounds. Introduces the new words. I presume the words in the boxes are the new words, "hand" and "it". The only new letter introduced is the "d". They've already taken all the other letters. So this would be the only new concept really. They all know ...... that ...... these are also concepts or words that the children would be familiar with. They all have hands so that they can see what a hand is ...... be able to illustrate this.

Card #3

Here it shows the relationship between the man, his hat and his hand. "In" would be the new word, it isn't ...... Again this would be easy to illustrate each child could do this. So that they would be able to grasp it this way. They could perhaps copy the picture. Again its a repetition of the same letters. There are no new letters introduced. There's only the new concept of the word "in". This also would show the words such as "this" and "it". These words can be used in place of such words as hat or man. So that the child may get the idea that these can take the pace of ...... well, I guess they wouldn't know "nouns" then, but...... of these other words. There also is ...... the sentences don't appear to me to be the sentences they normally have. Not straight verbs such as "run", "Run" and "look, see" type of thing. It's a sentence which if a child was told to he could make it up and understand it ...... (long pause).

Card #4

Well, this doesn't show any new letters. Again they are still using the
same letters, but they've grouped them to form the new word "and". This
would demonstrate to the child that two similar or dissimilar things can
be joined with "and". The two hats, two hands, and the hat and the hand.
I notice the hands are going in different directions. So that the child
...... this might help a child to see things, such as when you turn some-
thing around, it isn't changed. It still remains the same. Both of
them are still the same objects. The sentences are quite a bit longer,
but still they are simple. A child would have no difficulty in under-
standing and should have no difficulty in reading at this level, if they
have already grasped the other one. The illustrations are also close to
the words that they refer to, so that it wouldn't be, the child isn't so
likely to be mixed up, although they should know these illustrations by
now after seeing them previously.

Card #5

This doesn't really introduce anything new. It more or less states it
in a different way. It's the same thing in a different way. This way,
I presume it wouldn't get so monotonous for the child. You wouldn't be
learning by straight rote, repetition of the same thing over and over.
There is the same words and the same letters used again only they are
used slightly differently. Again the sentences are reinforced by the
pictures "it" and "this". Again its a repetition showing that these
words can be used instead of the word hat. This might help the children
in the phrasing of their own sentences. Instead of saying "the hat is
in his hand", "this is his hat", The hat is in his hand", "the hat is
blue" et cetera. This could help them when they use the pronouns. So
that there is different ways of saying the same thing. Don't know
whether this is what you want. (Laugh).

Card #6

Well, first this introduces the new concept of head. I notice that all
these words pertain to the body, or clothes and this of course should
be fairly familiar to the child. It's something that he can see and
that he can touch. It isn't something abstract or something that he's
never seen before. It also introduces the new letter "e". They haven't
taken this, at least I haven't noticed it before on the previous cards.
Again there's no use of long vowels, all short vowels. In the intro-
duction of "head", did you notice perhaps a similarity. I don't know
whether the children would notice it or not. Actually there is only one
letter that's been changed. The "n" has been dropped out and the "e" has
been put in so they'd know how ...... once they know that "e" is pron-
ounced "eh" in this word, they they would know how to pronounce it
without difficulty. Oh! I never noticed that the letters at the bottom

are in alphabetical order. I presume that as they go along they add more
letters and fill it in. I was wondering why they put them like that.

Card #7

Here we have again what I mentioned about the hands. They've drawn two
heads but they're not the same. The child must realize that head can be
referred or be referring to a variety of shapes or general shapes and
they all are different. This has no introduction of new words. It is
another way of stating the concepts which you have already learned. It's
more or less a reinforcement or repetition.

Card #8

This one is reinforcing the idea which I mentioned before, the pronoun
"it". "It is his head" "it is his hand". Instead of saying "the hat is
his hat", "the head is his head". It doesn't really introduce anything
new. The same style of sentence which we have had previously ....
(pause) ...... Also I just noticed the grouping of the sentences, the
way they have them grouped. Such as, well, "this is a head", "it is his
head", "this is a hand", "it is his hand". This again is the repetition
of the theme, more or less the same style.

The second secion in the middle shows again these two words are taken
out and "it" is substituted. I guess it is just reinforcement of the
ideas that have already been presented. The same with "this hand",
"This hand is his hand","it is his hand". So that the child without
being told should be able to see that or figure out for himself that "it"
is taking the place of "this hand". In the first one they're grouping
together. They've taken "this is a man", "this is a hat", "it is his
hat". So they've put it together now into longer sentences. "This is a
man and this is his hat". Quite often children at this age would have
...... for sentences ...... this would help them to lengthen their sent-
ences and make them more ...... have more than one short idea in them.

Trial 2
Card 10

This one intro the new, the possessive form of man showing his possession
of his head. This would be another way of saying "his head" instead of
saying "this is a man's head". It's more general. There's also quite a
variation in sentence length so that it doesn't get monotonous. The
first one is fairly short, the middle one is stretched out and the last
one is short again. So the child wouldn't get bored looking at the same
thing ...... there's no intro of new vowels. There still hasn't been any
long vowels. Its been strictly short vowels.

Card #11

Here we have the long vowel, the long "e". <u>Still there's not actually any</u>
<u>new letter</u>. They have just changed the letters around to form the word
"seat" and "he". And in the illustration it shows two types of seats, so
that the child can see that it doesn't have to be a particular shape to
be called a seat. The word is still something that they are familiar with.
It isn't an abstract word or something that they might not have seen before.
They all know what a seat is. They've all used it before ...... Again
they've used the word "in" before they said "the hat is in his hand", now
the man is in a seat. So that is a repetition of this word "in" ......
It also shows that he can be used for this man. Before they took the
pronoun "it" which could be used for the "hat" or the "hand". Now they
take the personal pronoun "he".

Card #12

<u>Here we introduce quite a number of new words but they are all pertaining</u>
<u>to the body and they are all familiar to the child</u>. It's just the spelling
that would be different. The arrows help him to distinguish the parts of
the body. The only new letter is the "r" ...... They also have a new
phonetic sound in ear and arm. They haven't taken the combination "ar"
or "ear". It's like an "e" sound but different.

Card #13

This just shows the longer sentences, illustrating two of each. The men
are just the same, but the arms and the hands would show the child that
...... something like a house ...... if you go to the back of it, it is
still a house. So if you take an arm its the same. Its still an arm.
It also introduces the new word "an". O don't know whether the child
would be taught that "an" is ued before vowels or would it just be intro-
duced. It seems awfully young to be taught this.

Card #14

Here we do back to the possessives, several ways of showing possession,
also the plural, "these" also the plural "ears" and "hairs". The
illustration would show the child more ...... <u>So far the only verb they've</u>
<u>learnt is "is"</u>. Now they have the plural "these are". Here the child
should realize that "this is" is used to refer to one thing when you're
talking about something that's singular. "This is a hair", "this is an
ear" or "these are" when you're talking about something that's plural.

Card #15

<u>Still have no new letters,</u> but we have two new words "rat" and "it".
These again are emphasized also showing the heard, ears and hairs, to
help the child to realize that man isn't the only thing that has these.
He would be familiar with them on himself, but he might not realize
that other animals have also these characteristics. They have also
ears. I think most children would know what a rat was or a mouse .....,
Here we also have the possessive "its". Again we have the word it
referring to the rat. So we have it used as a pronoun referring or
taking the place of "hat" or "rat" and "he" used in place of a human.

Card #16

This one seems to be straight pluralization, with the illustrations.
Also the way the sentences are set up would be more interesting than
having them set up underneath the other. This way is adding variety
or something. The child would also see that "a" is used when you have
a singular but nothing is used when you have a plural.

Card #17

This is also on plurality, also emphasizes the possessive, it shows the
child that he doesn't always have to use man's. There are other words
he can use. This would help in his choice of words. <u>I think the diagram
is clear to me but I am not sure it would be to a child. The five arrows
might be confusing.</u> Arms and hands should be familiar to him and the
same with ears. Again it emphasizes the use of the plural, "these" and
"are".

Card #18

This is trying to show the use of "this" and "that", when you would use
each. The arrows help to indicate that the object is away. No new
letters ...... <u>the cards only try to intro one concept at a time.</u> We've
already had man, hat and rat. Only the interchange of this and that is
not familiar. It would be difficult if they tried to introduce "that"
as well as intro a new word such as "head" or "leg" or something else.
So they intro only the one concept at a time.

Card #19

Here we have already taken plural and possessive so they intro the new
word "shirt". Again this should be familiar to the child.

Trial 3

Card # 20

This one introduces the new words 'here' and 'there', showing the child the concept of an object being near or away from him. It reinforces use of the pronoun 'he' to refer to man and 'it' to refer to hat.

Card # 1

I don't know what to say. Am I allowed to repeat myself? Do I have to say something new about it? Well, this introduces the main word 'his'. Also it only uses the copula verb 'is'. I think throughout that is the only verb used. It has no action. Possession is introduced with the word 'his'.

Card # 2

It repeats the same sentence as the first. It reinforces and then goes on to something new. The new words are 'hand' and 'It'. Here the sentences are pretty uniform with the four small words. Later on it --- There seems to be a greater variety in sentence length and spacing of the sentences on the page.

Card # 3

This card introduces the word 'in'. Here the child could---they have learned the pronoun 'it'. They know the 'i' makes the 'i' sound. Actually 'in ' used in this context is not as I think of it as meaning inside and enclosed. I guess it means the same thing. I think they cou'd introduce 'in' in a better context. The child probably knows the word. Again the first sentences are a repeat of previous cards. The third sentence uses the new word they have learned and the word 'in'. When the pronoun is introduced it is more specific. It referes to animals or inanimate objects.

Card # 4

Here we have the longer, more compound sentences with the use of the word 'and'. Here possession is reinforced again.

Card # 5

Nothing new is added here. The first sentences are repetitious.

Card # 6

Introduces 'head'. It's a matter of associating new letters with the word he already knows. The diagram helps put this across.

Individual 1

Trial 3 (con't)

Card #7

Here 'head' can refer to different sizes and shapes. Everything is in the singular so far. No long vowels and no silent letters.

Card #8

This pretty well a combining of previous cards.

Card #9

Previously they didn't use the word 'this' in conuunction with the noun. It was always 'This is.' It is really nothing new only reinforcing what he has already taken.

Card #10

Introduce possessive form with apostrophe. In the last sentence you need the previous sentence to know what they are talking about.

Card #11

Here they introduce the personal pronoun 'he' this shows that 'he' can be used in place of 'this man'. There is also things in the new word 'seat'. Reinforces the use of the word 'in'. The man is in the seat.

Trial 4

Card #12

I always like to start where I ended. This introduces the parts of the body. Also possessive pronoun 'his'. In introducing 'hair' etc. it introduces combinations using the letter 'r'. The first place where the long vowel is used in 'ear'.

Card #13

Introduces the new article 'an' and reinforces the word 'and'. Children would probably be able to do this. Only one concept at a time is introduced.

Card #14

The first two sentences he has taken. The third sentence introduces two ears and 'these are' instead of 'this is'. The child might be mixed up here. Hair is the same form whether it refers to all or one. Demonstrates use of 'it' for an animal.

Card # 15

Somehow the rat doesn't seem to fit in. I don't know why he chose it. I suppose they can transfer the 'r' for the 'h'. Demonstrates the use of 'it' for an animal.

Card # 16

Demonstrates the plurals. I like the way the sentences are set up. The plurals are indented and after them they have the two objects and before the singular sentences they use only the one picture. With 'hat' and 'rat' only the 's' is added, but with 'man' the 'a' is changed to 'e'. Helps the child see that plurals are made in more than one way.

Card # 17

Only the two middle sentences are new to them. The first and the last have been taken before.

Card # 18

This introduces a new word and its plural. The word 'shirt'. Again it emphasizes the use of plural forms. Introduces the definite article 'the'. The child can see the difference between 'this is' and 'the'. 'The' can only occur with a noun. Still no new letters added.

Card # 19

Only the singular is introduced. Arrows show that a thing is away and you are pointing to it. Starts with the familiar man, then 'hat' and finally 'rat'. They are so similar.

Individual 1

Trial # 5

Card # 1

The first card teaches the new word 'his'. Where did the children learn the first words? Did they have previous cards to learn that? Is this all new?

Card # 2

The second card uses the word 'his' and introduces the new word 'hand' and the pronoun 'it'. Reinforces the initial statement. There is a bit of variety in the figure of the man, not much. The only verbs used are 'is' and 'are'. Most of the words used add only the 's' except for man.

Card # 8

Emphasizes the use of 'it'. Head introduces the first combination of short sounds and 'seat' introduces the first long sounds, also 'he' does.

Card # 10

Emphasizes parts of body. 'Air' and 'ar' words together. Might be a coincidence.

Card # 13

Emphasizes combining sentences.

Card # 14

Here we have plural nouns. And the use of 'this is' with singular nouns and 'these are' with plurals. Also possessive forms of 'his' and 'man's'.

Card # 15

Only use of 'rat' is to show the child that change of a letter is important. This may not be too good because sometimes sound changes.

Card # 16

Emphasizes plural forms made by adding 's'.

Card # 18

Use of the word 'the'. Shows plural form of 'shirt'. Cards don'y usually add more than one or two words. When a new concept is added they go back to the old familiar, 'man' and 'hat'. And they emphasize the new familiar words. (I know that sounds rather confusing. I know what I mean but it's hard to say it.)

Trial 6

Card # 3

Can't think of anything to say that I haven't already said. Whenever they introduce something new they seem to go back to what the child should be familiar with. Such as 'this is a man'. Gives the child a feeling of success. He can go on to learn something new. The amount of materials on each frame is more or less limited. If a child saw a whole page of sentences it would be too much. They vary in space, length and position of figure. Also when sentences refer to the same thing they occurr close together in relation to the picture.

Card # 6

Introduce the new word 'head'. Amid the repetition of 'this is'. Which is already familiar.

Card # 7

More complex combining of sentences.

Card #8

Cards 8 and 9 show different ways of giving the same information.

Card #10

Introduces the possessive. Then goes back to the old familiar. Appears to be a switch.

Card #11

Introduces two new concepts. It is unusual. New word 'seat' and pronoun 'he'.

Card #12

Rather monotnous. 'This is' is repeated constantly. Everything the same. Three new words.

Card #14

New words are introduced in the plural. Introduces 'these' instead of 'this.' The cards in general seem to be mainly emphasizing the nouns, parts of the body etc. They don't seem to use any verbs that would seem to bring any life to it. No action to it, such as the typical readers 'see Puff run', this uses only the copula verb which is quite different.

Card #15

Introduces possessive form 'it' referring to the animal.

Card #16

Concentrating on the nouns and the plurals. Possibly they would be better to have a noun that doesn't change for an example. This might provide variety. I am surprised that so few letters are used. Only ten letters used.

Card #17

In the beginning cards only soft vowels used. Only at the end are the long vowels introduced.

Card #18

Child now has three articles. Would the child notice the difference between 'a' and 'the'. Its only near the end that they introduce the concepts of near and far.

Trial 7

Card #1

This card introduces several new concepts. Two new nouns, copula verb, and possession. A big jump. For several cards this is more or less reinforced with several new words added to vocabulary.

Card #4

New preposition, new concept to grasp right at the beginning. However they appear over and over again as one or two new words are added.

Card #8

Has both pronoun 'it' as well as the possessive pronoun 'his'. Begins with the old familiar and goes on to the new. Repeated three times therefore well enforced. Changes just enough so it would 't be monotonous for the child to read it. Although I don't know. After going over these cards so many times, the way they always start the same with 'this' or 'that.' They have so few things to start with perhaps it would get monotonous after awhile. This constant repetition of this one inactive verb ... the main emphasis upon the nouns and other things, possession, articles. They don't seem to concentrate on verbs. Perhaps these are easiest things for child to work with at the beginning.

Card #12

Doesn't have the traditional picture. This one has only top of torso.

Card #13

The indefinite article doesn't seem to be reinforced.

Card #20

Shows man fairly large and then small with lines showing that it goes away. I think it shows the concept very well.

Individual 1
Trial #7 (Cont'd)

Card #19

Still haven't introduced the two other vowels. Odd that they have been able to introduce all the words they have without vowels 'o' and 'u'.

Card #17

With each noun they take singular and plural and possessive that goes with it.

Card # 14

Several different diagrams for 'head'. Throughout they show child that these words don't just refer to one object. He can see a variety of things to which a sentence can refer.

Card # 18

Throughout they have tried to show a variety of ways to say something. I think once the child has gone through the frames a child could be encouraged to say things a different way.

Trial 8

Card # 6

The first couple of cards show several ways of making a statement. Goes on and demonstrates the ways. Starts with the familiar, adds something different then returns to the familiar again.

Card # 7

Here the heads are different.

Card # 10

Starts with the possessive form then goes back to the old familiar. Sometimes card starts with something new and then back to the familiar. Sometimes it begins with familiar and adds something new.

Card # 11

Introduces the pronoun 'he' referring to the man.

Card # 14

Child sees that the word 'hair' refers to singular or plural hairs.

Card # 15

'It' is used differently referring to the animal.

Card # 17

Here it starts out with the familiar possessive. Adds the plural. Starts with the familiar and ends with the familiar.

Card # 20

First four statements are similar. Then they change. Would show the child that 'that' refers to something away from him.

Individual 2

Trial 1
Card #1

Well I think a child looking at this would probably draw some conclusion
as to the nature of overything, being that pictures are there. That
anything that we see or draw can be written or printed in letters -
different combinations of letters and repeating the letters - the "h's"
and the "s's" and "a". I see they quite often let the child ...... help
the child to realize that one letter can be used in many different ways.
It looks the same, but it means something different with each combination.
And repeating a word in a different part like "his" in "this" and "hat"
and "ear" in "his and "this" shows that different parts and different
little words make bigger ones and that by simply adding one letter you can
change the meaning of the whole thing.

Card #2

Well, here we find the same letters repeated again with one thing carrying
over from the picture before and with these represented in order would
develop the sense of "man and the "hat" and the "hand" belonging to him
and each of these parts having a name. And again, the letters are
repeated and - I think also with using the same letters the child has to
learn to recognize the letter next to different letters. Discriminating
the "a" and the "n" and the "d" and "h" - the "h" facing a different
direction than the "d". Also the "h" and the "n". The "h" merely has a
longer left-hand arm.

Card #3

I think this is a summary of the other two and if the child has mastered
the other two then he wouldn't have any problem with this because he has
learned to discriminate between the letters and now he sees them all
together which is perhaps the hardest discrimination - four or five
strings of letters and there is a bigger space between some of them than
others. And that the "t" and the "h" are the only letters that are bigger
or taller than the ones around them so they can't use this as a hint. And
again all the words are made up of lots of little ones so the words grow
as his knowledge grows.

Card #4

This is helping the child in one concept of longer strings of words by
having him repeat the part that he already knows and is used to reading.
He can ..... he is able to read the first long line that he comes across,
because it's merely a repeat and then by the time he gets to the end of
the card he can put two different things together that he already can read
and then go at it.

So that I would presume once he is successful with using this set of
letters that he would naturally expect to be able to handle other sets.

Card #5

This would be enforced with cards that the objects and the names go
together. Holding the "hat" in the "hand". He knows what a hat is and
he knows what a hand is and he knows the words for it and this would
help him to realize that they are just symbols for the objects that we
have. They don't mean anything if we don't know what they're supposed
to refer to.

Card #6

I think one of the principles here is that all these things the child
knows about first-hand. If he's a boy, he's a man, if she's a girl she
can look across the aisle at the boy. And he has a hand and when he sees
or is learning a word he can touch his head and suddenly realize that
what he is seeing or talking about is on top of his shoulders. The same
letters are used. "Head" and "hand" have three letters in common. And
he's learning rapidly, words like "is" and "a" all through these cards
and these are little words that he shouldn't have to worry about. He can
always sort of miss those when he's reading and he knows them. I think
the pictures are very important so that he can always re-inforce his
knowledge of words. There's no doubt in his mind, he can't forget what
the word means. It's right there in front of him. He's absolutely certain
that "hand" is part of his anatomy.

Card #7

Again, I think this is just a summary of the other cards. A little while
back when the child was introduced to longer strings of words. Two
different kinds of heads - the male head and the female head - but the same
word and then it does help to reinforce him that he does know it and also
to help him remember it in the first place. Now he is making even greater
discrimination of the letters. The head is facing different ways and the
hand is in a different direction on the other card and this will help the
child not to become fully dependent on the pictures and if he has developed
the concept to think looking at the same pictures turned around but one
side is the same as the other side really. It would help them develop this
concept as well as the reading - a head is not just a one-sided head.

Card #8

I think this is just trying different combinations of the words and the
letters again helping him to realize one letter is used in more than one
word and it's his job to learn all these things and again to know that
"it" — "this is a hand", "it is his hand". The "hand" and the "it" —
that you can't see a picture of an "it". This might not be told to him
directly but he learns from the way these sentences are put together.

Card #9

I think also in all of these cards, the variation of the printing on the
page, the length of the sentences or the strings of words, the pictures
— the position of the pictures and the position of the words varies. And
this helps him not to expect the same things when he sees a printed page.
The picture isn't always at the top and the printing at the bottom. And
also the letters at the bottom of the card are in the same combinations
or pairs all the time. They aren't found in this same combination in the
printing at the top necessarily and this could be subliminal learning I
should think. Oncidental learning by keeping these letters together but
they are not together in the printing so when he does see them he can
recognize them. Again, the letters and the words are repeated so that each
time he has a sense of accomplishing something.

Trial 2
Card #11

The pictures again show the relationship — the man to the picture and then
of the words to the picture which makes this real, more concrete for the
child and not so abstract. And again, he can read at least the first five
words in the first sentence if he can't get the last word so it isn't total
defeat with the new word. And then the two pictures of the chair with the
seats starting to think about variations in the meanings of the words and
then the obvious repetition again.

Card #12

Well, from the pictures and the arrows and the words it gives the child a
chance to figure out the words from the pictures at the top and if he fig-
ures this out I would suppose that he would remember the word a lot better
than if he were told that "a-r-m" is "arm" and asked to show his arm or
some such thing, but if he sees an arm, he can't figure out that that's
what the word is and remember.

This is showing again, the relationship between the abstract symbols and
the concrete thing and "this" and "is" you can't show but by the relation
of these words in the rest of the sentence he begins to understand.

Things that are abstract relate to things that are concrete. And then
the words at the bottom of the cards that are in little boxes - once you
look down you're drawn to these words - a focal point and you can take a
last look at them.

Card #13

Well, you're going through the same process now as you did with the other
words as they were introduced. Like "this is an arm" and "this is an arm".
Repeating it and putting it in a context with a longer string of words.
Beginning always with something the child can read already. He doesn't
tend to become so confused with a great number of words that he has to
learn. And then there is the reassurance of being able to handle the same
combination of letters in different words - "man" and "hand" and "is" and
"this" - using the same letters but sounded differently. The satisfaction
that he can handle this when he comes to a horrible thing like "ough" won't
cause him so much trouble. And then I think you've been adding letters on
to the bottom, I'm not sure. He subconsciously starts to recognize these.

Card #14

Again, the child has the ability, a chance to figure out the word from the
picture before it is told to him or he is directed. He could probably
play a little game with this if he has time to look at it. And he is
introduced to plural as being more than one the simple two in the case of
"ears" or "hands". And at the bottom he has always got to reflect on the
newer words that are on the card.

Card #15

Here, the words are applied to the same part of a different animal anatomy.
It starts the same. It was begun with the pictures of the two different
feet - of heads being heads no matter what they're on. It takes them away
from the man that has been used to gain confidence in being able to read
the words but pertaining to something different. And also the rat is some-
thing the child wouldn't find very difficult to comprehend because they've
had fairy tales and they're rather interested in this little animal. And
also, I think, with this picture by looking at the picture with the arrow
he could, if he's forgotten the words, play a game with themselves and if
they figure it out by themselves, I think they would understand it and
remember it.

Card #16

In this one, you bring the child back to the concept or principle of more
than one. Again, that was begun in the previous cards and introducing the
change in structure that takes place in not just one word in the sentence
but in all the words in the sentence.

And also that words are not plural simply by adding an "s" on to the end
- that "men" change the middle letter and "hats"and "rats" tack a letter
on to the end.

Card #17

This would probably just be a reinforcement of the words that came before.
Aside from the fact that they see "man" with an "s" on the end like they
did with "hat" and "rat" - that this means something different. And then,
of course, they're given three new words in the plural. It gives them the
confidence in recognizing them, what they mean.

Card #18

Well, the child by this time can read the first three sentences on the
card and by the time he gets down to the fourth word in the fourth sentence
that he hasn't seen before he isn't discouraged and he can - it's fairly
obvious from the picture that he could figure out the word for himself and
then probably get very excited about being able to read the rest of it -
the rest of the card and making it into the plural also. I think a great
deal happens unless he is made to read the complete card out loud. I think
that if he was left to read or to see the words that are usually in boxes
without having to read them that he would probably be subliminal or sub-
conscious about what was happening. He would keep seeing these words and
these letters recurring and he would be familiar with them - they wouldn't
be as strange as the first letters he saw.

Card #19

This is developing the concept that big and little things mean the same
thing usually. The meaning does not change with size, as far as he's
concerned - yet.... And that a different part, as the sentence had to
change before, would have to change for this one. I think this is some-
thing he has to understand - not something that someone can force him to.
And also, "bat" and "hat". He's already familiar with "hat" so he wouldn't
have too much trouble learning the word by seeing what it stands for.

Card #20

He's introduced to pronouns - "hat" and "it" referring to the same thing
and being in the same place.

Trial 3
Card #1

Here the child is seeing the first relationship between printed sym-
bols and actual things, and he's most familiar with human beings so
it would be most appropriate to have man the first thing and to work
out from that.

Card #2

Well, nothing different from what I said before, which I can't
remember, but the repetition of the letters and not going away from
the man right away. Sticking to the parts of the man, he doesn't
have to jump around too much, he can sort of keep things organized.
And hand is something else that's very common to him.

Card #3

This follows a sequence of introducing a man, his hat and his hand and
then connecting all three of them together and at the same time intro-
ducing the child to new words and gradually making the strings of words
longer for him to handle.

Card #4

Well this again is helping the child to think in greater gobs of words
at a time, rather than three or four words which is typical of little
children. Even if it's just a repetition of something they've already
had and showing pictures in different spots on the page and in different
angles and things like that.

Card #5

I see here "this is his hat" showing a close-up of the hat and the hand
gives the child a bit of preparation for "this is" and "there". "There
are" and "there is" later on when he gets two objects, one close and
one away. He only has to learn the difference. One difference rather
than two things at the same time. This is just different positioning
on the card which would relate to different positioning and different
sizes of things on pages and things like that.

Card #6

This is again introducing another part of the body of the man. Building
up on man all the time, till he gets to know all the parts of his own
body, before he has to be concerned with too much else. I think in
these cards something that might be missed and is very real to young
children and that is action.

If I were six years old I would probably be a little bit bored. The pictures aren't too interesting, the man is always in the same position.

Card #7

Here it's just reinforcing the new word he's had previously and bringing back the older words and mixing them into longer strings which doesn't give him a chance to get in a rut.

Card #8

Here he learns the relationship between things he can actually see such as "head" and then things like "it" which have a different antecedent every time you see them practically. "It" can mean hand or head. Again a different positioning on the page so that he isn't surprised to the point of not being able to read it if he sees something placed different from what he is accustomed to.

Card #9

The cards get progressively more difficult for them to discriminate between letters because "hand" and "head" could look very much the same to someone who is learning to read and yet they may meet it three times in the same sentence or he may get the words which ...... Again, repetition of the small words is important so that he doesn't have to concentrate on these when there are more difficult words in the sentence. All of these elements of a sentence are trying to be brought in surrounding one element "the man" which he is familiar with. He doesn't have to struggle to remember exactly what the thing looks like.

Card #10

The pictures are always placed very close to the word that they are supposed to signify. The "hat" by "this is his hat" and the "hand" by "this is his hand". If the child meets a word he has a very good chance of figuring out for himself which would give him self confidence without having to be told. If he's just learned a word previously.

Card #11

This is just a further complication of what has been going on before. The child must discriminate how closely the word belongs to the object.

Card #12

The child can't help but realize what the word is supposed to mean because the words are surrounded by pictures again and he can directly relate the words to something. Only he doesn't have to abstract anything. And then he gets used to his eyes following a long string of letters and words. I notice the different sizes of the words, the gaps between them,

Trial 4

Card #14

I think from this card the child would begin to see that all the words
in a sentence are related to each other in some way. You make a certain
part plural and this is it, other words in the sentence as well. The
words work together as well, they aren't completely separate. The
pictures help to show exactly what plural means: more than one. Showing
two ears and only one head of hair.

Card #15

This ...... this one the child would see that the same ones can be
related to different members of a species. The same parts are found on
different animals. Just because we said it was a head for man doesn't
mean that he's the only one that has ahead. Then again, the arrow helps
the child to get it right and then he feels satisfied.

Card #16

Well this is showing essentially everything he has learned so far. Three
separate words there are in plural, except that there isn't a long string
of words. He should be able to read this. He shouldn't spend very much
time on this one at all. I should think maybe there should be two
different kinds of hats. It might make it more interesting.

Card #17

Rehash of the plurals. It could be one of the rules that we have of
adding an "s" in at the end of a word to make it plural.

Card #18

As he learned that the same word can apply to different animals he learns
here that the same words can apply to different sizes of the same animal.
Not necessarily animal, same "thing". And then, of course, the concept
he is supposed to have learned the difference between "this" and "that".
He knows "this" already and "that" is what he is supposed to get from this
and it is the last word he sees on the card down at the bottom.

Card #19

I don't know why he didn't start using feminine things. The cards have
been made up by a man because he is very male orientated. He could have
as easily taught "skirt" as "shirt" I think. And this might give the
girls a little bit of a problem, identifying themselves with these things.
The child is reinforced because he says the first three lines and then he
comes to a new word and he has a chance to think about it because of the
picture.

I think the pictures are very important. In the beginning anyway, until the child learns to understand that the letters just stand for something that they mean something. Then, of course, it is a review of the card before, and "these are".

Card #20

The child is learning the difference between "this/here and that and there". They are again the last words he sees on card. Here and there look very much alike except for the addition of one letter. I don't know if this would give them trouble or not. And he has to understand the difference between "this" and "that" before he could get the difference between "here" and "there" I should think.

Card #1

After going over this I can't really see why he introduced the word hat. Because he introduces man and goes on through the parts of man, he sticks this word hat in there which really doesn't seem to have much connection with it unless maybe he wanted it for the combination of letters he had. I think that the "h's" and the "i's" and the "a's" if the child had to say these out loud, that he would very quickly have to learn to make discriminations in the sounds he makes...when he's saying the words. Not really just visual ones but speech.

Card #2

This is making the connection between "hand" and "it". The pronouns and the antecedents.

Card #3

Well, there's a new word introduced here "in" and its the last word the child sees on the card.

Individual 2

TRIAL 5

Card #1

I think they should have had something with a 'g' or a 'p'
something with its tail below the line. This would have made
it a little bit easier for the child. It would have given him
a flashing light. When he saw that he would know.

Card #2

When ever he introduces a new word or two words like 'hand' and
'it' then the child sees the two words at the bottom together.

Card #3

This one is gradually introducing longer strings of words. The
child knows all the words in the long sentences so he can read
them right away. He doesn't lose his thought trying to read the
words. Words are all of different lengths. It would help the
child by giving him an extra hint as to what the word was.

Card #4

This give the child all the words he has learned so far and all
the forms he has learned. The letters at the bottom could be put
in different combinations and not always in the same old ones.

Card #6

Introduces words in the same way. It gives the child something
he can read already.

Card #7

I don't know whether he picked the letters to go with the characters
or the characters to go with the letters. Need one set of cards for
boys and one for girls. I think one should give children something
they are interested in.

Card #8

They are going over the words they know in the combinations they know.

Card #9

This is an exercise in 'where do you go when you get to the end of the line'.

Card #10

Provides a little bit of variety, different lengths of sentences, words in different positions and relations to each other. The words should have been used again, such as 'man's'.

TRIAL 6

Card #9

This is just going over what its been over before. I don't know if you should dwell so long on 'it' and 'is'. Its not too exciting for the children. The fact of learning something might be exciting but they're not going to be thrilled by going over the same thing.

Card #10

The strategy is good, the pictures are directly related to the words. The introduction to the possessive might be a little bit too soon. The apostrophe might be a bit confusing.

Card #11

He introduces a new word, uses it in a short string of words, in a long string, repeats it and favours the one word.

Card #12

The arrows and the words are good for the beginner but the child shouldn't become dependent on the pictures. He should stick in a word without the picture.

Card #13

The child is supposed to know all these words by this time. He shouldn't have trouble with the 'an'. This is merely an exercise in moving the eyes correctly.

Card #14

The picture is important shows child what is meant by ears, points to both ears. He hasn't seen "man's" for quite a while.

Card #15

Only see what I saw before.

Card #16

Changing 'man' to the plural at the same time as he tacks the 's' on the end of other plurals could be good or bad. It could be that the child wouldn't get it and he would always be looking out for an exception. It could be good in that he might never confuse it again.

Card #17

Arrows aren't really necessary.

TRIAL 7

Card #5

Card subjects child to a variety of pictures and words, he might be a bit confused by the changes. It might be a bit confusing for the average and slower child.

Card #6

He goes back to a regimented style, to introduce something. It might be the sign for the child to watch out for something. Might be quite boring for the child.

Card #7

Here is a picture of a man's head and woman's head, I still think he should show a woman's hat.

Card #8

A good way of introducing the connection between nouns and pronouns. He uses hat and then substitutes another word 'head'. He has changed position of pictures but I don't think it adds enough variety for a six year old.

Card #9

I think this enhances a childs learning about pronouns and nouns and 'his' means possessive. He starts this off in a sequence, he doesn't use any new words while he's introducing this. The child is not confused. He can concentrate.

Card #10

He changes this is a man's head. Too quick a change. Reinforces the possession.

Card #11

New pronoun and a new word also. This is good for a child because he would learn that he has to watch out for many things. He must look for new words, new operations, etc.

Card #12

Here he uses arrows for unfamiliar words. If he doen't use an arrow I presume he feels this will be familiar to the child.

TRIAL 8

Card #1

I think here he is just establishing a pattern for the child in the first two or three cards.

Card #3

By using the longer sentence 'his hat is in his hand' he shows the child which word 'it' refers to. The child has to choose which word is referred to.

Card #4

Getting the child used to longer sentences.

Card #5

Presents some variety in the position of pictures to make it interesting. That we can substitute one word for two.

Card #6

Introducing a new word so he goes back to 'this is a' again. Going back like this would giv e the child security while he is learning. It helps him realize what he has learned. He wouldn't tend to get muddled up. Yet to a bright child this might be boring. I should say it would be boring to a bright child.

Card #7

Using the two heads was good but now a child should know 'hat' and 'hand'. Maybe taking one of the pictures away or both of them away would help reduce a child's dependence on the picture. Maybe 'hat' would be a good one to remove.

Card #8

I think also on this card one of the pictures should be eliminated. Perhaps the 'head' this time.

Card #9

I think this card helps the child to learn the mechanics of reading not just the words, his eye movements and in terms of a string of words that mean something together, moving on to finish a sentence.

Card #10

I don't know, I must be missing something because I can't see why bring in possessive of man now, especially when plurals come right afterwards.

Individual 3

Trial #1
Card #1

The organization of words in a sequence. A hat belongs to a man, by using specific words, possessive words such as 'his'.

Card #2

Your intention seems twofold, as far as man goes you have 'hand' and 'man', phonetics comes in 'an' in hand and man. And also you are introducing the words that have been substituted for man. 'It' for 'hand'. In the box you have 'hand it' introducing a new meaning for them, a new physical action involved in 'hand it'. The imperative sense.

Card #3

A double possessive, 'his hat' is in 'his hand'. Hat and hand both belonging to him. Your phonetics continue.

Card #4

You've now introduced hat and hand apart from the relation they had to man. In other words 'this is a hat'. So now this hat is not seen as belonging to the man. The same follows for the hand. It could be the hand of woman or a child. In the bottom line you're relating -- you're putting both 'hat' and 'hand' in the same sentence although you see no relationship between them both. You're also introducing clauses in here by introducing the word 'and'.

Card #5

You're now introducing premisses here. You have 'this is a man' and then 'This is his hand and this is his hand'. Now I would judge that that hat and .... his standing for a man. You're again also abstracting the noun hat.

Card #6

All you're introducing here is a new word in relationship to man. It reinforces phonetics.

Card #7

Going by the pictures at the top you are introducing a new concept for head, relates to a boys' head and a girls' head. I imagine you can carry on this relationship.

Card #8

In this card I believe that <u>each step that is taken from the first</u> <u>to the last is a continued process of abstraction</u>. I would make the assumption that 'his head' means the man's.

Card #9

I can't verbalize this concept.

Card #10

Relating the second sentence to the first. Relating 'his' to 'man's'.

Individual 3

Trial #2
Card #1

I believe we have -- <u>we're still trying to introduce the simple sentence</u>. 'This is a man.' The man is standing on the left and relating words to specific objects such as 'man' to a stick-man and then.----- 'This is a hat'. You're doing the same thing again by <u>relating hat to the visual</u> <u>picture</u> and then you're relating the hat to the man. You're doing this both visually and verbally. 'This hat is his hat.' And I guess also in the first one the word 'his' is introducing a possessive.

Card #2

You're repeating this same thing very closely. "This is a man" -- you still have a picture of the man although he is on the right side. I don't see that this makes any difference. <u>Then you have 'this is a</u> <u>hand' relating to that picture of a hand and then 'It is his hand'</u>. <u>You're abstracting hand to a pronoun 'it' also you're relating the</u> <u>hand to the man</u>. 'This is his hand' and also I believe that down below in the two boxes you have 'hand' 'it'. Now, if you can put those two together 'hand' 'it', you have another structure of another sentence almost a command in which hand takes a different meaning. And 'it' does not have the meaning it did in the previous sentence. Perhaps you're introducing two different meanings for specific words. And phonetic letters at the bottom possibly relating. I see an 'st' there which could relate to stick man and 'mn' which is related to the word 'man' so actually you could introduce phonetic sounds here also.

Card #3

Yes, in this picture you're going further. You have the simple sentence again. <u>You're also using a demonstrative pronoun 'this'</u> -- speaking of the specific -- 'it is his', referring back to the first sentence and the picture of the stick man. And then you're also using the possessive 'his' in two instances. 'His hat is in his hand'. I believe this is possessive pronoun.

Card # 4

Yes, <u>here you're using the words, the demonstrative pronoun 'this' to
refer to two different objects</u>. You're not using 'this' to mean anything.
On one hand you're using it to mean the two hats. There's a picture of
two hats. 'This is a hat' and 'this is a hat'. You're not saying 'this
is a hat' referring to the picture on the left and then saying 'this is
a hat' just repeating it, but referring to different hats. 'This is a
hand and this is a hand' is the same thing. However, you might be intro-
ducing a relationship between hat and hand, but I don't see it. 'This is
a hand' and then possibly <u>the phonetic sound 'and' is being used in two</u>
<u>words.</u> 'And' as a conjunction and 'and' as in 'hand'. The picture with
the two distinctly different hands--one is on the left hand and one on
the right. Whether it is the left hand and the right hand, whether it
is the same principle behind this I can't determine. I would believe
though, in the last sentence 'this is a hat and this is a hand' you're
establishing a relationship between the hat and the hand. The hat is in
his hand. That's all I can say.

Card # 5

Yes, now you're relating what were previously independent objects 'hat'
and 'hand' to the man. 'This is a man', 'this is his hat' and 'it is in
his hand'. Your principles of phonetics seem to continue right through.
'Is' as in 'his' and the 'is' as in 'this'.

Card #6

Here you're introducing something new--'head' and you're relating it
back to the man of course. 'This', the demonstrative pronoun 'this' is
referring in each of the three sentences to a different thing. 'This is
a man'. <u>I'd imagine the sentence points to the stick picture. 'This is</u>
<u>his hand'.</u> It's not pointing to the hand on the stick figure, it's point-
ing to a picture of the hand, but apart from the picture of the man. <u>The</u>
<u>same thing happens in the head, 'this is his head'.</u> In the box underneath
here, it's separating the word 'head', perhaps for reinforcement.
Possibly because it is new.

Card # 7

This looks like one of the previous cards. You were referring to two
different types of heads just as you were referring to two different
types of hands. Now 'this is a head' referring to the boys head above
and 'this is a head' referring to the girl's head. The demonstrative
pronoun 'this' points to each one individually. Now you're also estab-
lishing the relationship, 'this is a hat'. It would belong to the man and
'this is a hand' would belong either to the woman or to the man.

Card #7 (Con't)

You just can't be too sure but I believe this might be the relationship
that is attempting to be established. The phonetics sounds are the
same from the previous.

Card #8

Here, you're putting three sentences so that they're right together
referring to each -- to a specific picture. 'This is a man,' 'this
is a hat'. 'It is his hat'. You're almost establishing the premis
that prompts judgement that we attempted in high school such as this
is a horse -- all horses have heavy legs. This type of thing. 'This
is a head' referring to the picture on the right and 'It is his head.'
You're establishing the same thing. Same with 'hand'.

Card #9

Here, the relationship to man and hat is very definately
established. 'This is a man' and 'this is his hat.' You look to
the picture at the left of the sentence and you can see the hat as de-
finitely belonging to the man because it is in his hand. You can
relate each of these -- the head and the hand -- below the picture
of the man to the man because of the sentences. 'This head is his
head.' 'It is his head.' Referring to the picture the left as
belonging to the man above so I believe it is establishing relation-
ships agains.

Card #10

Yes, here the possessive is coming in again. And possessive nouns
rather than possessive pronouns. 'This is a man's head' "'s". The
cards have worked up from the natural possessive of 'his' and
establishing artificial changes by adding an "'s". And then again you're
still reinforcing the possessive pronoun in the sentences below. Yes,
this is all I can see.

Card #11

You're introducing two new things -- 'seat' and 'he'. He as being
a new type of pronoun which hasn't been encountered before. And
a synonym for man also you're introducing 'seat' as a noun. In the
second sentence you're -- it is very similar to one of the previous
ones in which there were two hands -- both different and your sentence
although it is the same in structure it is referring to two different
things. 'This is a seat' -- referring to one type of seat -- and 'This
is a seat' referring to another type. I believe that's all I can see.

Card #12

Here, in each sentence you're relating -- each sentence relates back to the first -- 'This is a man' in which your picture on the right points to a man. Now each sentence after that points to each part of the man in which each is related. 'This is his hand' points to the man. 'This is his arm.' 'This is his hand.' It's the same in the picture of the head below -- 'This is his head' and 'This is his ear'. Now the pronoun 'this' in each case refers to something quite different so the pronoun is taking on a different meaning.

Trial #3

Card #1

I would imagine that the first sentence -- 'This is a man' is perhaps establishing visual relationship between a man -- a stick man -- that's shown in the picture at the left to the sentence. I imagine this would be one way of teaching relationships to students -- beginning readers.' Now, similarly the picture of the hat below this sentence and the following sentence -- 'This is a hat' is relating that sentence to the picture of the hat. and below that "This hat is his hat'. Now, this is building up a dual relationship between the picture of the hat and the man above as well as the sentence. So now we have -- we're also introducing possessives. The pronoun 'his'. And this is indicated in the box below. I believe your phonetic sounds are introduced. They run across the bottom. 'hi' as in 'his' and the phonetic sound 'mn' and in 'man'. So I believe this is all you're doing here. Introducing a simple sentence and relationships between a sentence and the visual meaning of the sentence. This is all I can see in this one.

Card #2

I really don't see that result of putting the man on the right hand side of the sentence unless it is giving the sentence before the visual tissue is presented in order to see if the beginning reader establishes the picture before it is given him. So 'This is a man' is a relationship between the picture on the right. Similarly, 'This is a hand' establishing a relationship between the picture and the written concept and also 'it is his hand' establishes the relationship between two sentences or the hand in the picture of the man and also you have -- you're introducing the pronoun 'it' replacing the noun hand. Also, in the two boxes, 'hand' 'it' you have 'hand' as a noun and 'it' as a pronoun replacing 'hand' and also a beginning reader might see this as a command 'Hand it' -- 'Hand it to me' and then again your phonetic sounds run across the bottom which is an introduction to the concept of pronunciation. That's all I can see.

Card #3

Now we're relating three things. We have 'This is a man' relating
to the picture on the left. 'This is his hat' and you have a picture
of a hat in the man's hand. The next sentence is 'His hat is in his
hand.' You have the pronoun 'his' standing for man with the hat in
his hand. Now your pronoun 'it' stands for hat. Whereas in the
previous one, if I'm not mistaken, 'it' referred to hand. Now this
is giving a different meaning to the pronoun 'it' which is a principle
which should be developed quite early. Also, you have 'in' in a box
at the bottom. Now this might be giving a different meaning to the
word 'in'. In we visualize as something surrounded by something. It,
is in it. But here, we have in as sitting upon his hand. You're
introducing a new context -- a new meaning for the word 'in'. You're
just introducing new relationships and new pronouns as far as I can see.

Card #4

Now in this one, the demonstrative pronoun 'this' in the sentence
'This is a hat' and this is a hat' that relate to two different hats
above indicates more clearly that pronouns take on different meanings.
This carries on a little more clearly in the sentence below. 'This
is a hand and this is a hand.' There are two distinctly different
hands -- one is a left and one is a right hand. And again, the demon-
strative pronoun 'this' has two completely different meanings again.
This is a hat and this is a hand. This signifying two completely
different things. Also you're introducing the conjunction 'and'.
Perhaps making a simple sentence into a complex sentence by joining
two sentences together. I believe this is all I can say.

Card #5

Now we come back to the simple sentence again. 'This is a man'.
Perhaps this is reinforcement again of the simple sentence. 'This
is his hat and this is his hand'. Relates these two separate objects
to the man. The relationship is made more clear in the following
sentence. 'This is his hat. It is in his hand'. There is a picture
on the left showing the man with the hat in his hand. So it's a matter
of verification here I believe this is the only principle I can see.
It's also perhaps, building upon one sentence to perhaps make a composition.
This is a man. This is his hat. It is in his hand. Perhaps this is the
beginning of composition. Introduction of building upon one sentence a
series of sentences.

Card #6

The relationship of a visual meaning for a word continues here but we
are introducing a new one particularly 'head'. Now we have the sentence
'This is a man'. -- picture of a hand shown separate from the body and
'This is his head ' -- shown separate from his body. So this is perhaps
an introduction of new words for the vocabulary. This is all I can see.

Card #7

If I can just look back at one of these. Yes, this one we have two
simple sentences joined by the conjunction 'and' in which two different
pictures of the same thing -- 'This is a head and this is a head.' The
first sentence indicates a boy's head and the second part of the sentence
indicates a girl's head. Now this is similar to a previous sentence
we hand -- 'This is a hat and this is a hat' indicating two different
hats. Perhaps this is just showing two different meanings for the same
word. Particularly this. Now the next sentence is exactly the same as
the previous sentence we had. 'This is a hat and this is a hand'. This
also is just showing two non-related meanings for the same word. The
word 'this' particularly. This is all I can see.

Card #8

Now we're building upon one sentence again here. 'This is a man --
with a picture at the right and then 'This is a hat' and we now have
a picture of the hat in the man's hand and we are told further that it
is his hat he has in his hand. Now we're shown a picture that is
obviously related to the stick man. 'This is a head'. 'It is his head.'
Now I believe the relationship becomes automatic. 'This is his head'
relates to the stick man. Similarly this goes for the picture of the hand
below. 'This is a hand' and It is his hand.' I just can't see anything
else other than relationships of parts to the whole composition. 'This is
a man and this is his hat'. It is his hat'. This is all I can say.

Card #9

Now we have the complex sentence 'This is a man and this is his hat.'
We have -- we're introducing two unrelated meanings for 'this' in one
sentence. Perhaps this is the introduction of a more complex sentence
for the beginning reader. 'This head is his head'. Now this is adding
complexity to the simple sentence. 'This is his head.' It is giving
meaning for the pronoun right away. This head indicating and pointing
out exactly which head. Similarly in the diagram hand on the left 'This
hand is his hand'. 'It is his hand.' Now, here we have two sentences
which mean exactly the same thing so perhaps this is just introducing
the principle of variety for the beginning reader. 'This hand is his
hand. It is his hand'. This is perhaps making interesting reading. A
principle that is quite important in composition.

Trial #4

Card #1

This first chart we are introducing a simple sentence and possibly relating
it to the picture on the left. The sentence 'This is a man' is related to
the stick man. Similarly you have 'This is a hat' and there is a picture
of a hat on the left. Now you're also introducing another relationship be-
tween the hat and the man by the next sentence -- 'This hat is his hat'.
Now obviously you are building up a relationship between the pronoun his
and man. I believe this is the first chart -- simple relationships and an

Card #2

The relationship continues in the second chart. You still have the
sentence this is a man and a picture of the man. This time he is on
the right. Below it you have this is a hand and you have a picture
of a hand on the right. Now the sentence changes a little it says
'It is his hand.' Now, obviously that sentence is relating the picture
of the hand to the picture of the man and also you're introducing a new
pronoun, 'it' taking the place of the noun 'hand'. Similarly you have
in the bottom in boxes possibly introducing the new words. They're set
out in boxes -- 'hand' and 'it'. Also if you put the two words together
you have a command 'Hand it'. This might be also introducing a new
meaning for these two words out of context of the sentence. Possibly,
looking at the phonetic sounds below, you're introducing a new meaning
for these two words out of context of the sentence. Possibly, looking
at the phonetic sounds below, you're introducing phonetic sound 'mn'
for mand and 'a' for this is 'a' hand and 'hi' for his. This is all
in that chart that I can see.

Card #3

Now the relationship between man and hand becomes quite obvious because
in the picture to the left you have -- I mean man, hand and hat -- because
these are all put together. You have a man holding his hat in his hand.
The sentences on the right say 'This is a man,' speaking of the picture
as a whole and then 'This is his hat'. Now it is obviously indicating
the hat in the man's hand and the relationship to his is obvious. Now
you have his hat is in his hand. His is still relating to the man in both
cases -- hat and hand. This is pretty well all I can see in this chart.

Card #4

Now we have a new sentence construction here. In this we're putting
two simple sentences together. 'This is a hat and this is a hat'. We
have the conjunction 'and' used to join these two sentences together.
The word 'This' in both parts of the complex sentence relate to a dif-
ferent hat. 'This is a hat' in the first instance relates to hat directly
above and 'this is a hat' indicates a different hat. So perhaps we're
relating the word this indicating that there is two or more different
meanings for one single word. Similarly in the sentence below 'This is
a hand and this is a hand' indicates to obviously different hands. One
is the left hand and one is the right hand. Similarly introducing or
reinforcing the relationship or new meaning for 'this.' To make this more
obvious, in the next sentence, 'This is a hat and this is a hand'. We
have 'this' taking on two completely different meanings. The meaning for
'this' in one instance is 'hat' and in another instance is 'hand'. Also
you're introducing a joining word or conjunction 'and'. This is set out
just below. Perhaps this would be to introduce -- introducing early the
idea of joining sentences together to make more complex and therefore
more interesting sentences. The phonetic sounds in this chart are not new.
There's no new phonetic sounds. The word 'this' in all instances in these
sentences is also taking on a new meaning in that it is pointing. It is a
demonstrative pronoun and it is pointing out something so now we have words
that are demonstrative in that they point out.

Card #5

This is a reinforcement card. These is nothing new here. We have the simple sentence. 'This is a man' and the picture of the man at the right. Now, the relation of the parts to the whole are continued here. 'This is his hat and this is his hand.' His in this complex sentence relates back to the man and 'this' the demonstrative pronoun is pointing out these parts -- hat and hand. Similarly in the picture below of the hat in somebody's hand the sentence says 'This is his hat'. 'It is in his hand.' 'It' being the hat. So I'd say that was a reinforcement card nothing else. Reinforcement being a very definite and important principle.

Card #6

In this card we continue on relating parts to the whole and we introduce a new part -- the head -- and how it relates to the man. In the first sentence 'This is a man' relates obviously to the picture of the stick man. This is his hand'. Similarly relates to the picture and 'This is his head' Now you have a more detailed picture of a head relating to the structure of the whole man. In the box below the new vocabulary word 'head' is set off. Considering some of the phonetic sounds on the bottom on the card, I would not hesitate to say that perhaps the teacher might be introducing or having sounds down there that are not actually on the card and this way possibly leading the children into making judgements of sounds that are not introduced. For example, I see 'st' which stands perhaps for 'stoop' although I don't see any word that begins with 'st' wo perhaps it is just to lead students into making mistakes so that they can see where the mistakes are. We still have 'mn' -- the phonetic sound from man.

Card #7

Now we're continuing on 'This is a head and this is a head' relating 'this' the demonstrative pronoun obviously relating to two different heads which are a picture of a boy's head and one of a girl's head. Similarly a demonstrative pronoun takes on two obviously different meanings when 'This is a hat' pointing to a picture of a hat and 'This is a hand.' The only principle here then can be relating a word to obviously more than one meaning. There is no box below here so there is no introduction of new words and there's no introduction of any new phonetic sounds.

Card #8

Now from the very basic sentence 'This is a man' relating to the picture of a man at the right we build upon this sentence to almost make a story. 'This is a man. This is a hat' relating to the picture of the hat in the man's hand. 'It is his hat.' Now this is the very beginnings perhaps of simple composition. Similarly, this is a head, relating to a picture of the head. 'It is his head'. -- Similarly to the picture of the hand. There is a small matter of judgement in here also. This goes right back to the first card in which the pronouns 'his' and 'it' are introduced. This takes a judgement on the part of the reader, very simple as it is, that he must know that when it says 'It is his head', 'it' is referring to the head mentioned in the previous sentence and 'his' is relating back to the simple judgement which can be built upon to make more abstract judgements.

Card #9

This sentence continues. There's no new concepts introduced here.
We still have the picture at the left with a man holding his hat in
his hand. The sentence is 'This is a mand and this is his hat. We
have left out 'This is a man and this is his hand' and so we're taking
a jump now relating hat to the man. The step of it being in his hand.
I don't know if this is significant or not. I really can't see any new
concepts or principles involved in this card. There's no new phonetic
sounds and we've done away with the box so perhaps we are if possible
we might be putting a little more responsibility on the student in that
new words, new phonetic sounds are dropped after a while. The idea of
pointing them out and they are left buried in the sentence in which you
must be able to discern these.

Trial #5

Card #1

In this first card we have a simple sentence 'this is a man' on the left
is a picture, a stick man. I believe that we are introducing relationships
between the simple sentence and the visual concept of man. We're also
introducing the simple sentence and in this first card we're also intro-
ducing the demonstrative pronoun 'this.' 'This' obviously relating or
pointing at the picture of the man. Similarly, in the sentence below
we have 'this is a hat'. 'this' relating to the picture of the hat on
the left. And then the relationship is built between the two sentences
'this hat is his hat.' Thus there is a relationship built between the
hat on the left and the man above. Also there is a box below with the
word 'his' inside. Now this is a word which I imagine is quite new. It's
a phonetic sound anyway. The phonetic sounds along the bottom are the
basic sounds employed above. I believe this is all.

Card #2

The relationship continues on in the next card. For e.g. we still have
the sentence 'this is a man.' However the picture of the man is at the
right hand of the picture. Similarly down below we have the picture of
a hand and 'this is a hand.' In the next sentence the picture of the
hand is related to the picture of the man. 'His' obviously relating
to the picture of the man. They're introducing pronouns replacing
proper nouns. For e.g. 'it' replaces 'hand'. Now in the boxes below
we have 'hand' which is a new word and 'it'. It no longer means 'hand'
it now means something else. The phonetic sounds are the same as the
first card except we have 'd' as at the end of 'hand'.

Card #3

The relationship between the hat and the man becomes more distinct because we have a picture of a large man and a hat resting in his hand. Now the sentences are built upon this visual relationship. Also 'it' is in his hand does not now mean 'hand' but now means 'hat'. In the box below we have 'in' which is a new word in our vocabulary. So we are introducing vocabulary here. Phonetic sounds are the same as before so there is new introduction. There is a very definite relationship being built up between sentences and pictures.

Card #4

Now in this next card we have the demonstrative pronoun 'this' taking on a very different meaning. For e.f. 'this is a hat' and 'this is a hat'. Each 'this' points directly above to the picture above. Also we are building up new sentences by joining words or a conjunction such as 'and'. So we now have two simple sentences with different meanings joined together to make one sentence. Similarly in the sentence below. 'and' is clarified by being put in a box. The phonetic sounds are the same. The concepts that are obvious in this card are: 1. The definite or different meanings that can be given to one word and also the beginning of building larger and more interesting sentences through different construction.

Card #5

This could be a reinforcement card perhaps. We have the stickman at the right and we have the sentence 'this is a man'. And we also have the new complex sentence that has been learned in the previous card. 'This is his hat and this is his hand'. 'This' the demonstrative pronoun is relating in each instance to a different visual object, and again we have 'this is his hat. It is in his hand'. The different meaning for 'it' is clarified by the picture of t e hat. No new phonetic sounds and no new vocabulary.

Card #6

Similarly a reinforcement card. However, a new word for vocabulary. A more detailed drawing of head. The demon pronoun continues each sentence. Possibly relating parts to the whole. New vocabulary word in box stands out.

Card #7

Reinforcement also of the complex sentence and the different meanings for any given word, e.g. 'this'.

Card #8

This card is perhaps a simple introduction to a story or simple composition. Sentences are in close proximity to visual symbols. Tells us several different things. Below we have reinforcement of previous concepts.

Card #9

The three simple sentences in previous cards relate you this card
in that we are saying the same thing in one sentence. 'this is a
man and this is a hat.' Simple composition in three sentences.
Second part is the same. No new phonetic sounds and no new vocabulary.

Card #10

In this one we have n ew concept and that is that of possessive nouns
'this is a man's head' and we have the idea of the apostrophes. New
word in box which till now has been reserved for new vocabulary. We
also see in the following sentences that 'his' relates back to man.

Trial #6

Card #1

In this first card the concept were introduced is one of a simple
sentence, and also we're introducing the idea of relationships. The
demonstrative pronoun relates to the picture of the stick man on the
left. Similarly in the next sentence. Another relationship is
between the two visual stimuli. The pronoun 'his' relates hat to man.
I take it for granted that box introduces the new word in vocabulary
of children. Phonetic sounds at bottom are found in sentences.

Card #2

The concept is same, relation of visual stimulus to written. However
relationship is changed since picture on right. Concept is perhaps
that relation between visual and written stimulus does not change by
change in position. Similarly in sentence below. Again the relation
between two visual stimuli is continued. 'his' relating to picture of
man. New vocabulary word in box. New switch in two words, put them
together and you have sentence 'hand it.' A new meaning for 'it'. The
phonetic sounds haven't changed below.

Card #3

In this card the relation between 'hat' and 'man' is more clearly
defined because the hat is in the man's hand. Now this is making
the nebulous relationship very concrete. Now we have a new meaning
for 'it' indicating a word can have more than one meaning. In this
instance 'it' means 'hand.' Whereas in one of the last ones ...
sorry, 'in' is the new vocabulary word. By separating words, taking
them out of context it is possible to make them clearer. Retention
is perhaps benefitted.

Card #4

In the next card the demon pronoun 'this' obviously takes on different meaning. 'this' in both instances means something different. Similarly in two sentences below. We are also introducing complex sentence through joining of simple sentences. Joining words are introduced, the conjunction 'and.'

Card #5

Perhaps we can call this a reinforcement card. The principle of reinforcement being most important. We have the simple sentence, visual stimulus. The complex sentence next, with the principle of interest built up through variety. Also the idea that any one word can take on more than one meaning. 'it' takes on a different meaning.

Card #6

This card only takes a slight step. Slight progression. We have this continusing simple sentence although the relation of the parts to the whole are built up e. g. 'this is his head' relating back to head and we see the 'head' in more detail. New vocabulary word in box below. Now we're building up a relation of parts to the whole structure.

Card #7

Reinforcement card again. Again the complex sentence.

Card #8

Now we have the idea of composition being built up through the idea of relating parts to the whole. Only concept is introduced of simple composition.

Card #9

(looks back at 8) This card is same as one previously. Nothing new.

Card #10

In this card there is introduction of possessive nouns. Introduction of 'man's head'. Possessive nouns. Idea of possessive pronouns is continued as well. The new word is set off below.

Card #11

Two new vocabulary words 'seat' and pronoun 'he'. Perhaps the idea of variation for interest is built up here. Getting away from possessive pronoun. Reinforcement of the idea of different meanings for different words. New vocabulary is set off and stressed. No new phonetic sounds.

Card #12

The relation of parts to the whole are set in context in this one.
We see quite a detailed picture of the upper body of a man and there's
arrows going from the visual stimuli to ... from the written stimulus
to the visual stimulus pointing out very distinctly what the sentence
is referring to. Thus giving meaning to the sentences. We know this is
a man from previous experiences in previous cards. Now there is an arrow
going from his hair. Arrow from his arm. So now these new sentences and
new vocabulary words gain meaning in the sentence because they are related
to the visual stimulus. Again in the one below 'this is a head.' There
is an arrow from the next sentence to the head. 'this is his ear'. So now
the new word ear has meaning. So we have the new vocabulary set apart
so they can be learned apart from or out of context.

Card #13

Now we go. This can be our reinforcement card. We have the compound
sentence and we go right back to the beginning to where we had picture
of a man on the left and one on the right. ... (imcomplete)

Trial #7

Card #1

This card is a simple beginning to introduce sentences I believe.
The simple sentence is related to a picture. To facilitate this learning.
This should be within the scope and perception of the beginning learner.
Similarly below. From this the beginning learner should be able to rely...
this is a word that points at 'hat'. New meaning for man i. e. pronoun
'his'. This new vocabulary word in box below.

Card #2

This continues on although relation is somewhat changed because visual
object is somewhat changed although meaning has not changed. Still same
man in different position. Introduction of new word 'it' taking place of
word 'hand'. New words set off in a box. These two words can take on a
new meaning altogether. If they are put together we get 'hand it'. This
is a command. We are expanding from simple words into a totally new meaning
for them. Sounds are set down phonetically in bottom line.

Card #3

In this card we have a picture of a large stickman holding a hat in his
hand. Beginning learner can go from first card to this card. He knows
picture is of man on the left. 'his' he can relate from first card.
'in' is new word set off in box below.

Card #4

The sentences .. 'this' points to different objects gives new meaning
in both cases. Introducing a compound sentences which are two simple
sentences put together. Create interest in a beginning learner in
writing or reading.

Card #5

This could be a reinforcement card. Also card in which meanings of
sentences are not changed by change in visual stimulus position.
Reinforcement card. No new sounds or new words given in this card.

Card #6

One new introduction of head relating to picture of man. To a beginning
reader this is quite a progression. This new word is set off below.
Just a progression.

Card #7

Now that the word head has been introduced it is put in the context
of a compound sentence. Phonetic sounds remain the same.

Card #8

Simple sentences put together to begin composition. Relations are
maintained between hat and man. Simple composition and reinforcement.

Card #9

(looks back at 8). Almost same as previous card. Stimulus changes
position. Phonetic sounds same. No new vocabulary.

Card #10

Introduction of possessive nouns. Totally new word without introducing
anything new.

Card #11

Here we have the picture of man at left and new situation for beginning
reader. Visual picture of man sitting down put in new written context
for seat. Two new words set off in box. He is new type of pronoun.
All the new words introduced are related very definitely to a visual
stimulus. That has meaning for a beginning reader I'm sure. The
sentences show relation of parts and whole. Arrow pointing to hair
makes a bridge. Most beginning readers have seen an ear but have never
seen it written. All these words I've noticed have all been introduced
although there's no new phonetic sounds introduced. Possibly this is a
way of keeping beginning reading simple.

Trial #8

Card #1

Introducing simple sentence plus visual stimuli. Introducing possessive pronoun relating object to sentence above. 'His' in a box as word that should be stressed. Phonetic sounds evidenced in sentences above. I'm stymied by 'st'. Possibly calls for discretion on part of students.

Card #2

Continue relating of sentence to stimuli which is now on right hand side. Could be for discriminating child. Meaning not changed. New words 'hand' and 'it'. It replaced other words. Boxes set off words. New construction 'hand it'. Same phonetic sounds at bottom.

Card #3

Relates back to card 1. New word 'in' in box. Boxes are for new vocabulary. Phonetic sounds have not changed.

Card #4

Building compound sentence. Pronoun pointing to different hats. Build up more interesting sentences with 'and'. New vocabulary in boxes. New more complex sentence structure.

Card #5

Reinforcement card. Reinforcement important in all subjects.

Card #6

Building up relation of parts to whole. Head set off in box below.

Card #7

Reinforcing compound sentence and the idea that given word 'this' can take on a different meaning. No confusion as to what 'this' is pointing to.

Card #8

Beginnings of composition and continuing parts to whole. May be beginnings of simple story. For a simple composition all sentences must relate to beginning sentences. No new vocabulary.

Card #9

Reinforcing card. (looks back at 8)

Card #10

Introducing possessive noun. Now relating to possessive noun without visual stimulus of man. Student can make this jump. New vocabulary at bottom.

Card #11

Man in new situation. Introducing new word 'seat'. And new pronoun 'he'. I'm wondering if we are moving away from a man and beginning to introduce new words or new relationship not particularly related to picture of a man. Vocabulary set of below.

Card #12

Detailed picture relating parts to whole ....

Individual 4

Trial 1

Well, again, a man, his hat and the word "his". The letters "his"
Man could be made out of the letters. The "s" and "t". I can see
the three groups of letters, but I cannot see the relationship with
the fourth group.

Card #2

Again a man, a hand which is his hand, the words "hand", "it" ....
"his" could be made up from the letters and "it" can be made from
the letters. Ah yes, the letters can be used to make any word on
that card. Let's see, hand, h,a,n,d, this, t,h,i,s, -- Yes, you
can make each of those words by combining the letters found at the
bottom.

Card #3

Man, his hat in his hand, again you can use the letters at the bottom
to make each and every word on the page.

Card #4

Something new has been added, the word "and" (reads it through aloud)
then the new word and then the groups of letters which will make any
of the words in the page ....

Card #5

Again the man, his hat, his hand, all the letters to make each of the
words ....

Card #6

Again the man with his hand and his head, and the new letter required
to make head. And the "st".

Card #7

The picture of a man, the head of a man. Can I see the previous one
together with this. -- same letters, nothing new is introduced
except a woman's head. Same letters.

Card #8

A man, his hat, a head and a hand. No new letters introduced. The
letters are all required to make up the words. There are no extra
letters at the bottom that are not used in the words above.

Card #9

A man's head, <u>no new letters added, no additional ones that are</u> <u>not used in the words.</u>

Card #10

A man's head, his hat, his hand. Again no words are new, all the letters are required to make up the words.

Card #11

Two seats, two new words, he and seat. And no new letters. All the letters are required to make the top words.

Card #12

New words, arm. ear. and hair. New letter "r" added to the group.

Card #13

An arm and a hand and the new word "an". The same letters as the previous card. Only the letters that are used are shown at the bottom.

Card #14

A man's head, his hair and his ears. Four new words with no additional letters used.

Card #15

Rat is the new word. Making use of the parts of the body used previously, no new letters added.

Card #16

Now, a man, men, hat and hats, rat and rats. New words are the plurals. No new letters.

Card #17

New words are arms and hands, no new letters.

Individual 4

Trial 2

Card #1

Letters used in all the words again.

Card #2

A man on the other side, a hand, his hand, the new words hand and it. Addition of one new letter.

Card #3

The new word is "in". no new letters added.

Card #4

Any hat and any hand. New word is "and". No letters added, Letters used to make all the words.

Card #5

Again the man. No new letters, no new words.

Card #6

A man's hand, new word head. New letters "de" rather than just a "d". Otherwise letters are the same.

Card #7

A head, and another head, a hat and a hand. Same letters no new words.

Card #8

No new words, no new letters.

Card #9

No new words and no new letters.

Card #10

New word man's, no new letters.

Card #11

This man is in a seat. Any seat not necessarily his. New words seat and he. No new letters.

Card #12

This is a man, his hair, his arm, his hand, his head and his ear. Letter "r" has been added to the letters.

Card #13

New word "an". Tow men, two arms and two hands. I can't see anything there.

Card #14

A man's head, his hair, four new words, same group of letters used to make all the words.

Card #15

Picture of a rat. Two new words no new letters.

Card #16

Man and men. Hat and hats. Rat and rats. New words rat and its.

Card #17

Plural words.

TRIAL 3

Card #1

Not sure I'm getting there at all. "his" all the letters used in all the words again.

Card #2

Man on the other side of the writing. Words "hand" and "it". One new letter "d".

Card #3

New word is "in". Only letters previous. No new letters added.

Card #4

New word "and". No new letters.

Card #5

Again the man. No new letters. Letters used to make all the words.

Card #6

A man. New word "head". New letters "de".

Card #7

Same letters with no new words.

Card #8

No new words, no new letters.

Card #9

Drawings and writing reversed from previous card. No new words, no new letters.

Card #10

New word "man's", no new letters.

Card #11

Any seat, not necessarily his. New words "seat" and "he". No new letters.

Card #12

New words "hair", "arm" and "ear". Letter 'r' has been added to the letters.

Card #13

Two arms and two hands, not necessarily the man's arms or hands. The new word "an". No new letters.

Card #14

Showing one hair, one ear. New words "these", "are", "ears" and "hairs". No new letters.

Card #15

Showing the rats head, rats ears and rats hairs. New word "rat" and "its". No new letters.

Card #16

A man, then men, one rat and two rats. New words "men", hats and rats. With no new letters.

Card #17

New words "arms" and "hands" with no new letters.

Card #18

New words "the", Shirt and shirts.

TRIAL 7

(Pattern followed as above up to Card #12).

Card #12

A new letter "r". We started out with 7 and now we have 10. We
filled in the first blank, we had "a" and then we had "d" and then
"de", a,d,e,h,i, ... a.b.c.d.e.f.g.h.i.j.k.l.m.n.o.p.q.r. Are
you filling in the blanks of the alphabet. You start out with 7
fill these blanks in we'd have at least up to 't'. a.b.c.d.e.f.g.
h.i.j.k.l.m. etc. You've actually left room to fill in all these
letters. (went back looking for vowels). I don't know, we've used
9 basic letters to begin with then we've added the "d", followed
that with the "e" and later on the "r". If you went further and
made new words would you fill in the alphabet with the new letters
you'd use? I can see you filling in the blanks with letters as we
use them in words. I can't see much more. Presumably if you used
different words you'd eventually have the "b" and the "c" etc. I
can't see any other pattern.

Card #18

Now we have "shirt" made up of r,s,t,. You've used words which quite
often have "m" and "n" in them. Let's see we have "hats" with an
"st" in the group. "Rats" has an "st".

TRIAL 8

(The old pattern was resumed throughout Trial 8).

Individual 5

Trial 1
Card #1

Well, I'm assuming that the <u>pictures are very necessary to get it across</u> <u>to a child</u> that has never even read a word like "This is a man". They would be able to look at the picture and say they could differentiate between a man and a woman. Also, with the hat, I think it is just a classical hat that most children have seen so therefore the pictures -- "This hat is his hat" I can't see where they would get any possessive except the man is there first and the hat is there second. Can I ask you some questions. No? "this is a man" The "is" is of course in "this" -- "a man" "This is a hat". "his" is also in "this" -- "a man" "This is a hat". "his" is also in "this" and of course it will come to -- to differentiate between or to learn to begin with. "his" -- this is card one? This is how you start. I can't see too much in that except that the pictures go along with the words very easily.

Card #2

There's "This is a man" again -- repetition. A hand. "It is his hand" so that once more we have the possessive "it". The first word "it" is a hand. They would definitely pick it out as a hand, nothing else but, I would think. "it", -- it would probably give them a bit of trouble. <u>It follows a sequence very -- if they should get this one easily, they</u> <u>shouldn't have very much trouble with the next one</u> or at least the repetition is going to help teach. "Hand" "hat" -- so the words -- (?) only the last two letters are different. I imagine it would make them quite observant about fingers on a hand.

Card #3

"This is a man" "This is his hat" "His hat is in his hand." I think it is quite straight forward. There's no new letters. "in" is a new word. The drawing is quite easy. "It is in his hand" I'd say it's by repetition as much as -- I don't think they've differentiated yet between "this" and "th" in anything else. They have repeated "This is a man" how many times -- one, two, three. This is a hat -- once. I would say the picture is very straight forward to go along with the words.

Card #4

"This is a hat and this is a hand" Comparing "hat" to "hand". They are the only two words different in the sentence. "and" is the only new word and it's far enough away. I would say they could pick out "hand" or they could pick out "and" once they know "hand" if they know that "hat" and "hand" --. The drawings certainly would help with the reading. There's nothing to confuse them. You would have to keep your pictures pretty well much the same. If they had a different hat -- say a bonnet of some kind it would be quite confusing. "this is a man" "This is his hat" and "This is his hand" May I ask you some questions after?

Card #5

"This is his hat" -- he's had that one before and that part before and "this is" They have had every one of the words before. "And" is joining the two -- "This is a hat and this is a hand" "This is his hat and this is his hand" The pictures is what makes it especially if they've never seen letters before.

Card #6

"This is a man" "This is his hand" <u>It's now obviously the man's head which would make "his" much easier.</u> "Head" and "hand" -- they would get the assimilation between each -- "hand" and "head" the last letters are the same. They all start with "This is" so if they got the first one right which they should since from the very beginning it's been repeated they wouldn't have too much trouble with it. I see they've changed the hand over -- it was left-handed here and it was right-handed every where else.

Card #7

"This is a head and this is a head" -- you might say it was a girl's head. "This is a hat and this is a hand" that's been said before. "This is a hat and this is a hat" There's no new words. I think they're trying to get the comparison between "hand" and "hat" and "head" -- the same first letter and two of them have the same last letter. All three of them have "ha" in them. The repetition of "this" "is" "a" would make it quite a bit easier to read after about the first three pages. It's very hard to look back to when you were five and wonder how you learned to read. It is really. I mean if I looked at all these and had never been able to read before. "This is a man" "This is a hat" "It is his hat" "This is a head" "It is his head" "This is a hand" "It is his hand" "This is a man" "This is a hat" Two facts and then you put it with possession "it is his hat" "This is a head" "It is his head".

Card #8

I think it would be very easy to read them all by this time. "It is his head" "It" -- they'd probably have trouble -- (if they hadn't had it for quite some time) [?] I think "it" may give them a little trouble on this one.

Trial 2

Card #6

Over here above "This is a head" I feel that you put a head but you didn't put any eyes or a mouth probably because when they look at it they said or we would have them say "head" without saying face. The whole head is called into mind. Not even a nose or ears.

Card #8

"This is a man" "This is a hat" "It is his hat" "This is a head"
always the same head. It's hard to think what kind of concepts he
had when he was making up very simple drawings. I would think that for
the first while that they were using "his"they would just ignore "his"
was there because they can say the sentence quite easily without saying--
oh, well maybe they change "his"to "it". "It" would be difficult for
the first while so maybe they would ignore it -- that's why it's
repeated so many times.

Card #9

There's very few letters to differentiate between. I think there's
twelve altogether.

Card #10

"This is a man's head. They know the word "man" so therefore when
they put an "s" on it it would be another form of possessive which
they really wouldn't know what they were doing. (Reads) I don't really
know what he's trying in that one. The words are "hat"+"hand" --
they're repeated. "his hat" has been used before and "his hand" has
been used before and the diagrams are the same diagrams as before and
"It is in his hand" I imagine the children could help each other.
Especially those who are maybe a little bit faster in reading. (Where
was I? Could you turn it off for a minute while I think?
By this time I was wishing you had turned it off FOR GOOD. I just
can't think that fast)..

Card #11

He is repeating several sentences so it would be probably quite likely
that they would get them right and I think they would find them easier
to read when they are all relevant to the pictures.

I think that's quite a hard word to just look at and pick up. "Chair"
would be quite -- would probably be said by them "Seat" -- "He is in
the seat". They've had every word in the sentence except "seat".
So he's having this man change to "he" whereas he had "this" changed
to "it" over here. He's just changing nouns to pronouns which would
be quite easy for children at that age. Although they probably wouldn't
know that they were reading it. I don't think it is a very good drawing
for "seat" to have them say "seat" It would be easier to say "This is
a chair and this is a chair".

Card #12

"This is his hair" is new. "This is his arm" is new. "This is his hand" they've had that one before. "This is his head" "This is his ear" is a new one. So actually they've had "This is a man" "This is his hair" They've had "his". "Hair" -- they could look at it and say it wasn't "head" because they've had "head" It should be quite easy I think. The arrows would help. I think they would be inclined to have a real good look at the pictures before they even read the words. The hair might confuse them the first few times and the arm might too. But the repetition of "This is his" would be read quite easily.

Card #13

"This is a man and this is a man". That one should be easily read. This one would be easy "This is a hand and this is a hat" because they've had them over and over again. "This is a man" and they've had "This is a hand" many times. "This is an arm and this is an arm". "Arm" is repeated and "an" new word. I don't know if they'd look at that and say "This is an arm" or not. I think there could be a better drawing of an arm than that -- to have them pick it out that it was an arm.

Trial 3

Card #9

It's interesting how sometimes he has the pictures at the beginning and sometimes the end. Stimulus response I imagine. They've only used this beginning with "th" for how many cards? Are they numbered? Seven? Eight. Ten. I think after they've seen it so often that they should get it even though it has a small letter at the beginning. I think repetition of the sentences over and over. At least adding one sentence on to another makes it easier for them to read.

Card #11

I don't know why they would put "seat" instead of "chair". It seems very -- I wonder how many children of five or six know or would be able to even look at the word and say that's what it was. Is this the first word they've had beginning with "se"? They've had "s" before.

Card #12

The arrows would be helpful to pick out the words. They don't put any features on until they want them named.

Card #13

The two pictures would reinforce. They'd look at one picture and then read it and then look at the other picture again. I don't know if they'd recognize that as a seat?

Card #14

The ear is very clear. That's an ear but the hair. One hair. I think that would be very confusing. "These are hairs". I think that's very confusing too.

Card #15

"This is a rat". "it is a rat". Now how do they know it's a rat and not a mouse. "These are hairs". I think it would be better to say "These are hairs". I think it would be better to say "These are whiskers", if they didn't get it the time before. "These" they would pick out. "These are its ears". I'd say they'd be more observant after working with the pictures. They'd realize that rats have two ears and a long tail. They'd notice things more.

Card #16

"These are men". All three words are plural. I think this is very straightforward. Unless the rats were very hard to distinguish. Once they look at hats and rats they would be easy. There are three new letters from page one to sixteen.

Trial 4

Card #15

I was at the one about a rat. I decided why they named it a rat. Because it is a short word, it rhymes with "hat" and after the children have seen "hat" for quite some time they shouldn't have too much trouble. Ears and hairs are repeated to do with the rat.

Card #6

How many children would look at "man" and say "These are mans"? I don't think they would have any problem with any of them.

Card #17

First of all, "arms" and "hands" are plural. But the arrows indicate -- (?) Two arms, two hands and two ears. I think you can tell it's a man's head because of the lack of hair and they've had man for almost every card "The hat is his hat." There's no indication that it's his hat. He's not holding it or wearing it or -- no indication that he owns it.

Card #18

"The shirt is his shirt". "This is" becomes "these are". The possession there is not very clearly defined for children learning to read. "The hat is his hat". "The shirt is his shirt". The shirt is much too big to even fit him in the drawing. One new word -- "shirt" and yet they haven't used any new letters. Only four new letters from first. I was looking at the word shirt and it doesn't look like it's even supposed to be spelled that way. If they get the sentence "This is a shirt", there shouldn't be any problem with "These are shirts". But, if they looked at the word "shirt" and didn't know what it was, like sweater or something that began with "s", -- You could say "What is this" and they could say "this is a man" so you would say "What is that" and they would say "That is a man" -- "That" "hat" "rat", -- After having "that" and "rat" I think they would recognize "That" especially when "man" is put in the distance -- smaller. Stickmen are less confusing than the ordinary drawing. And keeping him as just a "man" instead of giving him a name where you can't tell what their name is just by looking at them would make it easier to pick out <u>man</u>.

Trial 5

Card #18 + #19

"that" would be picked out quite easily. Rhymes with "Rat" and "hat". All of the reading would be easier for them if they can come to the board or wherever this is put and point. Then you could say "what is this". They could say "this is a hat". But if there was nobody helping them or at least guiding them they're going to have a bit of trouble.

Card #20

Man is in a circle. He is there, in a distance, smaller. It should be quite simple "it is there". "that hat is there". "here and there". By five they should know the difference between here and there. Close by, therefore bigger.
If I make the assumption that there are children in the class that can read a little or can read a lot, they shouldn't have any trouble reading right thru the 20 cards, And being able to say the last one at least. Every word has been seen again and again.

Card #2

The transition from "this is" to "it is" this is quite spontaneous. I wonder if it would be better if instead of using a hand or an ear or an arm one might use a ball or a train. Something that's an object so that instead of saying "this is a ball" they would say "it is a ball".

Skimming through Card #2 to Card #6

The few number of letters would make the words much easier to pick out. Only ten letters. These sentences all began with pronouns. Rather than nouns. They are repeated again and again.

Trail 6

Card #5

The letters that we use are different from one another so that they wouldn't be confused except for the "mn". But the "a" is made so it doesn't get confused with "d". No "b" no "c".

Flip slowly through Card #5 to Card #19

Card #20

All of the consonants are sounded, none are silent.

(3) minutes silence.)

The recognition of words won't get greater with repetition. There are no fancy diagrams to confuse with anything. All their words are quite short. In class they say take your seat.

Trail 7

Card #1

The drawings are very constant. Always the same. Maybe a little larger or smaller. No confusion.

Card #2

Moving along.

Card #15

Taking something as a whole breaking it down into pieces.

Card #16

No confusion as to which sentence they are reading.

Card #17

Perspective is good.

Card #20

Discovers phonemes "ea"

Individual #6

Trial 1

Card #1

You're presenting a basic sentence, 'This is a' or 'this is' or 'this' and providing visual reinforcement, to help the child to find out exactly what it is. The first is a man. The second is a hat. Undoubtedly the child should recognize it, if he has ever seen one. Then the idea is to say 'this hat' and make a reference to a previous statement which you have made. Bruner's theory of learning, higher order. You refer back by saying 'this hat is his hat.' This might refer to Piaget's part whole system where you build up and then the important word is 'his'. Which shows possession. And then with the bottom, I would imagine you can construct various words, pertaining to the situation which you are talking about, the hat and the man. Let's see...'him', 'man', 'hat', that's it. I can't think of anymore. Now am I on the right track.

Card #2

'This is a man', same picture of a man. 'this is' again and a picture of a hand, the visual reinforcement to explain the word hand. You have a picture therefore you say 'what is this' and they would say 'hand' and you would write it out 'this is a hand' and then you go back to the idea of possession. You have a hand and undoubtedly somebody must own a hand. 'It is his hand'. Then you've got various words you can make up out of this, pertinent to the situation you're dealing with. Then you sylables, let's see, you can make up the same words 'his','man', 'hand', 'it', and I would imagine if you were...a few more words that were pertinent. The child would I imagine if you put these on the board, the object would be to make up as many words as possible. I can't think of anything more.

Card #3

Now here we have a little higher order of learning. Where now we put together the entire two previous concepts that we had in the past. We had a man with a hat in his hand. I think we present this picture maybe and say to the children' now what do we know about this man and this hat'? And you would get the sentences 'this is a man' in the first one. This is his hat' showing possession and the object of placement' the hat is in his hand'. Possession again. A different way of saying it 'it is in his hand', replacing 'it' perhaps. And the important words is 'in' I presume, in the little box. 'the hat is in his hand' has the picture hat and then there's various words that we could make up from the bottom line. But I would say that from the three pictures that we are going from something basic, a visual stiumlus, and building on this. Like the funnel of higher order. And you are going back sporadically to reinforce the initial learning.

Card #4

Now here I would imagine what we would try to get is a verbal sentence 'this is a hat' and we've got 'and this is a hat'. In other words that isn't the only hat in circulation, the one that we have drawn previously. To point out the generalization of the sentences. Even though the hats might look different. The same goes for the hands. We all know that there is more than one hand. Now we have the relation hat to hat and hand to hand. Now we've switched it saying hat to hand. We've abstracted from the first two to make a final sentence 'this is a hat and this is a hand.' And I think the important thing here is the word 'and'. Then I imagine the student would be required to make up various sentences using the word hand with reference to the visual things he's seen.

Card #5

This is a man, this is his hat and this is his hand (reads the card) Review of what they have learned in the previous frames to make up more complex sentences. Go on to make more complex sentences. Could shake up the letters at the bottom and make new words.

Card #6

Now we've switched into something new. We are going from the general context to the particular context of 'head.' The important word in the exercise is head. Move to a higher order of learning, a more complex order. I imagine the next thing to do would be to add what might be on the man's head.

Card #7

We have reverted back to saying 'this is a head'. Now try to get some association like saying 'put the hat on the head with the hand.'

Card #8

Here we have the idea of 'this is a man' holding a hat and showing possession. I would imagine that the next thing to elicit from the student is the fact that it is supposed to be on his head because he owns it. Making up of new words again with reference to the situations.

Card #9

Here we try to get across the idea that you can make a sentence say just as much by putting in the pronoun 'it'.

Card #10

In the past we had 'it is his head' now we have 'This is a man's head'.
The general concept of possession. I would imagine that the next step
is what is the relationship between 'hat' and 'head'. Now if we can get
across the idea of man's then we can begin to make up words such as hands
or hats.

Trial 2

Card #1

Same ones again. Well, after thinking it over if I was to use these
cards to teach a student in grade one to read and to use this as a
sort of programmed instruction, I think I would see it such that the
stick man would be drawn on the board supposedly or a picture or one and
then from this I would ask what it is and they would undoubtedly have to
say or somebody would say 'this is a man'. Now because they cannot read
they don't understand it. So we maybe go on to something else like a hat.
We might ask them whose hat this is. The initial aim would be to get the
response 'this hat is his hat' in other words they would associate one part
to another. Now 'his' in the box I guess this is the concept of possession.
Now if we just had the pictures and we got these things admitted verbally,
how do we show them how to read? Well we might take the letters at the
bottom and say (assuming that they know their alphabet) I think any kid
in grade one can recite the alphabet or used to be able to.) We might
form a word for him, like 'hat'. And write this on the board and say it
and write on the board beside it 'hat'. And have them pronounce it. And
the same with man I suppose, because we are using the constant 'a' we
can get maybe somewhat of a transfer from one to the other word. I don't
know how long it would take. Myself as the teacher I would attempt to
program from the visual angle using the visual reinforcement. Although
they cannot read the kids can pick things out in their invironment, and
name them, and maybe after you have them name it the ideal thing is to
have them write it in some fashion. And I would think that every kid
would like to learn to spell after hearing everyone talk about it. If
we can present it in a fashion other than the strict repetition that
the archaic school system used to have. This method of presenting the
visual and subtly working towards the spelling might reduce inhibitions
towards spelling. That might be later causes for poor reading.

Card #2

We have the picture of a man again and a hand, now here is another
association and undoubtedly we would work on the idea that if we could
get them to spell man, now hand has the 'a' and an 'n' and it is a four
letter word. Now we are using something from the past to facilitate
present learning. Now we have a picture we would undoubtedly ask 'what
is another way of saying it?' Somebody would say 'it is his hand' .

Card #2 (Con't)

Now here the child has made as assocciation. We've said it's a hand,
but not a particular hand. Now you've got the word 'it'. How do you
explain the word 'it'. It's like saying there's various written forms
that an object can take. This is just one of the parts of our system.

Card #3

Here we have formed the visual association for them. We have a 'hat'
in the man's hand. Well we have 'This is a man'. Undoubtedly if they
were asked what the picture was they would say 'this is his hat.' We
are assuming they understand this idea of possession. They undoubtedly
do because they possess many things, toys etc. And they have a bedroom,
a mother, father, brother, sister maybe. We would try to say -- maybe
ask them a few things about the picture. They would say 'This is a man
with a hat.' This is his hat. Now we are getting more specific. Some
of them might notice that the hat is in his hand and it's 'his' is
being possessed, plus, a little more complex, it is in the man's hand.
This would therefore demonstrate the child's thinking. Then we could
have different words made up for the situation. Some of them would have
heard of 'him'. I can't think of any...But I imagine out of thirty
students in the room they could, make up a few more associations. All
the while these pictures are getting a little more complex and a little
more involved and we are assuming that while the child is learning the
previous one, you can go on to the next one. Now I don't know hat would
happen if you presented the third visual picture and did not present the
first two. Would it be time saving or would it in fact inhibit his
progress, being too complex for him. I would imagine that it would differ
from child to child.

Card #4

Now I'm probably a little bit repetitious in what I've said. Now
suppose that we, the teacher, draw two hats on the board. Someone
says 'this is a hat.' Maybe we have them at this point where they
can write and a few other words. We can have them write 'this is a hat.'
You present a picture and they automatically write 'This is a hat.'
But if you present two, what will they write. Well 'this is hat, this
is a hat.' Fine, but maybe we could get them to conceive of the idea
of putting two 'hats' in one complete sentence. Therefore we have to
find words, or something that allows them to do this. In our grammatical
system the two sentences are not acceptable. A key wor, I suppose, is
'and'. Here they are building on their cognitive prowess and going forth
to a little more complex situation. You could probably get them to use
'this is a mand and this is a man.' They've learned a one-to-one realtion.
'This is a hat and this is a hand.' Over a period of time we could get
them to realize that it doesn't have to be a one-to-one thing. We can have
a white horse and a black horse, in the sentence. If we were teaching we
could go on and draw out some of the relevant experience that the children
have had. They could make up various words in the associated field. Then
they might come up with a little bit different to demonstrate their powers.

Trial 3
Card #1+#2

(Can I see the two at first please?) I think -- well we've discussed --
The object is to start them with the visual object and then go to...The
first two...if we're going to teach them to read, we have 'I' in both.
We have 'his', 'and' and 'it'. Now I would think that when teaching some-
one to read it would be best to have him take a word similar to what
they have previously read and learn it, rather than change it completely.
Therefore, you can use the knowledge the subject has gained already.
Thus making it easier. The first one is a three letter word 'his'. You
can build upon that to make larger words. . .Now to teach them how to
read....Draw a picture and they would tell you what it is. You'd give
them a nice little explanation if in the first picture you gave them to
read and write 'his' and put a 't' on the beginning to make 'this.'
Then you could explain to them that this is a preface to reading. That
we have 26 letters and you can form them into various combinations and
form millions of words...I'm getting worse instead of better. I don't
know exactly how long you are teaching them to read with the use of these
cards. How long would you spend with one of these cards. Would this
be a daily thing? A weekly or a monthly? I thing the objects and the
principles behind it are the use of visual stimuli and verbal stimuli
to get them to think and act and use their cognitive powers. This is
the object of reading and writing. I think by building upon the know-
ledge you reduce the boredom. It could be an individualized reading
program. First you teach something and then each individual can work
upon thos...and write and read. I think the basic thing is the movement
from the general to be specific. You get a general concept across and
then you start to...and the child himself can do a little mental work
himself too. I think it would depend upon the teacher. Once you get
them through the first part I think they would be rather successful.

Card #3

On the third card you reinforce. Here you make more associations
and establish possession. "His' is the important concept. Then we
have 'in' it is the other important concept.

Trial 4

I hope not to be repetitious.

Card #4

Here we can assume that the child can read a little bit. You would
have started by putting one hat up on the board and then put two up,
I guess. The important word is 'and' we are now joining two complete
thoughts, into one longer, complex thought. Now I guess the kids use
this word 'and' quite a bit so it wouldn't be too hard to get quite a bit
out of them. Then we have another one-to-one assocation using something
from a previous card a hand. Then I would imagine you would use the
bottom letters to make new words. This would help them to understand
a little bit more about our English. I don't really know if these cards
would help them read, but it might help them understand why we do certain
things, the basics behind it.

Card #5

Now we begin with the 'man.'

Trial 5

Card #8

We've got the basic 'This is a man' again. You picture him holding a
'hat'. The stick figure is strictly for reinforcement's sake. Now
you've got a picture of a head. 'This is a head.' 'It is his head.'
I don't know why they make the assocation 'It is his head' because in
no way it looks like the head on the man up at the top. I think we make
this association automatically. Now we've got 'This is a hand' again we
do the same thing. The hand isn't quite the same, but I guess it's
supposed to be. (laughed)

Card #9

'This is a man and this is his hat.' Yeah, he's got it in his hand,
I guess we can make the association. The kids do make this association.
'This head is his head.' Now here we go back and bring in the idea of
it. Its possession, the pronoun. The object of using this for compre-
hension sake is that there is more than one way of saying a thing. I
think we predetermine what the poor kids are going to learn. We are
building an invironment about them. We're no giving the kid time to
think his own thoughts, we're going to cram it down his throat. Pretty
well force him to think in the manner we think. Whether this is fair
I don't know. I guess it's just something we have to do.

Card #10

I would imagine we would force upon the kids the idea that this is the
man's hat and the man's hand. Now the letters at the bottom. We can get
them to make different things using the apostrophe. What if the kid came
up with 'him's'? It would cause a great deal of uncertainty. This is
the problem of English it has so many exceptions. Therefore the child
learning how to read is forced to learn in a way we force him to. You
talk about individualized instruction. He doesn't have a chance.

Card #11

Now this man has a new relative position. He is 'in a seat'. The 'in' in this sentence is in a little bit different context from the previous 'in'. He's not really in it, he's 'on' it. We've got 'this is a seat and this is a seat', two chairs. They are different. Previously he learned that the above one was a seat. Here he learns that other things can be seats. We give him a baseline to work from and then we work upon his concepts.

Card #12

Oh now, we've got 'This is a man', A different picture now. A little more detail. 'This is his hair'. But it is the head's hair too. 'This is his arm'. You haven't got all the arm there so the kid might say a two inch segment represents an arm. He makes this association. He's got to accommodate himself to the new type of hand. He finds the specific point that becomes a hand. The arrow points to the head in the general area of the head. Why does it have to be the ear. This is the way we lay our system out. How do you explain to him the arrow? Maybe we could ask him to name the different parts of the body.

Card #13

Now we've got 'This is a man and this is a man'. The child might ask us why don't we say this is 'a' arm.

Trial 6

Card #14

Now 'This is a man's head', 'this is his hair'. 'These are his ears'. Here a child must learn that man has two ears. He learns the plural. 'These are hairs'. Here we would have to explain why we change from 'this' to 'these'. For a child this might be difficult to understand. We also have 'are' instead of 'is'. We would have to explain that 'is' and 'are' really mean somewhat the same. We would use the bottom letters to make up various words.

Card #15

Here we have the picture of a rat. It is probably familiar to the child. Now 'this is a rat' and it is a rat'. 'It] is much more specific. They have a new word 'its', showing possession with a 's' instead of an apostrophe. This would be difficult to straighten out in the child's mind. 'These are its ears', we've got 'these' plural, 'are' plural, possessive and also ears with an 's'. I would think we would have to differentiate the concepts of showing plural with an 's' and showing possession. Because by looking at it there's no structural context one way or another, also 'it' is singular and 'its' shows possession.

Card #16

'This is a man', 'These are men' here we have gone back to the idea of
man again. Now we have a new word 'men.' How the child would learn to
use 'men' in the appropriate spot I would suggest is difficult learning.
To explain why I imagine we would say 'because there is more than one'.
Throughout this card it is the plural. I think I am demonstrating by
inability to use the English language.

Card #17

'This is a man's head'. It shows possession but we have a different
head, just an oval. I imagine they would generalize it. 'These are
his arms'. Again we are building on a previous concept. We are going
from the know to the unknown to make this clear. We are more or less
showing the rule and not the exception.

Card #18

This card shows recall and possession. Then we get possession without
plural.

Card #19

'This is a man' with a picture and then 'That is a man'. Might I ask
why it would not be appropriate to say 'This is a man' also for the
second one. The difference isn't simple. I think 'this' means more
or less in our specific environment around us at the time, or close by.
'That' is used for the same purpose but when we are pointing out and
saying 'that is a man or a chair.' How does a child perceive the
difference. This is fairly immediate. 'that' can mean the past. Alright
we are just putting in an 'a' for an 'i'. We're building on to his
invironmental field. He learns how to use it because we point out specific
examples. But as for an explanation, 'why', I don't know. I.....

Card #20

We're introducing the concept of locality.

Trial 7

Card 19

What confuses me is how you...you can get the kids to read by rote, but
the object of reading is comprehension. How do you get them to see that
'this' and 'that'....I would think that an explanation of an object in
relation to another object perhaps would do it. If you are closer to one
of two objects you say 'this'. It's a matter of position. (ah nuts)

Individual 6

Trial #8

(Ah no, let's go to something different). Let's start from the beginning.

Card #1

You're supposed to discover how a child reads, learns how to read. How are you supposed to know. 'This is a man'. Now, I don't want to repeat myself. As for the child actually learning how to read. I would think that this sentence is completely unappropriate. The concept of 'this' is not appropreiate. Start with something smaller. This is too complex. Much too much.

Card #2

Well this is the same thing. I could repeat the same thing over and over again. I have a one track mind today. The use of the general to the specific, the concept of 'it' I guess it's good. It has reinforcements, builds on basic learning and looks good. I thought so at the beginning but now I have my doubts. Because we are...but teaching the child with this method we are teaching him to make assumptions, to generalize to make associations about various objects but these are assumptions we as adults make. We don't let them make the. It could just be a hand I don't see why not. I think the introduction of this possession poses a problem. I think the child should make it for himself I don't think we should tell him. Now the important word is 'his'. Does the child reading these first few cards really understand? I would say no. This is like the kid who counts to ten but doesn't know what ten means. We work on the assumption that a hand has to go off somehow. I don't see why. 'it' is a very complex two letter word.

Card #3

Bring all these things in together. Build upon what we assume the child now knows. How did the child learn to use and comprehend. I don't think they really know. It is rote learning.

Card #4

I think the word hand is hard to explain.

Card #5

We've got something a little more specific. We no longer need the entire picture of a man. Something to do with a perceptual field. We are concerned with how possession shows itself physically. Why has this card not got a specific word?

Card #16

'this is a man...(read the whole card)

Card #15

In all the cards we started with 'This is' in the last card we went beyond 'this' and ....we are going form the general to the specific. We start with a general rat and then get more specific.

Card #16

The plural. I think that the entire system is building on...from one thing to another thing. We are getting a little more complex, a little more involved as we go through the card. We reinforce now and then,... Whether this is good I don't know. Maybe we think this way and think the children do to.

Card #17

'This is a man', 'He is here' now this is the idea of showing position with reference to something else. How we explain the child's learning is something that the child has to learn for himself. He has to form his own relative thinking. I don't think we can tell him. I don't think anyone can tell him where 'here' stops and 'there' starts. Maybe this is a little bit too involved maybe they can learn these by rotation but the actual understanding maybe too much for their cognitive powers. Maybe we would have to wait for their neurological networks to cope with it. (I'm getting more confused all the time.)

Card #1

All the problems stem from the beginning. The problem of the explanation of the word 'this'. Why not 'a man' utterance. I think they have to learn the concept of proximity. I think they would learn that the thing is close by. Might they learn this without understanding. I would say yes.

Card #2

Showing possession. The concept of 'it' as a word. What does it mean. How do we explain. How to get them to understand. Might this be too complex to explain. Surely they use it without knowing.

Card #3

Possession again. 'it' is a symbolic form of a more complex sentence. Now 'in'.

Card #6

Showing parts of his body. I think we're teaching the child
perceptual training.

Card #7

Shows 'head' refers to both masculine or feminine. It appears to me
that all of the material stems from a masculine side of the argument.
Why not a girl's hat?

GROUP

Trial 1

Card #1

(1) <u>Read sentences the same way as they more or less think and that possibly why should they learn just one word in isolation. Possibly this is better to learn a whole group of words.</u>

(4) <u>This is true because</u> you can look at that picture and you can say 'This is a man' you know, point out 'this is a man, 'this is a hat' and maybe connect the two and whose hat is it? You know, this is his hat, the man's hat.

(6) Is it?

(3) I see relationships in the numbers at the bottom except for 'st'. The 'st' seems to me to be confusing.

(4) Maybe it's an introduction to the next.

(5) I was thinking perhaps the teacher in the back would say 'What is this?' and ofcourse the response he might get 'This is a man' or 'This is a hat'. Otherwise they wouldn't say that sentence would they?

(4) No.

(5) And he could point out you said exactly this and he would show it to them wouldn't he?

(4) Unless they said, 'it'.

(5) He would encourage them to get that sentence out of the children.

(2) But then with the third one try and tie the two sentences together in a thought.

(6) I still say that whoever uses these drawings superimposes his image of the man and the hat on the kids and not having the kids dream up their own image of the man and the hat.

(1) Yes, but shouldn't they all have pretty much similar, I mean, is there any child that would mistake that for being a cat?

(6)   It looks like <u>a clothespeg</u> to me.

(1)   No, but I mean, if the person read over it and said 'this is a man' keeping it as simple as possible without the specific features in the clothing.

(3)   Well no, I think that when they look at that picture they would see both the hat and the man and they would think that the hat belongs to a man therefore this must be a man.

(4)   But it's not -- if they didn't give that particular picture even if they did put a picture of man in to get the idea of the thing.

(6)   I've seen ladies hat's that looked like that too.

(1)   Could we go on?

Card #2

(3)   Well I would say that from the first frame they've established that the figure is a man. They would then respond by saying this must be the man's hand.

(4)   And if they used more than the picture they could relate it to themselves you know, 'this is a hand.'

(6)   Then the 'st' appears without any visual significance.

(3)   I find myself thinking, 'hand it to me,' (laughs) but I'm not sure if that's what I'm supposed to think.

(5)   I think it would mean that hand could stand for a hand or could stand for something else. That there is more than one meaning to the word hand.

(4)   So they'd probably discuss this.

(1)   But you said the 'st' I don't associate it with anything.

(6)   Except for the fact that the hand is exaggerated in scale. See, there is no sign saying that this hand does in fact belong to that man. It could be anybody's hand, it could be a bird's wing.

(1)   But it says that it's his hand.

(6)   It says.

(3)   I think that there would be an inclination for the child to say 'It is the man's hand' here rather than use a pronoun.

(1)   But they learned 'his' on the card before.

(5) See they use all the words and there's enough space to put the b,c,d,. O. K. that's a good point.

(3) Do you think that their attention would be focused on the symbols at the bottom unless you asked them to?

(4) No, I rather think it would be... unless you asked them to focus on that and say can you make a word out of it. I don't think they would be paying any attention to it.

(1) Well I think that would have as much meaning as the sentences above.

(2) That's what I was going to say.

(1) These kids don't really know much about how to read yet, if you just pointed these out as being parts of words and the sounds.

(3) Yes I think that if you drew their attention to it and said that this, is a .. you know, can you find where these...a word that is using these symbols. The child would be able to, but, I don't think otherwise that he would even bother with it.

(2) Why not, because it's so different from the proceeding three lines. It's spaced differently.

(3) No I don't see that.

(4) They're curious, if you've got their curiosity aroused by saying 'this is a man'. Now they want to learn to read...they're beginning something. They might say 'well what does this say at the bottom'? You know, it's different. (pause) Well? Next card?

Card #3

(6) Now they've associated the hand and the hat visually and by word.

(4) And by the picture they could say 'there is a hat in his hand'.

(6) There's the same letters at the bottom.

(1) This card is more of a review isn't it?

(6) Yeah, joining them up. Associating them.

(3) Now I see. It is 'this is a man' and the other one was 'this is his hat'. 'Hand the hat to the man' is what I should have thought of. Instead of 'hand the hat to me' it is 'hand the hat to the man'.

(6) Using his hand...

(3)   Possibly they would be better than I.   (laughs)

(6)   M and N.
      .

(2)   Are these figures, like the second one, larger because they're
more important? They're what you're trying to stress   in this
particular thing rather than the 'man' it's the 'hand'?

(6)   Could be!

(2)   Same with the hat!

(3)   Yes I would think probably your attention focuses almost
invariably on the larger figure. Doesn't it?

(4)   Yes, because this is how you normally speak you know, it is his
hand, so its maybe the vocabulary of the larger words.

(5)   You see the larger figure can be less, can be defined with fewer
words, because there is more things to it. Whereas with the hand, you
may just think it is a branch, therefore you have to draw the whole
man.

(2)   And children are more aware of the figure as a whole rather than
the individual parts.

(4)   And with the different sounds at the bottom, that 'hi' was in the
picture before and the 'mn' could they have meanings?

(1)   These are probably the sounds.

(4)   In every word they have the same sort of meaning.

(1)   The 'st' possibly, there are several 's's' and several 't's'.

(6)   But none of them together.

(1)   No. No combinations, but still they would, you'd think, they
would be able to put the two together, (sounds the s and the t)

(4)   And they're in alphabetical order, aren't they?

(1)   Yeah, they are. (laughter) maybe that's coincidental.

(5)   Right! Perhaps that's what it is. They put the alphabet right
there. That's what it is. They teach the alphabet by doing that.

(6)   Hey we're learning fellows.

(2)   He's holding it?

(6)   Yeah. It's associated 'his hand'.

(3)   The words are being repeated 'hand the hat' to the man.

(2)   In other words it's dealing completely with the man, it doesn't have anything to do with anything else.

(3)   No I think it's...it's using hand in two meanings. 'This is his hand', 'Now hand me'. 'Hand the man his hat'.

(6)   Oh I don't think it's as complicated as that. They've just shown the hand as possession. 'It's in his hand', therefore 'it is his hat'.

(2)   So it's just dealing with 'him', the whole thing.

(4)   It doesn't involve memorization so much, because they've changed it. Y'know 'this is a man' and before it said 'it is...

(6)   'It is in his hand'. It belongs to him. If somethings in your hand it belong to you. These are my cigarettes, in my hand.

(3)   But why couldn't they stress the double meaning of hand, there?

(2)   Would they realize it?

(3)   Well, maybe it would be too complicated.

(2)   You're taking it one step beyond.

(3)   'Hand the hat to the man'. why couldn't it be?   (laughter)

(1)   They had 'hand it' in a box before.

(5)   See the word 'in' it's boxed in. I think that's the word they're trying to get across, with all those sentences above.

(1)   Seeing it in isolation.

(2)   Because it's a vague term you mean? This way it's stressing and clarifying it?

(3)   This is the use of the pronoun ofcourse, that is also being brought out.

(6)   But that's above that. They don't do pronouns until about grade 6.

(1)   Are there any principles involved in this card?

(4)   I think everyting is quite concrete. Whereas y'know, if you're learning to read and you're given a story to learn to read with just... to start with, it has no relation to you...this is more personal. Y'know it's got a relation, more directly to you.

(1)   Rather that that man being called John or something.

(3)   I was thinking. There's not an action for the child. Y'know I always think of children doing something when they are learning. That other card before made me think of 'hand the hat to me'. Now maybe this would throw the whole thing off kilter (she laughs.) But there isn't action for the child to perform.

(6)   Well if we are going to get through these cards we had better move on.

(5)   I thought you were thinking of having a man on flannelgraph and put the hat into him and then have sentences beside them.

(4)   The next card?

Card #4

(4)   I can see the relationship, it shows the different types of everything.

(6)   They've gone back to the specific again.

(3)   Well now I think we're moving out of...into a combination of thoughts.. a continuation of...

(4)   Joining two.

(3)   Not syllables...but what is the word I'm thinking of? Two thoughts that are joined?

(4)   Stressing 'and' and the linking word.

(3)   This is good for a child because there's a tendency for them to have jerky reading procedure.

(2)   Still sticking on the same words?

(3)   'This is a hat and this is a hat'. I think this is good.

(4) Using the word that the child uses mostly.

(6) Showing both hands too. Which is abit more meaningful. Different types of hats. Assuming that they are different hats.

END OF TRIAL 1

Trial 2
Card # 1
(4) We've discussed this one before can we change it now? We've discussed this one.

(3) I got thinking about the 'st' at the bottom of this card and I couldn't figure out what relationship it has to the card. It's totally different and I wondered if maybe this is why it was there, because it was totally different?
Card # 2
(4) I wonder if they're not just giving the letters of the alphabet? If you'll notice all the letters at the bottom are in the words at the top. There are none that aren't.
Card # 3
(2) What about teaching them consonants and vowels?

(5) In the second sentence it says 'this is a hand'. The other one says 'it is a hand'. The hand is the same as the word 'it'.

(3) It is a pronoun reference that they're teaching the child... still I was thinking of what significance the 'st' has. I can't relate it unless it is only that it is a totally different blend and that it...and maybe the child is to recognize it is totally different.

(6) Well its on the next one so can we go on to the next one...I think we covered everything...
Card # 4
(4) No letters have been added.

(3) I think the key word here is 'in', and the idea is for the child to think ahead feel, well, 'this in' what, 'his hat is in his hand' 'it is in his hand'.

(6) Represents a sort of conjunction...In,'the hat, his hand'.

(3) The concept would be to think ahead, for the child to think ahead using the word 'in'.

(4) Well they could guess what the word would be, y'know, 'where is his hat'? 'It is in his hand'.

(5) Thinking ahead, the hat, you know we see the hat and the man held the hat, this would relate to the man. I think that is what we will find out. Because now it's in his hand, perhaps its on his head next. I think you have the relation there 'in'.

(6) The child is being introduced to the hat as held in the hand rather than on the head.

(5) Yes. First in the hand he sees where is his hat, then perhaps he sees the hat on another...

(4) So now the teachers going to ask 'where would the hat go'? And the next picture, let's see it...
Card # 5
(2) It's a summary. It sort of combines

(6) But no way yet does it indicate the concept that a hat is generally worn on a head. I would suspect that this is the first thing he would learn.

(3) Well I imagine that this is to teach the child to extend his thought processes, wouldn't it?'This is a hat and this is a.'

(5) It does look like two objects doesn't it.

(6) Yeah. To me it's still putting them together...,possession.

(5) Yeah.

(4) I think we should go on to the next picture. Now there's a repeat of the same sentences. 'This is a hat' and 'this is a man.'

(3) This is overview.

(6) But to me it's reinforcing this business of possession of hat in the hand, not on a head.

(2) I was going to say that the hat and the hand are still larger in proportion to the man.

(5) That has something to do with, y'know, the hat would be quite small and you couldn't recognize it.

(2) Or is it because the hat and the hand are most important rather than the man.

(5) So far.

(1)   Yeah. That could be. Just made up of sticks and lines.

(3)   Well, couldn't it also be the emphasis on the 'Hh', 'Hh'.
Have a hat in a hand? (general laugh)

(4)   Well it's the same vowel sound if you note.

(1)   Yes they're getting to know the 'ha'.

(6)   'This is his hat.

(5)   Perhaps they see the picture and they're supposed to recall
the sentence. Like y'know, y'have 'the man', 'this is a man' this is
the same thing like 'the hat and the hand' ... in sentences before
and 'in his hand' like you pointed out. Now they show just the hand
and the hat.

(3)   The pronomial reference is emphasized here, by eliminating the
word 'man' in the latter sentence. Still 'it' all the time. The
man is not there.

(4)   In teaching it the teacher could say 'what is this' and 'what
is this' and the kids would say 'this is a man.'

(5)   Would the teacher ask 'what do you see now?' He wouldn't ask
'what do you read now'?

(4)   No they could point at the picture and then say 'what is this'?
To answer the complete sentence the child would have to say 'this is
a man' or 'it is a man' he could say. But if he had been introduced
to the 'this' before, by this time he should recognize it.

(6)   Getting back to these letters at the bottom. It seems to me that
the letter 'a' the first letter of the alphabet and the letter 't' is
the last letter of the alphabet used in any of the words, so far.

(2)   What about the use of 'is', 'this is' all the way through.'his'.

(4)   Well they would get the sounding if they saw the two words.

(2)   Wood, was trying to show that if you see it often enough in
that relationship you'll be able to carry it on to another one, is
that what you mean?

(5)   Do you think the children would question it.

(2)   No, but why is it used so often? 'this is a man' this is his' ...
is,is,is,

(6) Shall we go on?

Card # 6

(4) Now you can see the relationship with what's coming up. Now if you'll notice another letter to the alphabet has been added. The letter 'e'.

(6) And we haven't gone beyond 't' there's no letter beyond 't'.

(5) See the new word introduced here.

(6) I guess they are using the concept of using letters in the alphabet and pulling them out of the word and gradually enumerating them in an alphabet.

(5) Look at how they introduce a new word though. They have started the sentence the same way each time. Y'know, so that they can see 'this' and 'this' and 'this'.

(3) I think it's quite significant to that the word head has got the letter 'e' in it and the combination of 'd' and 'e' is different. There's no confusion for the child in learning the letter 'e'. 'e' is quite often confused when they learn it with another similar.

(5) I think by now that they already know that 'this is his' I think they can already figure that much out. They've seen enough of that. So the only thing they have to learn is that final...

(2) And it's stressed again in the box.

(6) It is the new word.

(5) That's the new word emphasized.

(6) Can we request a flashback. There is no use of 'e' here. So they're teaching them the use of the alphabet in context.

(2) You mean that's why they grouped them together 'de'. It seems rather unusual to me.

(6) They're in alphabetical order.

(2) I can see 'st' but not 'de' together.

(3) Why? A,b,c,d,e,...

(6) They're in alphabetical order.

(2) Yes but not right together. They've got 'a'. Oh I see what you're getting at.

(3) Well I think it's easy for a learning process to group something that has a reference. If you think of 'a' then you think of 'e' because 'd' follows 'e' and it's not a similar reference because 'd' follows 'e' and it's not a similar reference bacause 'd'would never be confused with 'e'.

(6) Seems to me they're gradually developing the uses of real world things to show the use of the alphabet.

(3) Something concrete.

(6) Yeah and they're gradually filling in the alphabet, as far as we can predict.

(5) There's no use giving a word that doesn't mean a thing.

(3) I wonder if the child could see any relationship to 'dead' and 'head'.

(4) Once he gets the sound of 'duh'. Then the teacher might say, 'well what other words do you know that sound with a 'duh'? Or 'what words do you know that rhyme with 'head'? They wouldn't get the letters but maybe the sound. They could build a whole new vocabulary of words that rhyme with them.

(6) Shall we go on....now this is sort of a recapitulation
Card # 7
(2) They're showing two different kinds (head)

(4) One's a man and one's a woman.

(6) No introduction of new letters.

(2) 'This is a hat and this is a hand". Now why did they put those two together?

(4) Because the hand is going to put the hat on the head.

(1) Well they've seen the sentence before. And this top line is reinforcement of the lines they've already read.

(5) Well they remember the picture before and they can say 'this is a head'.

(1) Do you think a kid once he saw that would think it was the only type of head.

(4) In a drawing he might, maybe no in pictures. Well we shouldn't make generalizations like that. I mean most people...in say our society.

(2) Then how can you know what a child does know?

(3) Well if you were teaching this to a foreign language child, he would quite easily associate 'this is a head' with a masculine article, whereas he would also associate 'this is a head' with a feminine article. So it could be that the article is the same for male and female in this particular case.

(4) So that in a foreign language this would be quite a good idea... Can anyone predict what the next picture will be?

(1) This is really bringing back the whole thing in review.

(4) To reinforce the ideas.

(5) Yes, reinforcement all right. There's no doubt about it.

(6) Only one new letter, through the last three or four cards.

GROUP TRIAL 3 (Begin at Card #6)

(1) Some thing that was brought out last day is <u>why were there no features on that face?</u> Why is it only the outline? Is there some underlying reason here? Some principle involved here?

(5) But why is it we just realized it now? See there's no fingernails on the hand.

(4) No but the hand is facing the opposite way.

(1) I thought that this would possibly just be on this card. I thought maybe that the card the child saw more in color and it's not is it. There's no color, it's not livened up in any way with pictures, or movement...

(3) I think that with this card, the figures being on the right hand of the card is different from the first where now the child is assumed to be reading. He is now reaching the end of a sentence and the figure is at the end. In the first card the figure is at the beginning of the sentence and we assume that the child doesn't read, he is looking at the figure.

(5) Well, if you're still talking about the head, I would say that if it had a nose or an eye, they would probably say it might be a 'face'. They wouldn't say necessarily that it's a head. And they would say 'Oh what a big nose or small eyes.'

(4+6) Yeah.

(2) That's a good point. It would be distracting. And another thing. Did you notice when you go further on the head and the hand are still large, but the man and the hat are smaller. Would this be because they are trying to stress the hand and the head and not the hat and the man anymore?

Card #7 (skipped)

Card #8

(2) This one. See how the hat and the man are small, in comparison to what they have been, especially the hat.

(4) Well look at the sentence.

(6) They've put the hat in the perspective with the man because it's with the man.

(2) But in one place, where it says the man has the hat in his hand. The man was large and so was the hat, but it isn't in this one. The two main ones are your hand and your head.

(1) That bottom line. I wonder if that's just a guide for the teacher? Rather than for the student.

(6) No. My opinion is that this the key to the whole thing. They're gradually building the alphabet.

(1) Yes. But what good is the alphabet?

(6) I don't know.

(2) They have to learn it eventually and this is an easy way of learning it.

(4) Something they've heard about from their parents.

(6) A structured order of letters that come one after the other.

(1) But maybe they're trying to break tradition here and say that these sounds are sounds that they've heard in words before and it just so happens that they still have gaps.

(2) But when would you ever use 'mn' together?

(6) I don't think that's important. I think that they're showing the kids that they are letters in use in words. They're teaching the kids specific usages of the letters and then they've putting them into an order. I predict that by the end of the cards we'll see the whole alphabet.

(1) Yeah. I believe you're right. But it's the purpose involved that I'm trying to...

(2) You feel that the alphabet isn't that important...So why teach it there.

(1) Right.

(2) What's the sense of teaching it in the first place.

(1) Right.

(4) Just like when you're building a house. You have to have some foundation to go on.

(6) Yeah and here we are, we've got the shingles, the two by fours and the nails and here's the house. We can take them all apart and line them all up, and there they are. Starting from the top and going to the bottom. And that's what we're doing.

(2) And another reason the alphabet is important whenever you use a dictionary or an encyclopedia everything is useful. So why not teach them that.

(1) I feel that here, they're learning it as they go, more or less.

(3) If it's learning the alphabet I think its not a very good way to learn it. It's a recall of 'd' and 'e' together, 'h' and 'i' together, 'm' and 'n' together.

(6) Let's wait a while. Let's wait and see.

(2) But 'd' and 'e' work together in a word.

(3)   I think that.

(6)   I think that you're putting a value judgement on something.

(3)   I mean 'd' was by itself. They're showing that another letter can be added afterwards. It doesn't have to go together.

(6)   They're just putting letters in as they're used.

(4)   Well do you think that it should be memorization the way we used to learn.

(1)   No.

(3)   I think it's a question of here's the recall of the words in order. But I don't see the value of it.

(6)   Oh I do.

(1)   How else would you do it?

(3)   The alphabet.

(1)   How would you do it?

(6)   Well aren't we getting away from the subject?

(1)   Straight stimulus response? Here's the alphabet. a,b,c,d,e,?

(3)   Being that I'm sold on phonics, I couldn't say. (laughs)

(6)   Well shall we go on.

(2)   Wait a minute we were going to guess what the next one will be. What the next word that was going to be introduced.

(6)   The next letter.

(2)   How about 'hair'.

(6)   O. K. Let's try 'hair.'

(4)   I think it's going to be a 'p'. 'Put the hat on the head.'

Card #9

(1)   Another reinforcement.

(6) We've seen this one before. There's nothing really new (read card)

(2) Just showing possession.

(6) Can we agree to go on?

Card #10

(6) Different usages of the same letters.

(4) The same words but in a different order.

(3) Showing possession.

(6) Still no new letter. We've spent a long time on each letter.

(2) And they've stressed that possession.

(1) Oh still no new letter. They're moving quite fast, because if a kid can read all those words in ten cards, not bad.

(6) Can we agree to go on?

(1) There doesn't seem to be anything new does there?

(2) Yes. Possession.

(3) Possession.

(2) Yes, the apostrophe 's'. It's stressed in the box.

(1) 'this is a man's head'. Good.

(6) That's more or less what the things been getting at isn't it?

(2) Leading up to possession?

(6) Yeah. O. K.

Card #11

(2) Completely different.

(6) 'This man is in a seat'. 'He is in a seat'.

(1) There's certainly nothing...

(5)   How come the man comes in a seat first and the seat is suggested afterwards? There must be something missing.

(2)   You think it should be something different? Seems an awful change.

(5)   Shouldn't it introduce the seat first.

(1)   No.

(5)   I would think that it should introduce.

(3)   Well I don't know. I can't think of any child that would think of a chair as a seat.

(6)   But you see they haven't introduced them to the letter 'c' yet.

(4)   Or the letter 'r'.

(2)   Why would they put 'seat he'.

(6)   Well there's a period there.

(2)   No but in the boxes. Why?

(6)   Have we had 'he' before?

(2)   Yes but why 'seat he'? Does it make sense?

(1)   You get the 'e' sound.

(6)   Well O.K. teaching them different sounds. Different spellings of the same sound.

(1)   They certainly don't relate directly to the child's experience, do they? They could have said 'Janet is in the seat'. I mean to relate it to a classmate.

(2)   But why introduce something else when you can simplify it by using the same thing.

(1)   Yes, that's what I'm asking.

(6)   Can we find anything else. Some new concept?

(3)   There seems to be a certain sequence of sound all through it. There is a phonetic sequence.

(2)   The use of 'is' all the way through.

(4)   Also notice the two different chairs.

(6)   They did that with the heads.

(3)   It's the generalized meaning isn't it? Of the word seat.

Skipped Card #12

Card #13

(6)   (reads card) Here they're getting at the uses of 'an' before
a vowel and 'a' before a consonant. Up until now they've just used
'a'.

(4)   Also they've introduced the letter 'r'.

(6)   Aha, yeh.

(1)   Yes, for arm.

(6)   Two fairly big concepts here eh?

(2)   They haven't varied the man. Both of those are exactly the same.

(6)   But this'an' thing is quite significant.

(1)   I think it would be fairly hard to hold a child's attention with
these words.

(3)   Not when they're wanting to learning to read it wouldn't be.

(4)   Especially when it's something concrete. Like here again.

(1)   But what makes a child want to learn?

(4)   Something that's related to his own experience.

(1)   But is this?

(4)   Why not?

(5)   Surely he has an arm.

(4)   Well most people have arms and hands.

(6)   In fact I'll bet if you showed a kid that card. half of them would put their arms up.

(1)   But isn't this too primitive, too elementary?

(2)   But isn't that what's most important to a child?

(1)   No I think his experiences are more important than his own physical being.

(2)   That isn't his physical being that is a man. It's a person.

(1)   I think if I were a child I'd much rather learn words about my own environment. Ofcourse this is his environment.

(3)   I think its a very big field to theorize on how a child learns to read. I think that when a child comes to school they want to learn to read.

(1)   Not necessarily.

(3)   Yes. I think they do.

(1)   I think that's a real generalization.

(3)   No. When you go to school you learn to read. Almost any child.

(2)   Because it's expected of them.

(3)   I think this is a very easy way for them to learn. To have the visual picture. To be able to relate that visual picture to an actual phonetic sounding word.

(1)   But there's no action.

(3)   There isn't. This I think is lacking. In these cards. The lack of action of the child, doing.

(1)   Well that's what I just finished saying and you disagreed with me.

(3)   No. Earlier on.

(6)   Aren't we getting off the subject.

(2)   There's not too much change in the cards.

(3) I think action should be an attempt to involve. You may find later on they will be. Later on they will say, 'this is a pen' 'hand me a pen'. You know, something that they can reach in the classroom.

(6) Shall we go on.

(4) Don't you think they can, I mean...

(3) This is a very difficult concept, this 'an'

(4) You say you can't involve the kids, but you can.

(5) Just making longer sentences to point out two of the same things.

(3) You can if you were not...if you were to veer from the cards, you certainly could.

(4) No even without veering from the cards. Get all the kids lined up and 'this is an arm', so they all raise an arm.

(6) Yeah, I bet if you showed that picture, half of them would raise their arm anyway.

(3) I think you could

(4) You could get the relations anyway. Quite concrete.

(1) So it's up to the teacher to bring in the involvement..

(4) You just can't hand the cards to the kids and say discuss just like we're discussing.

(5) No they'd be lost.

(1) But is this a good thing?

(6) I think we're getting off the topic. We're supposed to be trying to find out concepts.

(1) Oh I don't think we're getting off the topic.

(6) Maybe not.

Card #14

(6) (Reads) They've put 'man's' into a sentence. Oh they've introduced singular and plural her. "this' and 'these'. Notice the blocked words are all the plural words.

(4) Here's the age grading in lauguage.

(3) I think here there is also a tendency to expand the child memory span. This is a longer sequence of words.

Trial 4

Card #1

(4) How many letters are there? Three, five, seven.

(6) Is there any letter in the sentence that is not represented by the letters below? (figures)

(5) The teacher would ask 'what do you see there'. 'Oh i see a man and I see a hat.' Can you read anything else into it. Is there anything else a child might recognize. I guess it depends whether he went to kindergarten or not.

(4) Well, shall we go on to where we left off before?

(6) Just flip the cards.

Card #12

(3) They've introduced something new in the length of the number of sentences here. Before there was only the two sentences.

(6) All using 'this is.'

(3) I think the emphasis is on the form of the sentence. Like, they could use this now with almost anything. They could say here is the form of a sentence.

(4) Yes this is one of the forms that kids often use. You know when they're asking questions 'what is this Mommy?'

(6) It's sort of abit like Dick and Jane.

(3) Wouldn't you say it's the pattern of the sentences.

(4) But there's no names.

(6) In fact it's almost worse, they can't...you know at least in a class there maybe a couple of kids in a class named Dick and Jane.

(4) No when you look at a picture, you can't tell whether this is Dick or this is Joe. You know that its a masculine figure.

(3) I would think that pretty soon the cards will change to a different form of sentence, maybe a question form.

(6) It's bugged me all the way along that whoever made this thing up is sort of just imposing their perceptions...this is it kids, here it is.

(general disagreement)

(6)   Instead of ear you could have a car and say 'this is a gear.'

(4)   Yes but they're relating it to man.

(6)   But that's assuming that the kids want to identify with the figure of a man or a woman. This not necessarily so.

(2)   Well isn't it. Isn't that the most important thing to a child.

(6)   No I'm pointing out this is the value the authors have put on it. It isn't necessarily so. There's no evidence to suggest that it is so.

(2)   What does a child notice first? The first thing it notices is its mother.

(6)   Yah.

(3)   I know we're getting a way off the track, because a teacher could use this with anything. If the teacher had a pencil in her hand. They could hold this up and say 'this is a pencil'. They could have an eraser on the desk. I think this is merely to establish a form, a pattern for the child to apply, to anything I don't think we should theorize about it. Why they use the figure of a man,

(6)   I think it's important.

(3)   Well in the first place you can't draw a pencil so that a child could say it's a pencil. You couldn't draw an ear without a man. I mean let's face it.

(4)   Well you can, but...

(2)   What about that 'hair, arm, ear'? Is it the sounds?

(3)   Well yes, and also it's related.

(6)   Its got 'r's' in it. R's the new letter.

(3)   It's got relationship to the figure.

(2)   But why in that particular order?

(4)   Well look, they separated the head from the body. Then the ear is on the head.

(6)   Well?

(4)   Well you look at a girl. What's the first thing you see when you look at her head?

(6)   Blond hair.

(3)   Let's go on to the next one.

Card #13.

(6)   (reads cards). Their both exactly the same.

(4)   Also notice they've got different arms again.

(6)   Oh yes we established that the difference between 'a' and 'an'. Remember last time we talked about it.

(3)   There's two sentences the same here. And there's one sentence that's different. Now I think that the teacher could say here 'Children is there any sentence that you notice anything different?' A child that was phonetically speaking could immediately say 'Oh yes, I see the second sentence is different. But a child who is not phonetically · speaking wouldn't see the difference.

(6)   Well sure he would. He could just look at it and say 'There's one letter in that third...

(5)   Word. In that third word.

(3)   What would that mean to a child that isn't understanding phonics? Do you mean that he would sit there and count them?

(6)   Well he can see an extra symbol. I can say to you 'what's the difference between that and that'? And you can readily see whether you speak English or not.

(3)   Let's see. Should I say 'The teacher could say 'Is there a sentence that sounds different'? (Laughs)

(6)   Or that looks different.

(4)   But by this time I think they should get the 'This is' bit.

(3)   I think there will probably be an emphasis on the changed sentence.

(4)   I don't think the teachers going to read it out to them. She's going to ask the kids 'what do you think this sentence says'?

Because by now they've got the form.

(3)   I think this would depend on who she was teaching. Don't you?
If she were teaching an English speaking group she would probably
not need to. But if she were teaching a non-English speaking group,
she would probably read it first.

(6)   Well if it was a non-English group they would put it in the
language that they spoke, wouldn't they?

(3)   No. They're teaching them to speak and read English? Why would
they use their own language?

(6)   Well were assuming aren't we that the kids, their pre-school life
has been in an English environment.

(3)   I think you're presuming too much from having lived in Canada.
In Canada we have lots of children that don't speak English until
they come to school.

(2)   But then you'd have to have a whole class that spoke another
language. Or would you read it out. I mean if it was a normal
class you'd only have maybe one or two people that didn't speak
English.

(3)   Well these one or two people have to be considered,

(2)   But they would listen to the children and catch it wouldn't they?

(3)   Well they may, but they don't grasp it correctly, from a child.
Shall we move on.

Card #14

(4)   'This is a hair'. I think that's cute.

(5)   Showing possession.

(6)   Some of those hairs look almost like letters don't they. A 'p'.

(4)   But they haven't been introduced yet.

(3)   I think the emphasis here is one an extension of the number of
words that the child is now being expected to learn. Because they
are not using that many more letters. They're just using more words.
Aren't they? And the child now is being moved into a higher speed
of learning. And ofcourse they see the possessive.

(2)   When we saw that one before that had this man.

(4)   Still the verb to be.

(3)   Still the same sentence pattern isn't it. What it has done here they've introduced the plural verb.

(6)   Any new letters?

(3)   There's a different form of the verb being introduced.

(6)   Yeah, singular, plural.

(4)   Still only ten letters.

(3)   Shall we move on?

Card #15

(6)   Hah!

(4)   Heh, well look at this. Rat! The kid might say, 'this is a mouse'.

(6)   But he can't. He's being told this is a rat.

(4)   I don't think he's being told.

(6)   But he is. It says right there.

(4)   But the kid can't read that. You say 'what is this' and the kid says "Oh it's a mouse'.

(2)   But they're using the same words again 'head, ears, hairs'.

(6)   They're using the same letters.

(2)   They're relating it to something else .

(6)   Yeah.

(4)   So the teacher will say, 'no that's not a mouse, well what else could it be?'

(6)   I wonder if the authors are assuming that by now the kids can juggle the symbols around so that they can recognize things like 'rat' as opposed to some other rejuggling of those three letters.

(4)   But listen none of those, none of the sounds in that word have been introduced before though.

(5)   Sure 'r' has been...(discussion of various sound elements followed)

(3)   Let's face it the teacher has to know what she's doing. She wouldn't be teaching if she didn't know what she was doing.

(6)   They've introduced the neuter. Its instead of 'his or her.'

(5)   But why have they omitted 'its hairs' or something?

(6)   But to me this is an astounding change. In the sequence. You know, from all these parts of a man and wham all of a sudden.

(3)   I don't see that it's an astounding change. I must be backward. I think that a child by now would know what the 'r' sound is.

(4)   Yeah, but that's not even an 'rr' sound.

(3)   It isn't?

(4)   No. it's a 'ruh'.

(3)   How do you pronounce rat. 'rut'.

(4)   You don't say 'er' you say 'ruh' 'ruat'.

(3)   I don't think there's any difference.

End of Trial #4

GROUP TRIAL 5

Card #12

(1)   Nothing is ever colored is it? There's no color anywhere.

(6)   Yes that one.

(3)   And an extension of the memory span.

(6)   It hasn't got into the singular or plurals bit yet.

(3)   Shall we go on.

Card #13

(3)   This is reinforcement don't you think. Maybe its being used kind of diagnostically. To see if the child could actually read.

(4)   That's an idea. Ofcourse it could be that he's just memorizing.

(3)   It would be good because it's just introduced this 'an'. One sentence is with 'a' and then one with 'an'. You would see if the child is actually reading.

(6)   Kids do that too.

Card #14

(4)   Here's our hairs again.

(3)   Do you think that this would also be used to see if the child is actually reading.

(6)   Well there's a confusion of the word 's'. Might get a bit confused about the use of 's'.

(4)   I don't really think so. Not with the spostrophe. Do you think the teacher could teach this without actually telling the child...

(3)   I don't know I was just wondering about that. But I don't know whether we were supposed to speculate on that. As to what the teacher would be doing at this stage of the game.

(4)   The teacher could say 'Well, whose head is it?' And the kid would say "Well this is a man's head".

(6) And this is how we write 'man's by putting that little dot... and 's'.

(3) What do you think of having the picture on this side of the card.

(4) Can I just look back for a minute. If you notice on some of the cards the pictures are on both sides.

(3) That's why I would think that the child would recognize the picture first and then the teacher would say something about the picture. The stimulus would be the picture not the word.

Card #15

(6) The big change is from 'man' to a 'rat.'

(3) They've had the sound introduced before.

(2) We got bogged down on this one before.

(6) Not the sound 'at'.

(discussed sound of 'rat')

(5) We've got a lot introduced here, the plurals.

(3) To see if the child could relate in a new way. What's the word for that.

(4) 'transfer'?

(3) Yes, to see if they are generalizing the sound.

(4) Notice there are still only ten letters.

(6) 'rat' is a lot like 'hat'.

(2) 'Why didn't they use whiskers instead of 'hair.'

(1) I wonder why they didn't use 'cat'.

(6) Yeah, how many kids see a rat.

(2) Yes they've all been brought up on cat.

(1) There might be some confusion with the 'k' sound.

(4)   What about the shape of the letter too.

(3)   It just might be the confusion of the sound.

(1)   Throughout they seem to be trying to teach the child to read in sentences. There's no 'one' word. Never just the presentation of one word there. Always a group of words.

(2)   This would increase their reading speed then.

(3)   And there's always this pattern of the sentence. 'This is'. and 'These are'.

(4)   And I would like to go back to the fact that there is only ten letters. We've been doing quite a bit of thinking about this, if they introduced a,b,c,. I know my little brother is learning to print and they always get the b's and the d's mixed up. I wonder if there is any relevance.

(1)   There could be.

(6)   O.K. Let's look at it then. They've arranged letters in a reasonable pattern. If we forget about alphabetical order for a minute. There is a combination of curves and straight lines.

(4)   Yes you can't really get those letters mixed up.

(3)   Don't you think they are trying to introduce the alphabet with the idea that this should be related to the letters following.

(6)   Shall we see what's on the next card?

Card #16

(4)   Notice the plural in each one. Again the same pattern.

(2)   Now you've got a picture on both sides.

(3)   Yes, this would be diagnostic.

(4)   Yes. The best way to teach kids to read is, the way they speak. A child wouldn't say 'There's two man's out there'. It's going to come natural.

(2)   Just show the plurals in the boxes. They haven't changed the figure from the singular to the plural.

Card #17

(6)   Now we are getting to the basic anatomy.

(4)   Getting more detail.

(2)   'This is' and "these are".

(6)   No new letters.

(1)   I still think this is kind of a monotor diet of..there's
no color to it. The child would begin to...I think color...

(4)   The colors might tend to distract the child.

(3)   There introducing a lot of structures that they can use in almost
any situation.

(1)   I think the content given here is good. That the child could
grasp it, but I think that drawing the child to the book would need
colors.

(6)   I agree with you actually.

(1)   You know, if you have this form in the books, well the kid is
going to get the book but they also look at the pictures and they
have a whole thousand words.

(3)   Do you think that its necessary in a book.

(1)   It's not necessary for an older person, but I think you... it
is necessary to a large extent...

(3)   But don't you think that a child could go from here to a book
that's written in the same pattern. And generalize from what they've
learned here.

(1)   I think anything that the child learns here is of tremendous
value, like reading in groups of words he wouldn't just stall on one
word, so often we pull out one word and show it to a child and it makes
them read word by word. This gets them to read in sentences, but I
just feel that these cards are kind of dull.

(6)   They are not real world people.

(4)   You have a good point, but if you have a card and put blond hair
and blue eyes on a man, instead of saying 'this is a man's head' the
kid could say 'it's a face'. I mean what are you pointing to an arm or
a shirt, the hair or the head.

(1) I don't know whether I want a real live man there, but even if the page were, one page blue, one page yellow, one page pink...
GROUP TRIAL 6
Card #16

(5) Aren't they starting to introduce plurals.

(6) They've got everything here. You came out with some astute thing the other day, what was it?

(3) I can't remember, I'm afraid. (laughs)

Card #17

(6) Oh yes, this is the one I want.

(3) I think they might have some difficulty with 'these'. But the plural of the noun...it wouldn't make sense if they didn't use something different...if they were to say 'this' in reference to 'arms', they would correct theselves on this.

(6) Last time Charlie and I were not convinced that that was a good real-world conception of a man.

(3) Maybe the picture would onfuse the children but you could probably draw their attention.

(6) I can't get away from the fact that they have spent years building up an association of what a man looks like then they give them this thing.

(4) Yes, but when a child first draws a man he can't draw a man to look like a man.

(2) Why clutter it, why not have it general, not any particular man?

(6) To us it is. We've got the depth of experience.

(3) I think the plain pictures are better, because if they were to have anything else, say they were to have a sweater on the man and had an arrow pointing the child would have to choose. They're better uncluttered.

(5) If you saw a picture of a real man you might comment on his muscles.

(6) Yeah I guess you're right. (general agreement here)

Card #18

(6)   Again that doesn't look like a shirt to me. It looks as if it just came back from the laundry.

(3)   Could be the kids would say 'I wonder what that is'. I think they would be confused with that picture.

(2)   Why, it looks like a shirt?

(3)   No I think children would be confused with that picture.

(6)   Yeah and they'd say it's bigger then he is.

(2)   Yes but the same is true of the 'hat' its larger than the man.

(3)   This is an introduction to a new speech sound the 'sh' we haven't had this before have we? (they flip back) I imagine this would have to be explained to a child.

(5)   They've introduced 'the' it's never appeared before.

(3)   The change in sentence structure is very slight. I wonder whether the teacher would have to point out the difference between 'the' and 'this' or maybe wait until they found out their error themselves.

Card #19

(5)   Notice the difference 'this is' and 'that is'.

(6)   They're sort of introducing the idea that 'this' means the thing nearby and 'that' is further away and smaller. Ofcourse the kids might not know that things further away look smaller. They might think it's a smaller man.

(4)   Oh I don't think so.

(3)   I wonder if they would get any value out of sounding 'that'?

(6)   To me, if I was reading that for the first time as a six year old I would say the first guys big the second guy is smaller.

(3)   If you look at the next card they probably have a man. (they turned over)

(6)   Yeah. 'this is a man','he is here'. 'that is a man, he is there.'

(3)   A pretty difficult concept you know, 'that' and 'there'.

Card #20

(6) Is it valid, does it always hold that things near are here and things farther away are 'there'?

(3) I imagine they could get it quite easily by sounding it.

(4) But isn't the primary thing here to teach the child to read? I mean the concepts are going to come in with this.

(6) Well, use of the language.

(4) This is now they normally would speak, so this is why it's written down this way.

(5) But if a kid goes out and sees something he may not know whether to say 'this' or 'that is something'.

(4) But by this time when they are learning how to read most of them have a concept of English, you know, speaking the language.

(6) Yeah.

(4) So therefore I don't think there would be a problem.

(6) Yeah, but I'm not fully convinced.

(4) Laughs

(3) What's involved here is grammar construction as well as reading. More than just learning to read. Its the correct grammatical construction.

(4) But the correct grammatical construction is generally the way people speak.

(3) Yes but if you happen to be attending a school where they expect you to do it according to structured grammar.

(4) But they don't anymore.

(3) Oh! (laughs) Don't take research so seriously it doesn't cover it all.

(2) Why should you teach it according to rules that they should memorize. What do they mean, nothing? If you know it in a pattern its easier.

(6)   I'm concerned that while you're teaching them one thing you may be teaching them a whole bunch of other things. I mean 'this is a man' they might think of a man standing on a round thing. Those two lines could be a sidewalk.

(4)   But are you confined to this particular card?

(6)   Yes, we're six year olds reading this.

(4)   But 'we' are not confined to this.

Card #1

(5)   Now comes the question why did they start with 'this' instead of 'that is a man'&

(6)   According to this dictum, that's the thing that's closest.

(3)   You pick a pencil, what do you say? 'this is a pencil'.
GROUP TRIAL 7
Card #1

(3)   Introducing the personal pronouns.

(4)   Also they've only used the same 10 letters all the way through. I would predict that ultimately they would have the whole alphabet.

(3)   Shall we go on.

(6)   "his" is stressed.

Card #2

(3)   Did we agree that the figures were adequate. (general agreement.) Are they as meaningful on the right hand side as on the left.

(4)   Look, in the first its on the left side. So the picture is the most important.

(6)   It's not clear what you see first when you look at it.

(3)   A chinese child might read from the other way.

(4)   My little brother tries to read from right to left.

(3)   Maybe its designed just for that. Maybe the pictures put on the right are for those who read from right to left. Some children do you know.

(6)   It could be.

(3)   Shall we go on.

Card #3

(4)   I wonder if we could line up about three of them and look at them all at once. (They did)

(6)   No I'm not convinced of any symbolic significance to which side the picture is to the sentence.

(3)   Well I'm going to disagree with you on that. I think you

(4)   Put your finger on it.

(6)   I would tend to agree that the childs attention would go first to the picture. But I won't say that there's any meaningful pattern.

(3)   Obviously the picture has some significance. 'in' is the word we deal with more.

(6)   We show them, we point out to them.

(4)   Yes, they read individual words but here I think we're trying to get them to read sentences.

(6)   Is this material designed to teach immediately that sentences always go that way?

(3)   I don't think the teacher would read it to them backwards.

(4)   Is she going to read it to them?

(3)   She's most probably going to read it to them later on.

(4)   No I don't think that they will.

(3)   How are they going to be able to start?

(4)   Maybe the teacher is going to ask them 'What is this'?

(3)   I definitely think the teacher would have to point out.

(4)   When they can discover something without being told it would mean more to them.

(6)   So they learn the arrangement of words 'This is'.

(3) How is the child going to figure out the last sentence without being given tutoring?

(2) Well you've got the words up in the sentence before. This is the same again.

(5) They'd have to be quite familar with the ones before to read the third one.

(4) This is the idea to get them familar.

(3) Then you would suppose that they are not offered to the children the way they are offered to us.

(4) I think they could be offered exactly as they are offered to us and then supplemented with more. Make up games.

(3) That's fine but I can't see it. I can't see that the teacher would be able to present that card. And get an answer 'this is a man'. The child would say 'that's a man'. I think the teacher would have to structure it.

(4) What if the kid did say 'that is a man'?

(3) I can see leaving the third sentence for the child to read without telling him once he accomplished the first two. To see if he can general-ize from the first two.
(6) The new word is always in the block. Did we realize that before.

Card #4

(4) The pictures are related to the sentences.

(3) Do you think he would leave out the 'and'? Wouldn't he notice right away that he's left something out. If he's reading he would notice.
GROUP TRIAL 8
Card #1

(4) The kids could learn to read without a teacher.

(3) Do you think they could (laughs)

(4) Yeah.

(3) Teaching machines?

(4) No, just with the cards and say one kid who might have been exposed to a couple of words.

(3) Well I think if they could they would be reading before they come to school.

(4) Well if they really want to read just give them the cards.

(1) Then it would be the same as trying to learn a foreign language. They could have "Das is ein mann".

(6) You could use a single word 'man'

(4) But if there was more than one word don't you think the kid might get it?

(1) I think they do learn an awful lot on their own. Once they learn 'this is a man' then everything else...they've already learned the first three words.

(4) You could just say 'what does that say?'

(1) It could say that is a stick man.

(4) Yes, but just count the words.

(3) No I don't think it would be possible.

(6) I think Louise that the kids could probably go ahead on their own after the first couple of cards.

(3) Once they got an idea of the pattern. But when they move to the third sentence they would probably read it exactly the same.

Card #2

(3) They would probably look at the third sentence and read it 'this is' they might use 'his' because they've had it before.

(5) They would recognize 'his.'

(3) They would know that they've made a mistake. I don't think. They'd know what mistake they've made.

(4) It would be interesting to try them.

Card #4

(1) I think children have a tendency to read rhthmically.

(6) The teacher might emphasize each word.

(4) But this is natural speech to the kid.

(6) But the child might concentrate on each word.

(5) Yes, I think that's what the child would do.

(3) Why would he do that there isn't any emphasis. His eye would sweep it.

(4) Its all just like normal speech to them.

Card #5

(6) Here they've got drawings all over the place.

(5) Why are they all over the place.

(6) We discussed this yesterday.

(3) It may he for children with a 'lateral confusion.' There are children who make this mistake. I think that's quite sound.

(6) Why shouldn't the whole sentence be structured that way.

(3) How could it he (laughs). You've got to teach them how to read.

(1) You could start on this bottom corner and go across.

(3) You think you could and ever teach him how to do it properly.

(6) What's proper. It's just arbitrary.

(3) In other words you think you could teach a child to read if he read it backwards.

(6) Its convenient for writing because we write with our right hand.

(3) I don't think its impossible but I think its highly probably that he'd never be successful in communicating.

(6) You could communicate if I wrote backwards on that wall. You could read it.

(1)   O.K. what was the original problem involved here?

(3)   It was just those figues and wondering why.

Card #6

(4)   Why no thumbnail on that hand?

(1)   No distractions.

(3)   I don't see anything new that we haven't discussed before.

(1)   Why do they bother putting a hat band in?

(6)   To make it more realistic.

(4)   Most hats have hatbands.

(5)   I think the pictures that are given are clear. You can't go wrong describing or identifying it.

Card #18

(3)   I didn't think the figures of the shirts were very clear to children.

(5)   If we want to be critical, but I don't think that's the point.

(4)   You talk about stick men all that. Well, you know how kids draw, they see things completely different from the way we do. They don't notice the smaller things.