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ABSTRACT

In this document, points of view are presented by a group of educators and academicians whose common purpose was to explore the area of beginning reading. Articles deal with (1) definitions of reading and problems with the use of associated terminology, (2) various theoretical considerations of the processes of learning which apply to beginning reading, (3) linguistic contributions to reading instructional programs, (4) using the graphoneme (closed syllable) concept in teaching independent decoding of reading vocabulary, (5) current research and opinion on the nature and utility of the syllable, (6) a reexamination of the Initial Teaching Alphabet (i.t.a.) system, (7) reading comprehension and the development of thinking skills, (8) mechanical teaching devices as the neglected dimension in reading instruction, (9) the weaknesses and strengths of the individualized reading approach, (10) writing language experience stories in "verse form," and (11) recommendations for training teachers of reading. Contributors are E. Hugh Rudorf, Virginia W. Jones, Patrick Groff, David Davis, John Ebbs, and Evelyn Wiggins. An appendix about the graphoneme concept and bibliographies on related research projects are included. (JB)

INITIAL READING: POINTS OF VIEW

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PREFACE

The Language Arts Division of the Tri-University Project, meeting for a year of study at the University of Nebraska, was divided into several interest groups, one of which concerned itself with reading. The composition of the group was varied, for there were in attendance elementary school teachers and college professors from both education departments and departments of English. In spite of their varied backgrounds, each was drawn together by one common concern, namely, finding better ways to improve the training of teachers in the area of reading. The report which follows, while authored by only six of the participants, nevertheless reflects long hours of total group discussions dealing with many topics. Great divergence of opinion was frequently in evidence and this was to be expected. In fact, our early discussions posed so many questions that we were forced to re-examine many of the issues in reading which most teachers of reading would already consider to have been resolved. But a survey of the current literature reveals the necessity for such re-examination. There are as many different definitions of reading as there are authors of texts; terminology is used as though much of it is entirely synonymous; research studies of the various "new" approaches to reading quote statistics and analyze data in ways which would lead the reader to believe that each provides a panacea--and so it goes. Because of this it was decided that the participants in the group would each devote his energies to studying those aspects of the teaching of beginning reading which were particularly appealing to him, and the papers included in this publication resulted.

It has been interesting to the editors to note that many aspects of the over-all studies of the Tri-University Program are reflected in what several of the authors have to say about the teaching of reading and its implications for the training of teachers. It would be helpful for the reader to be aware that the language arts participants studied such related but seemingly diverse areas as the genre theory, descriptive rhetoric, linguistics, cognitive theory, psycholinguistics, and children's literature as well as reading, for there exists among these papers evidences of influence exerted upon the subject at hand because of these experiences.

The format of the Tri-University Project was structured to provide each of the college professors opportunities to experiment with their theories in elementary classrooms and thus afford the advantage of being able to report ideas which had been explored first hand. This kind of classroom observation and experimentation is reflected in several of the papers published here.

It was not possible in a single year's study to evolve one curriculum which might produce a consensus of opinion concerning ways of preparing teachers of reading, nor was it deemed necessarily advisable to do so. So long as eclecticism permeates our understanding of the nature of reading and the nature of the child learning to read, so long as the approaches, methodology and techniques are so varied, it would not seem reasonable to attempt to structure one curriculum which might be mistakenly interpreted as promoting "the" method which would guarantee success in the training of future teachers. Thus, the recommendations which conclude this publication are not prescriptive of a particular curriculum design for teacher training, but rather they represent areas of concern upon which the total group agreed action needed to be undertaken.

E. Hugh Rudorf
Virginia W. Jones

A DEFINITION OF READING AND ASSOCIATED TERMS

E. Hugh Rudorf

Very early in the year it became evident that as we met to discuss problems in reading we were all using words in different ways--especially did we find that many differences in point of view were primarily differences in understanding of the word reading.

These differences could be viewed in two dimensions. first of all as to the definition of reading and the reading process itself, and secondly as to the teaching of reading, i.e., whether we were considering the initial teaching of reading or the later uses of reading, or reading for various purposes.

The group as a whole came to the conclusion that it was necessary to delimit our discussions for the year and to concentrate primarily upon initial teaching of reading. Having reached this decision it then became necessary to ensure that we were all talking about the same thing and therefore to agree (at least tentatively and for the sake of our discussions) upon a definition of reading and a number of allied terms. This task turned out to be more difficult than one might think, since there appears to be very little agreement among all of the "experts" in the field and in the literature about reading.

Recently (1968) Jeanne Chall has published her much-discussed book, Learning to Read: the Great Debate. The debate, as Chall describes it--and generally as it developed within our seminar--may be described as between two positions defining reading as 1) getting meaning from the printed page, and 2) decoding. This definition of the debate is, of course, an oversimplification and proponents of the one view often tend to caricature the opposing view. No educator that we know who advocates a "decoding" emphasis wants children to learn to read without understanding what they are reading; no educator (or author of basal series emphasizing the meaning aspect of reading) wants children to learn to read without becoming aware of the usable relationships between letters and the sounds they represent. Nevertheless there still exists, at least in practice, a divergence of

emphasis which is meaningful and which attracts or repels educators at all levels to or from particular programs designed to teach children to read.

It does appear, from evidence reviewed by Chall as well as from the First Grade Studies, that most children do in fact learn to read no matter by which method they are taught. We as educators, nevertheless, continue to be concerned by the numbers of failures that we do have, as well as by the rate at which we are teaching children to read.

What then, is this thing called reading? While the concensus was far from overwhelmingly enthusiastic, we have agreed generally that the following definition of reading provides a workable base for discussion:

Reading is the process whereby an individual reproduces from printed symbols a reasonable approximation of the linguistic utterance represented by those symbols.

This definition, like all definitions, makes certain assumptions:

It obviously limits the term reading to something one does with the conventional printed or written page. Uses of the term reading in common speech such as "reading the signs of the times," "I read his mood correctly," or "reading music" are considered to be metaphorical extensions of the basic meaning of the word reading.

Writing or printing is here taken to be a representation, more or less complete, of human speech. That this position is not universal among linguists is recognized. David Reed in his "Theory of Language, Speech, and Writing" (Elementary English, 1966) considers that the printed word and the spoken word are both representative of something called a "linguistic form" which underlies both. Nevertheless we feel that the view of writing as an attempt to make human speech permanent and visual is a reasonable one and one which is readily understood by teachers and pupils as they wrestle with the problems of teaching and learning to read and write the English writing system.

A bit of writing, therefore, is taken to be an attempt to "encode" a

linguistic utterance. Since linguistic utterances may be analyzed at at least three levels of structure (phonological, morphological, or syntactical), the "decoding" process of reading should, to be complete, take all of these levels into consideration to the extent that they are represented in the utterance itself and have been encoded in the written form.

It is important to recognize here that what one learns when he learns to read and what one learns when he learns to write is dependent upon the particular form of writing system that has been developed for a given language. Learning to "decode" a pictographic system is a different task from learning to "decode" a morphographic system, and both are different tasks from learning an alphabetic system.

We are here concerned with learning to read (and to write) the system of writing used to represent English. Many linguists have pointed out that our writing system is based upon the alphabetic principle. They are also careful to note that there are morphographic elements in the system and that the alphabetic "fit" between phoneme and grapheme is far from complete. The writing system is also limited by the lack of conventional symbols for many of the significant features of a linguistic utterance: the suprasegmental phonemes of pitch, juncture and stress.

These limitations of the writing system itself explain what might be considered to be a "fudge-term" in our definition: a reasonable approximation. Since completely accurate encoding of even the phonological features of a linguistic utterance is impossible in our writing system, all decoding must be only an approximation of the utterance it represents. Nevertheless, despite this lack of a perfect fit, the writing systems is based upon the alphabetic principle and learning symbol-sound (grapheme-phoneme) correspondences must be considered a prime factor in learning to read.

But we do not use language normally to simply communicate pleasant sounds; language is used in human societies to convey meaning. Therefore our definition of reading implies that the reader comprehend the totality of what is encoded in print. It is, of course, possible to encode meaningless linguistic "noise"--so-called nonsense words and sentences. The

reader should be able to decode this sort of writing, but obviously he can go no further than the phonological level.

Let us illustrate the utility of this definition with several examples of "reading" which are adequately encompassed by the definition:

1) If a child (or adult for that matter) is confronted with the printed configuration stams and from that stimulus produces the response /s t æ m z/, he has "read" the word. That is, he has more or less completely reproduced the linguistic content of the symbols. Since stams is not an English morpheme (to our knowledge) the linguistic content of the utterance is exhausted at the phonological level. That stams doesn't mean anything is beside the point as far as the reading process is concerned. This ability to utter /s t æ m z/ from stams is not a trivial matter. It is an absolutely essential task for the accomplished reader to master in order to arrive at the morphological and syntactical content of a linguistic utterance written in our writing system--at least for maximum efficiency. (It is, of course, conceivable that a child learn every word in his reading vocabulary as a whole unit--much as the Chinese had to do--but the attainment of literacy in such a system is a long and arduous road.)

2) The following illustration of a particular problem in reading is taken from Reed's article quoted above. Will the reader of this paper "read" the following sentence: "The theory of functions of a complex variable deals with the differentiability of complex functions, analytic continuation, the residue theorem, and conformal mapping." Now unless you (the present reader) are familiar with a certain branch of higher mathematics, this sentence will be as meaningless to you as it is to me. Would you, therefore, deny that you could read the sentence? Some people would. Yet, suppose you read this orally to a group of mathematicians familiar with these terms in this context; there is little doubt that they would understand the sentence. We contend that to understand the sentence we do not need a course in reading, but a course in mathematics. In reading the above sentence I can reproduce not only the phonological, but the morphological and syntactic structures--as witnessed by the fact that my mathematically-inclined listener understands what I am saying--but I cannot comprehend the total semantic load of the utterance because of my

mathematical naivete.

3) One final illustration to satisfy those who object to any definition of reading which seems to admit "simply pronouncing words," "word-calling" or "just decoding."

"Once there was a young rat who couldn't make up his mind." Our definition would suggest that "a reasonable approximation" of even the phonological level of the utterance here represented would not be obtained if the "reader" simply reproduces something like: /²wʌns # ²ðéyr # ²wʌz # ²ey # ²yʌŋ # ²ræt # etc. etc./ For a "reasonable approximation" of the phonology of this utterance, one would expect something like /²wʌns ²ðərwəz ə + yʌŋ + ³ræt²| ²hu + kʌdənt + mèyk + ²ðiz + ³máynd²#/. Although these prosodic elements do not contribute much to this classic sentence, it must be recognized that adequate reading to the phonological level must include most of them.

To recapitulate: our definition of reading is broad enough to include the pronouncing of nonsense syllables on the one hand and the pondering upon the philosophical implications of the metaphysical poets on the other. It is futile to waste time arguing that a child learning to read by the Bloomfield method is not "reading" because there is little if any "content" to the material he is verbalizing. At the other extreme, it is equally illogical to assume that a child reading rather rapidly is not reading "correctly" if he occasionally substitutes a synonym for a word in a sentence. If the context indicates that "home" is a reasonable substitute for "house" (not the Polly Adler type), then this can hardly be called a reading error on the part of the child.

It is not only the term reading, but also many other terms used in discussions about reading that caused us much confusion. Anyone even casually aware of the voluminous literature and research into the teaching of reading in the elementary schools is aware of the many studies comparing one "method" with another. What exactly is a method? What is a technique? What is an approach?

We find, for example, proponents of i.t.a. insisting that it is not a "method" but an orthography. Yet we also find studies comparing i.t.a.

with other "methods" such as "basal readers" and "phonics." Obviously much confusion reigns and a careful definition of terms would obviate much argumentation and vitiate many claims.

Concensus as to definitions of these terms is even more difficult to obtain than on the meaning of reading. But we made an attempt. We have developed something of a hierarchical taxonomy of these words, which is roughly illustrated in the model on the next page.

At the top we have theories. A theory of reading represents a particular viewpoint as to what is the most important goal in initial teaching. For example, one school of thought believes that reading is best learned by teaching immediately for the learning of phoneme grapheme correspondences. Another divergent group believes in teaching words as whole units and concentrating on the meaning of the written material.

A method is considered to be a systematic curriculum design to promote a theory. A method will contain a series of procedures and techniques to be used by the teacher. Procedure implies sequencing of teaching techniques and skills to be learned. Technique itself is simply taken to be something as vague as "a way of doing something."

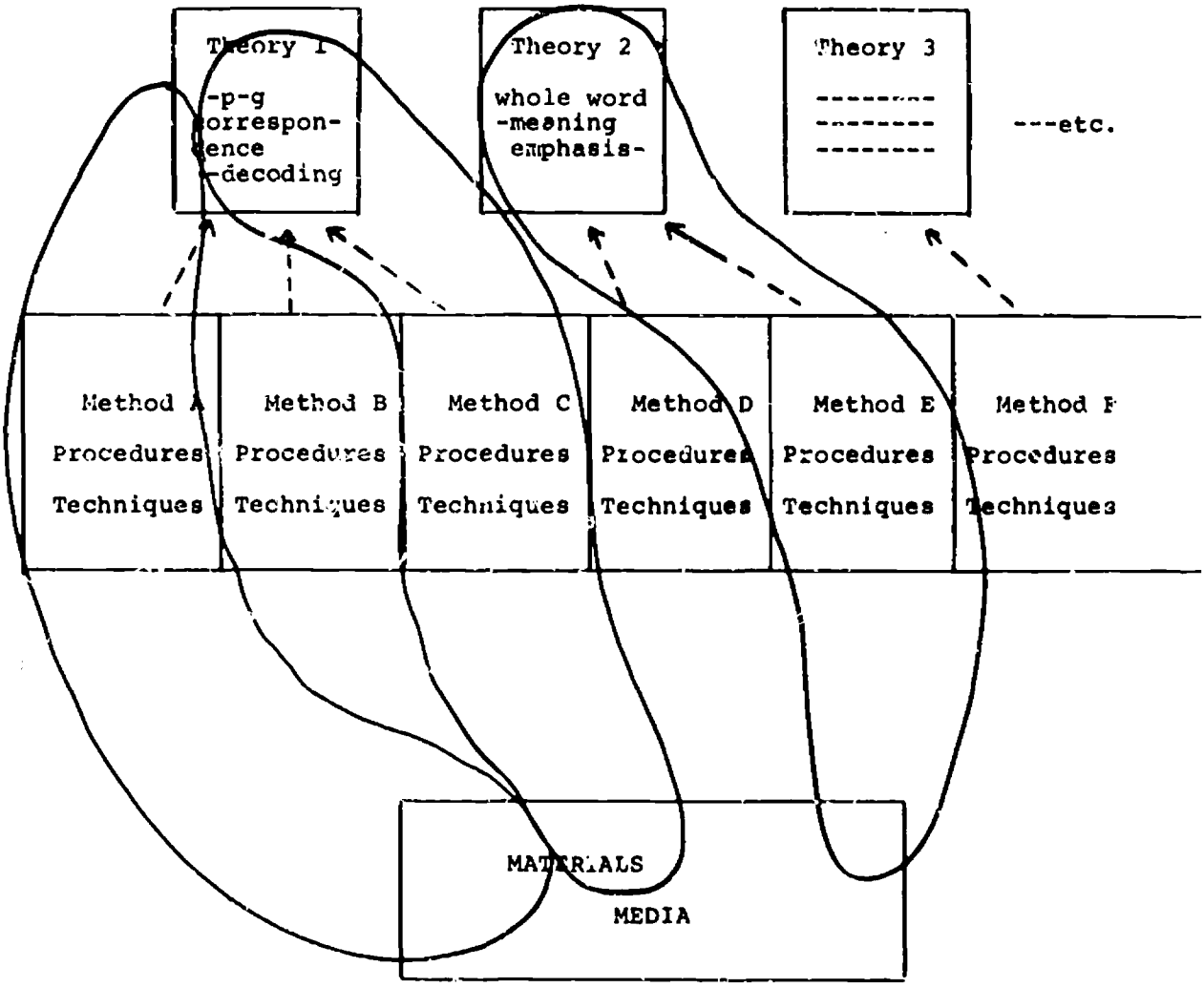
Materials and media seem self-explanatory. The model is intended to suggest that materials and media are theoretically neutral and not necessarily associated with any particular method.

A system of teaching reading would be based upon a particular theory, utilize a particular method, and selected materials and media for effecting the teaching of that method. Although, unfortunately it may not always be the case, a systematic approach implies coherence among the various parts.

The one term that baffled us and therefore does not appear in the model is approach. The group tentatively agreed that approach may be synonymous with system, but also could be used to describe any feature of a system that was unique or characteristic of that system.

It is admittedly difficult to maintain consistency in the usage of these terms. Yet we believe that some sort of concensus must be held by the

serious student of reading research in order to make sense of the literature. It would be a great service to educators in general if researchers would be explicit about the terms they use in describing their research.



A MODEL OF READING TERMINOLOGY

TOWARD A THEORY OF LEARNING TO READ

PATRICK GROFF

Reading is defined here as having phonological, morphological and systactical bases. The process of reading involves making phonological analyses, morphological analyses, and syntactical analyses. This definition of reading assumes the learner is in control of the semantic nature of the language on which he will perform the reading act. Thus reading is an activity in which a unit of spoken language referred to gets its meaning by an act of reference to a graphic symbol. Reading is a system of recognition of units of language which makes uses of a system of expression (syntax).

To be able to reproduce vocal responses to a written word a child learning to read must make proper phonological responses, that is he must reproduce phonetically the speech counterparts of the spelling he visualizes. After a certain amount of learning how to do this he will reduce the vocalization of certain (by now-familiar) morphemes, although maintaining his relatively intense vocalization of other, unfamiliar, morphemes. Hence, the role of morphological analyses. Finally, he will use syntax or the serial order of words he reads as clues to their recognition. This is necessary if he is to find the correspondences in the stress, pitch, and juncture pattern of spoken and written language--which seem necessary to learn to read. (These three bases of reading may operate simultaneously, of course, which is probably the case soon after a child begins his instruction in learning to read.)

(To do this, "sense," rather than "nonsense" syntax should be used. All individual morphemes or words are nonsensical, then, to the extent they are not part of a syntax. As Chomsky says, "We speak in sentences, not individual words, and quite clearly the syntactic element in sentences is the important aspect for the understanding of communications (emphasis mine). Or "A person who knows a language has represented in his brain some very abstract system of rules that determine, by free iteration an infinite range of sound-meaning correspondence."

We would say, then, that to learn to read is to learn the process of decoding into spoken language written symbols which are found in semantically familiar morphemes, which in turn constitute a "sensible" syntax. This decoding should not be of single graphemes since they have no invariant acoustic matches in our language. Most importantly, the degree to which the process involves the thinking necessary for acquisition of new knowledge and for critical thinking is deliberately minimized. That is, it is probably not a useful goal to present new information (to increase the semantic burden of the syntax) nor to present cognitively puzzling ideas during the process of teaching a child to read. Nor to have him attempt to read "abnormal" syntax. With this precaution the reading content should provide no especial task for the learner to derive meaning or to challenge his powers of cognition. Quite the contrary. The content should be such that the semantic load is light enough and the syntax of so normal a nature that the likelihood of

"involuntary" oral responses is increased. Ultimately, a reader will find it necessary (and delightful as well, one hopes) to dwell upon various meanings which a content or syntax can convey. That is, he will make many "voluntary" responses to reading material.

This should make clear that in our psychological model for reading our definition of learning to read does not include voluntary linguistic behavior, nor verbalization of this nature. It has been rightly said that a formal description of the special learning system necessary for this "voluntary" phenomenon, or of its internal processes, is of apparently great complexity. It resembles as far as we know an enormously complex data processing apparatus, the description of which has not been made. Nor is such a description necessary for our purposes.

According to our theory we are concerned only that the most likely response and common responses to stimuli be made. These are the responses which are dominant in the response hierarchy of our learners. We are not particularly concerned with educing uncommon or original responses, those low in the learner's response hierarchy. This is not to say, of course, that a stimulus may not result in an uncommon response. In any event, for our purposes the context of the reading matter provided for the learner will satisfactorily control this variable. Of course, the mature reader should derive satisfaction and profit from using the skill of reading to search for meaning. These ultimate goals that involve the use of reading skills should not be confused with learning to read, however.

One can defend, therefore, the idea of a system of learning to read

that purposely reduces the semantic loading of its written content to the level that will provide no cognitive problem for the child as he learns to read. Learning to read behavior, then, will approximate a dog's-learning-to-shake-hands behavior. One picks up the dog's paw (gives the child a reading stimulus), and gives him a reward. Finally, the dog will offer to shake hands (he hopes to get food). The child will offer to read the most insipidly meaningless stuff (the basal readers) for the same motive as the dog offered to shake hands. In either event we have an example of a stimulus, instead of originating in the external environment, being response-produced. Secondary reinforcement properties got attached to the stimuli. Thus reading responses can be made more/less likely to occur without ever having been made by the child.

Furthermore, reading as defined above is not essentially a sound-meaning process. For in learning to speak one might agree the child operates a system of relatively special-purpose learning algorithms whose order of development is more or less strictly internally determined. This may explain why all cultures develop speech. They do not all develop writing systems, of course. Moreover, the child can learn the writing system long after he has developed the speaking system. The situations provided for learning are quite different. And as this definition of learning to read avers, control over the semantic properties of the language by the learner should be assumed. Therefore, I believe the basis for the rejection of a theory that says spoken language is learned by association (which Chomsky, Lenneberg and others make, and to which I am attracted) does

not preclude the acceptance of such a theory for the processes of learning to read.

In describing an associationistic theory of the processes of learning to read it might be appropriate to quote some background material on the controversy between the mechanist and mentalist view. (All quotes from Mackey, William F., Language Teaching Analysis, Bloomington, Indiana U. Press, 1965, unless otherwise noted.)

> Mentalist view: Acts of language are mainly mental acts and, although they may very well be correlated with the physical acts of speech they are acts of a different type. Nor can human language be studied as animal behavior. The animal can be conditioned to respond in a certain way; man, in addition to this, knows the right way to go on, on the basis of what he has been taught. Analogy, an instance of this capacity, is what makes language possible. Much of human behavior is voluntary behavior; it is essentially different from the conditioned behavior of animals.
>
> The mentalist view is likely to give a great deal of importance to meanings, the mental part of language, and not exclusively to the physical forms.
>
> Mechanist view: All human activity, including language, is a chain of material cause-effect sequences; if one knew the entire history of a person's nervous system one would know what he would say in any given circumstance.
>
> For the linguistic responses of human beings are in essence considered to be the same as the physical responses of animals to their surroundings. But since so much of the stimulus and so many of the causes, the meanings expressed in speech, happen to be in the mind and therefore unseen, they are understandably neglected in the mechanist theories in favour of the physical manifestations of language in its spoken and written forms.
>
> The mechanist view presents the language mainly as a system of forms rather than as a collection of meanings. One outstanding example of a theory based on this mechanist view of man is that of Bloomfield and his school.

Language is not the same as the thoughts and things about which we speak; nor is it the sounds and tongue movements we use to speak about them. Meaning cannot be analysed through linguistics. The thought substance and the sound substance do not concern linguistics. Language (langue) comprises neither ideas nor sounds, but simply conceptual and phonic differences.

The important feature of a sign is simply in being what the others are not. (Sign = what we use to talk about language.) It is the differences that count. In fact, language is made up entirely of differences. The only positive fact is their combinatio · it is the only sort of fact that there is in language. Any value which a sign may have lies in its opposition to or contrast with other signs.

Bloomfield and Saussure differ here. Bloomfield says content is outside the realm of linguistics; Saussure says linguistic content (everything that can be talked about and the formalization of these into units of language or linguistic concepts) is inseparable from linguistic expression (phonetics-phonemics-graphemics) and that linguistics is the study of their interrelationship. Assuming that with our definition of "reading" the beginning pupil would have understood this interrelationship, would this difference between B. and S. be considered in formulating a theory of reading? Can we say our theory would be concerned with expression and form and not substance and content as seen in this diagram (after Mackey)?

AC = Substance
BD = Form
AB = Content
CD = Expression

A = Everything that can be talked about.
B = Units of language (e. g. words) or linguistic concepts.
C = Phonetics.
D = Phonemics and graphemics

A theory of reading should distinguish between "language learning" and reading. In many tests of human learning any item is considered learned after it can be recalled or recognized. This is hardly sufficient as a test

for the learning of such a skill as language. Theories that are tested for verbal learning base the test on isolated words and nonsense syllables; language learning of a number of complex systems. In our attempts, it seems to me, we do not have to be concerned with the most important aspect of the "complex system"--meaning--except as meaning is seen as response. That is, we are not concerned with the consequences of statements like The comb runs. or I told that he should go. or What disturbed John was being disregarded by everyone. We are not interested in describing meaning, but as viewing it as the disposition to respond by the reader to the word stimulus. We see meaning as the mediating element in the response of the reader, conditioned by his past experience, and not as a system of abstractions or a "network of associations radiating in all directions," or as "part of the semantic field which it covers in relation to all other words of similar meaning." This is important, I believe, since on it will depend the theory of learning one will accept. Should we use a cognitive theory concerned with knowledge or an associative theory concerned with responses? I believe the latter will serve our purposes. For example, for reading The comb runs. (or any such statement as unfamiliar, unexpected or senseless in meaning--but not in syntax) our definition of reading stops at the point where the learner begins thinking (by analogy) about what this could mean. We are not interested in this thinking process. However the learner thinks about the statements will indicate that the mediating role we describe as meaning as response has begun. Thus we can say that our emphasis in finding a theory will be on linguistic content rather than on the relationship between

language and reality.

This attempt at theorizing seems supported also by what Mackey calls "selectability."

> The selectability of any item is inversely proportional to its restrictability, that is, to the capacity of the language to do without it. We find that the most restrictable items, the easiest to do without, are some of the meanings of the language, especially those 'phonetic' meanings conveyed by the many variations in stress and intonation. They are also the most numerous; for there are more meanings in the language than there are different words to express them. Of the millions of meanings in the total vocabulary of a language only a small percentage can ever be taught. On the other hand, the lowest in restrictability are the letters and the phonemes, the choice of which is easy, since they all have to be included; it is difficult to restrict their number and still have a language. The higher the level of language learning, the higher the degree of restrictability and the greater the number of selectable alternatives. The closer we are to the beginning, the more our language is limited to that part of it which we cannot do without. (Grammar units are 2-3 times more restrictable than phonology items, vocabulary items 3-4 times more than phonology items, and semantics items 4-5 times more than phonological items.)

We should deal with one other problem before continuing with the discussion of an associationistic model for the process of learning to read. This is the problem of perceptional development of children, of which the above definition of reading most closely attends. The problems of perception posed by this definition of reading are: (1) reflection versus impulsivity, that is, the degree to which a child reflects upon the alternative responses that can be made to a written morpheme-stimulus; and (2) the tendency of the pupil to analyze complex morpheme-stimuli into their component parts, that is his ability to fractionate the stimulus into subunits. Here, too, there seem three influences on these perceptual abilities.

These would be: (1) the physical or biological variables of the child, (2) the degree of his involvement in the task, and (3) his anxiety over his ability to perform adequately in the perceptual task or recognizing words. Although Kogan suggests, "that signs prognostic of the development of an impulsive conceptual attitude may be manifest early in development" of the child, the methodological implications for the normally impulsive child involve a matter within the scope of this discussion. The three aspects are obviously interrelated quite strongly. The impulsive child who reaches a dead end in word recognition because he was not reflective is likely to become anxious as a result of this failure. His positive feelings for involvement in the task thusly are impaired, which restarts the cycle of impulsiveness to failure. The issue over whether an associationistic approach to learning to recognize words is appropriate for this child is not over either the influence of past experience or sudden learning. It appears to be learning with understanding in which the components of the reading problem are so laid out that their natural relations become evident and a sensible solution is possible.

A theory of learning that might particularly account for the problems of the non-reflective child in reading I believe has been conceived by O. H. Mowrer (whose learning theory, according to Dorothea McCarthy, is the one "which most adequately accounts for the phonomenon of language learning." See Perceptual Development of Children. International Universities, 1966). It is probably the non-reflective child who needs to discover a high-order invariant in language so that his first impulse to response will have greater chance of success. Letter groups with a high spelling to sound

correlation should be perceived by him better than letter groups that are low in this respect. This hypothesis was confirmed by Gibson's experiments for children at large. She saw letter groups "in strict correspondence with pronunciation were perceived /tachistascopically/ as units thus facilitating the reading process."

What would Mowrer's theory suggest about learning these correspondences in a mechanical, drill-like way? (Mowrer, O. Hobert. Learning Theory and Symbolic Processes and Learning Theory and Behavior.) What has he to say about learning to read in a constrained and "unnatural" condition (the drill lesson)?

There seems something in Mowrer's learning theory that can be said for and against a "drill" emphasis approach, of the importance of "conditioning" and of the "mechanical" (highly controlled) aspects of such a program. This means in effect that foreeful, regulated, systematic, early drill should be made on the seemingly difficult material to be learned. Experimental psychology has indicated that requiring foreeful responses during conditioning yields forceful responses during extinction. That is, during acquisition an intensity of stimulation takes on secondary reinforcement properties. Then during extinction (forgetting) it produces more secondary reinforcement (hope) which resists extinction. In other words, forceful learning resists forgetting and enhances habituation. So, "habit strength is a function of the extent to which a response continues to reproduce the same stimuli that were produced when the response previously occurred and received primary reinforcement."

For Mowrer, however, perceptual action is guided not by fixed sensory-motor pathways but by hope and fears that have become conditioned to response-correlated stimuli (good and bad images). Mere contiguity or conjunction of stimuli--in this case words or word parts and sounds--is no guarantee of learning. The question remains, when will or will not contiguity result in learning? Motivation importantly enters into the picture. Interest, meaning, and motivation reinforcement apparently are involved.

Mowrer in rejecting the notion of the conditionability of overt responses turned his attention to the conditionability of sensations (signs). He found this will result in images of hope and fear. Thus, after a stimulus has been presented a number of times while the individual experiences certain sensations, the stimulus will automatically, without the intervention of conscious process, produce the sensation. We see an image in operation. The image can be considered as a conditioned sensation. Images are an important part of the stimuli which words characteristically come to possess.

When sensations can be conditioned to words or word parts that can serve to recall them, then the basis is laid for memory. The concept of images as conditioned sensations is then a link between cognitive and mnemonic aspects of learning. Conditioning can account, therefore, for both motivation and cognition. (This is quite antithetical to classical behaviorism and to Gestalt theory.)

Forgetting is accounted for in terms of reconditioning or counter conditioning in which hope (habit strength) is counteracted by frustration which results from the nonfulfillment of the child's expectations. How can the

child be kept from frustration and hopelessness? Intermitent primary reinforcement during the acquisition of the habit seems the answer. As Pribram (NSSE, 63rd Yearbook) sees it, "under conditions of non-reward, in situations where reward had on earlier occasions been experienced, the strength of response is greater when the experienced rewards had been few, delayed, and obtained with considerable effort."

In other words, what is responsible for the extinction of frustration during intermittent reinforcement? This seems to be generalization of the hope reaction from the image to the real thing. A child, for example, says a correspondence correctly, then misses on the next trial, with success the third attempt. The child's image of what will happen becomes ambiguous. Success and frustration are related. The image is of failure and reward (success). In this way frustration is rendered ineffective. (This disagrees with Skinner's dogmatic behaviorism, of course.) This also seems reasonable, commonsensically. We know people who have had a hard time who are often more persevering in the face of frustration than those who have had it "easy." (There are experiments that show that rats who got food each time and those who did not: the latter are more persistent in their attempts to get food after food is discontinued than the former.) However, intermittent success during acquisition does not produce a stronger habit but rather makes less frustrating the "sting" of non-reward or failure.

Another notable aspect of learning theory seems to be that the learner with a signal system learns better. Thus, if a child looks for trouble in reading knowing when to expect it and what to do to avoid it his is better off.

Activity per se, then, is not the reason activity is rewarding since this would not account for the different achievement of the reflective and the non-reflective child. Pribram gives a clue: "Could it be that ordered activity per se is rewarding? And further, what can be meant by 'ordered activity'--certainly not patterned muscular contractions since these are equally manifest when we observe random activity. No, clearly when the consequences of action become orderly (Consonant), i.e., sequences of events appearing in context, then and only then is activity (judged) rewarding, i.e., reinforcing."

An absence of a signal system is more fear provoking than a signal system. Children show a preference for conditions enabling them to anticipate the presence or absence of satisfying language elements over conditions not enabling them to anticipate. They seem to be rewarded by "advance notice" or whether reinforcement will be available. When hope is stronger than the frustration involved the "seeking" or "scanning" behavior of the child will persist. Small discrepencies in this may be attractively "pleasant"; large ones repelling "unpleasant."

As Chall says in Learning to Read, "Only yesterday, psychologists were putting more of their faith in the learner's ability to 'program' his own learning; if the student wanted to learn and was ready to learn, they thought, the teacher's job was to expose him to the material in as natural a setting as possible. This view has changed." The evidence from Mowrer and others presented above as theoretical considerations of the process of learning to read seem to me to correspond with Chall's conclusion about the

needed change in reading methodology: "Yet the research from 1912 to 1965 indicates that a code-emphasis method--i.e., one the views beginning reading as essentially different from mature reading and emphasizes learning of the printed code for the spoken language--produces better results, at least up to the point where sufficient evidence seems to be available, the end of the third grade."

Tri-University Project
David C. Davis
April, 1968

LINQUISTIC OFFERINGS TO READING

INSTRUCTIONAL PROGRAMS

The world of language[1] superimposed upon a person's world of electro-chemical events and the world of first order experiences enables inborn potentialities to become activated. This meaning of the world of language and its implication to the language and reading instructional programs is now receiving quasi-systematic attention.

The theoretical and scientific analysis of language and symbol-systems in the thought process of people is one of the major[2] intellectual pursuits of the twentieth century. Past educational programs have only provided chance insightful pegs upon which further work progressed, but today a host of ideas and makeshift materials[3] exist to pursue a linguistic approach to elementary school language and reading studies.

What are these ideas and materials? How valid are they? Will they cause further confusion in an already unstable area? Do they merge with existing programs? Are they contributions from linguists or followers? Answers or partial interpretation of the logic behind these given questions led interested members in the Tri-University Project,[4] at University of Nebraska, to report what was found. Facilities at the University of Nebraska, accumulated background knowledge of participants and core references[5] served as the source for statements of the linguistic offerings mentioned in this paper. Answers to the above question were only partially found after identification of the key linguistic contributions. Each of these questions should have further concern in professional minds along with field evaluation of the cited linguistic principles offered for reading instructional programs.

Many distinctive linguistic offerings were uncovered in the pursuit of these questions. Some have been so major in conception that they have attained an issue status in the field. The offerings listed accommodate the sum and substance of much that is or should be discussed in professional college training reading instructional programs.

Major Linguistic Offerings

(1) Stratified definitions of the reading process.

(2) Specific control changes in initial reading programs.

(3) Identification of several existing code systems.

(4) Patterns and irregularities in the written alphabetical code systems.

(5) Purification of an alphabetical code system.

(6) Orientation towards sentence types.

(7) Transformational aspects of the language.

(8) Precision and variability of language

(9) Unique oral language patterns of children and relationship to reading instruction.

(10) Non-verbal (para-language) level of language experiences.

1. Stratified Definition of the Reading Process

As early as 1942,[6] a leading linguistic scholar, Leonard Bloomfield wrote a clearly stated article directed to elementary teachers defining reading as a three-step process. Since this milestone article reading definitions have been refined or expanded. Theodore Clymer in Chapter I of the 1968 N.S.S.E. Yearbook points out the ever occurring need for having a clearly stated definition of reading. This chapter written by Clymer, also identifies the various strata now being considered as defining what reading may be. Clymer's appraisal of Charles Walcutt's definition, along with Miles Tinker, Constance McCullough, Eleanor Gibson and Charles Fries, does little in settling the dust concerning these various stratified definitions. Surface interpretation of Clymer's chapter on the current conception of reading leaves one with the impression that the general statement as expressed by Emmett Betts, "reading is defined as a thinking process" is as descriptive or specific as a three or five level definition.

Whether Clymer intended for Bett's generalized definition to become the replacement for another popular[7] general rather than a stratified explanation of reading is a guess.

Past reading research and classroom practice, as well as attitudes of reading teachers, at all levels, has suffered because definition and descriptions have had a wide tolerance range.

The principle, sometimes applied by linguistics is that only those behaviors and abilities related to deciphering the various code systems should be labeled reading. The major strata running through the offerings of linguistic writers might be listed as: (a) recognition that man has invented and uses several forms of written code systems, (b) reading is first grasping the decoding techniques necessary for each type of code system, (c) then surface interpretation of the meaning intended by the

author/illustrator/producer/editors, (d) depth interpretation of the meaning from personal understanding and background experiences, and finally (e) acquisition of tools of critical and applicable use of materials decoded, comprehended and contrasted.

Two major inclusions or emphasis of this stratified definition differs from the composite one in the 1968 N.S.S.E. Yearbook report. This stratified definition highlights the importance of parts (a) and (b) in the reading process. In the light of the conclusions drawn by Clymer, "our definition of reading and the outcomes we hold for the reading program have immediate and important implications." Parts (a) and (b) in defining or describing reading are often neglected. Prominent position should be given to the recognition that man has invented and is using several distinctively separate and fusionist code systems.

2. Specific control changes in initial reading programs.

The second linguistic offering which has been given to initial reading programs has been a variety of suggested and developed controls. Reading programs have always controlled early reading material in many fashions: number of words, length of words presented, Dolch Basic Word List presentation, child's interest word selection or words within children's speaking vocabulary.

Linguistic writers such as Leonard Bloomfield, Clarence Barnhart, I. A. Richards, Christine Gibson, Rudolph Flesch, Charles C. Fries, Edward Fry and Hunter Diack have radically different approaches to the control feature of initial reading programs.

Whether it is better to control reading material by phonemic patterns, or alphabetics coupled with any other control is a moot point. Control or systematic simplication at the initial stage only means that later grade-level presentation of many prominent aspects of code systems and the decoding process may become overburdened.

Of special importance is the fact that no evidence[8] can be cited to determine the most effective control sequence for reading material. Current exploration perhaps should be to uncover patterns that do not forego basic peripheral features of the written system being given decoding instruction. A control pattern plan which may first give a survey or general framework of the entire structure of the written form(s) and then proceed from a simple to complex sequence may be more fruitful than the multiplicity of controls now available.

Jeanne Chall's book reports that no initial code-emphasis method (i.e., phonics, simple patterned words, alphabetic control) was better than others.

The only positive view that Chall could procure from her study was, "that a stronger code emphasis would help prevent failure, although never eliminate it entirely."

The wide range of different ways to control material leaves the field now open to consider the various new systematic sequences suggested by linguistics. Perhaps the linguistic scholars with certain initial control preference should be given review if not editorial co-control of the material produced for classroom pupil use. Discussion, at least should be given to compare the approaches of Richards-Gibson with Bloomfield-Barnhart, or Fries, Stern, Rasmussen, and others who have produced sufficient pupil material for consideration.

3. Identification of several existing code systems.

If there is one point, most neglected by educators, which linguists have offered to the mountain of knowledge about man's invention or discovery of language has been the recognition of various code systems.

Leonard Bloomfield in the milestone 1942 article carefully identified at least four distinct writing systems. Others in textbook explanations[9] identify more than these four that are actively used in communication systems. Building on the four described in Bloomfield's article, "Linguistics and Reading"; picture-writing, word (logographic)-writing, idea-writing, and alphabetical-writing, there is also shorthand-speedwriting (sound group-syllabic), mechanical-writing (tapes, films, wire recordings), fused systems and refined alphabetical systems (i/t/a-words in color). Each of these seven writing systems need codifying and further subsetting as suggested by a few writers.[10]

Only lip service and moderate attention to these distinct yet compatable writing systems is given to classroom instruction. Picture writing in most programs serves as an auxiliary tool to decode alphabetic messages and not as a separate and contributing means of communicating.

The message is not only in the words that are chosen but the medium selected for broadcasting. English department lectures are moving away from messages in written texts and stressing the value of form unity and content statements. Marshall McLuhan has, through his exaggerated way of stating it, made everyone conscious of systems.

Careful attention to world use of television (a mechanical system of writing) will show that the fusion of several code systems is at a highly sophisticated peak. Alphabet-writing is absorbing the techniques of idea-writing plans. Mountain grown coffee is not only written in alphabetic graphics and read orally but the letters are enlarged in the center through

movement to establish a mental conception of high mountain grown coffee.

There is no question in this writers mind that mechanical writing is demonstrating the fusion of almost all the features of every communications system invented and may be re-shuffling the importance of some forms over others. Schools interested in initial reading programs should keep alert to what are the predominant means of recording, retrieving and repeating the messages between people. A constant eye should be kept on the medium used by the people outside of school, not on what professionals believe to be the most efficient method of recording and retrieving written thoughts.

4. Patterns and irregularities in the alphabetical written code system.

Paul Hanna and associates,[11] in a monumental government report, gathered evidence concerning the patterns in existing words written in the alphabetical code. Their findings were broad and enlightening. The alphabetic principle applies to nearly all words in the lexicon and not just to a few words.

Patterns of this graphemic-phonemic relationship have been described as regular, simple, double, complex, positional, and irregular by various writers. Hanna and his associates see value in recognizing phonemic-graphemic patterns for a switch to the aural-oral cues to spelling. Leonard Bloomfield and Clarence Barnhart years before described these lexicon patterns for the purpose of initial reading instruction.

The most valuable contributions of (Hanna) searching for and discovering patterns in alphabetical writing are the erasing of folkway thoughts concerning the vast amount of irregularities in the American-English written language. American-English consonants, without regard to occurrences in syllable positions are represented by an equal number of graphemic option over eightly percent of the time in a word list of 17,310 (Hanna).

Patterns of words by structural elements (phoneme-grapheme) rather than by word meaning units (root words, derivatives, and suffix-prefix) appears to hold great promise for more realistic instruction both in reading and spelling.

The patterns that have been arranged in the past have obvious structural errors. The phonetic[12] word patterns offered in the past and newly presented phonic reading programs are synthetic and deductive.[13] The synthetic approach with the major concern on the first or stable part of words, later combines these into whole words. The deductive approach controls words and sequentially presents them revealing the patterns authors believe exist rather than those resulting from evidence.

Any particular word pattern used in materials for instruction will be influenced by other complexities such as teachers' attitudes and their established teaching habits. It is apparent that a number of teachers are not receptive[14] to reading material based on carefully identified patterns found in American-English written words.

Even though linguistics have contributed authentic patterns this knowledge has not struck many as important in getting meaning from words. In critical reaction to Fries' and Bloomfield's patterns the trend leads to further exposure to irregularities in initial material rather than closely controlled development. Perhaps Hanna and associates through the spelling focus will demonstrate the place of patterns in the initial learning environment.

5. Purification of the alphabetic code system.

As a result of the ABC written form of communication and an increase in the greater number of literate persons, the reformers raise their voices.[15] English and American alphabetical code writing has for centuries been the target of dissenters for the chaotic nature of its patterns. Sir Francis Bacon, Benjamin Franklin, Noah Webster, William Pelham, A. J. Ellis, Isaac Pitman, Matthew Arnold, and George Bernard Shaw, men who worked in both countries, have attempted to purify the written ABC code.

Since the sixteenth century numerous attempts at spelling reforms or code augmentations have been made. None to date have been popular or successful, and yet the American-English speaking and writing world today is faced with several new suggestions for improving traditional orthography.

A cluster of words, used synomonously, describes the present approaches to modifying the written ABC system. Augmenting, modifying, diacritical marking, color adding, and initial augmenting are the most prominent.[16]

Even though all the present plans of modification have deep roots in linguistic history and social forces at work in the two societies, there remains doubt that the dreams today will be seen by the mass any more than in the past. Purifying, even at a temporary initial stage, as recommended by the i/t/a, has subtle irrational forces which may prohibit its mass acceptance.

These irrational forces are inextricably bound with the philosophical features of language, the behavior of people and spoken-written language relationships. The question will always remain whether any form of written system can keep pace with the factor of change in language.

Mechanical writing with its fusion of code systems may yet prove to be the most effective and efficient form of communication in contrast to a course of augmenting and culling the existing ABC code system.

6. Orientation towards basic sentence types.

One of the major complexities of identifying the offerings from linguistics and their application to reading instructional programs is the interpretation people place on statements concerning language. The 1968 N.S.S.E. Yearbook inappropriately labels groups of linguistic workers as phonologists, structural linguists, lexicographers and semanticists. (George D. Spache, page 258-272.) Each group is credited with contributing different and conflicting view points. As a result of these interpretations, as well as explanatory statements by linguists, there has been undue attention toward certain aspects of language over others. A case in point is the work of Robert Allen reported in his article, "Better Reading through the Recognition of Grammatical Relations" (Reading Teacher, XVIII, Dec. 1964). He stresses that knowledge of sentence structure is essential to insure comprehension. Strickland's position, that it is unsound for reading texts to present sentences of lesser complexity than those used by pupils in oral language is another illustration. Kellog Hunt[17] and his identification of "T unit," the work of the transformationists, and the focus on kernel utterances intensify the orientation that the sentence is the focus of the reading scene. It is not only the work of linguistics but also some adapters in the educational field who are calling attention to certain features without carefully considering where they should be emphasized in hierarchy of a instruction sequence.

7. Transformational aspects of the language.

A group of workers following the thoughts of Noam Chomsky subscribed to a system of language analysis termed transformational [illegible]. This approach to language interprets the manipulation of the syntactic as fundamental to discovery of meaning. With this premise, some [illegible]s think that the practices of the transformationists should be applied [illegible]l reading programs as well as language skill endeavors. These practices include sentence expansion, reduction, rearrangement and negation.

Charles Fries in his Merrill publication makes use of scrambled sentences early in a reading program but very few have accepted transformational features for basal reading material at this time.

A conversation report by John Ebbs[18] with Noam Chomsky indicates that controversy over features of the transformational theory is causing some rethinking. Whether educators will wait for this rethinking is the question that time and direction will determine.

8. Precision and variability of language.

Things that once were are not necessarily the same, and changes occur at variable rates not controlled by mere wishing. The world of language, as Huxley states, is superimposed on first/order experiences as well as human nature.

Perhaps there are four key thoughts which the scientific study of language has uncovered. (a) Language changes, and words or utterances in original settings do not necessarily govern current interpretations. An example is the term "Uncle Tom" in current use as contrasted with the original behavior of the literary character. (b) Words take on specialization or precision when cultural needs demand them. Some areas of thought (i.e., scientific approach to problems) are more intense in maintaining operational precision of language usage than everyday practices. (c) Language has so much variability that when words or phrases become so generalized (broadly applied) meaning does not stay within bounds. As examples, the overuse of fun, cute, tremendous, creative, and dialog. (d) Appropriateness,[19] is the descriptive word at present which is used to identify what language usage is the most meaningful.

Another paradoxical situation is that few adults recognize these actions and reactions in the use of language, the public assumes that language cannot be both precise and variable.

A major warning dealing with this variability factor is given by Frederic C. Cassidy and Stuart Robertson.[20] "People must not confuse the linguistic signal with the thing it stands for. It is not the word as such which is bad or good, or which becomes elevated or degraded, but only the meaning which society chooses to put upon it. -- Society often reverses itself in the course of time--and this would not be possible if the value were inherent in the word."

In this sense of language usage, words are not our masters, only our tools. As masters of words, however, we'll need to pay extras as did, Lewis Carroll's Humpty Dumpty when we make a word do lots of extra work or perform special jobs. Early reading instruction may well need to stress this dual use of meanings in order to make new generations aware of who is the master of language.

9. Unique oral language pattern of children and relationship to reading instruction.

The work of Walter Loban and Ruth Strickland,[21] with the invited assistance of five or more linguists, has highlighted the one-to-one relationship of oral language and text language for pupils. Their research reflects the tremendous flexibility of children in using linguistic structures at all elementary school levels. The oral language children use is far more advanced than the language of the books by which they are taught to read.

Much more attention is being given to the relationship between children's use of language and written material. The question still remains, "does the sentence structure in children's textbooks and speech influence the ease or difficulty on learning to read?"

10. Non-verbal (para-language) level of language experiences.

Henry Lee Smith, Jr., in a series of films produced at the University of Buffalo, identifies some aspects of oral language often underrated. These language behaviors, called by him as para language, incorporate gestures, expressions, setting and stress cues.

These non-verbal elements have been the concern of those interested in speech and drama but rarely given consideration in depth for reading programs. Few linguists except for Henry Lee Smith, Jr. have found it worthy to bring out the value of these para language experiences.

This writer, however, while on the Tri-University Project assignment, has attempted to generate further exploration with these elements and perhaps fit them into the prior experiences preparing children for reading.

If meaning of language is the end goal of both oral and written language, it seems reasonable that all elements of communication should be given systematic coverage. How long we neglect movement, expressions, settings, stress, tone and junctures in beginning reading program may determine how long we continue having inadequate interpretation of what is read.

Although linquistic offerings are many and complex, unfortunately they lack any built-in hierarchy of value assessment. How valid each will be to any reading program will only be determined by attempting to insert them in classroom materials.

There is no doubt that the ten features identified here do further confuse an unstable field, but this is the nature of language and people. Many of these will merge, if they have not already, in some new programs, or with accepted past practices and thoughts on language. The amalgamation process which will undoubtly take place may be likened to distilling new wine in old bottles. The taste of the new wine, however, may be altered by the degree to which the old bottles were thoroughly washed before aging again.

Many scholarly linguists are contributing as team workers, individual writers, and lecturers but growing in numbers are professional practioners who speak with authority of linguistics. Benjamin Lee Whorl in his essay on "Linguistics As An Exact Science" cautions that even though linguistics is still in its infancy--sooner or later it will--sit as judge while the other sciences bring their results to its court to inquire into what they mean. The forces within language are powerful and important and its principles control every sort of agreement and understanding among human beings.

The offerings listed in this paper are only a few "understood darkly" by the writer but the contributions of linguistics generate within him the impulse to keep moving. No small part of any kind of learning situation is contributed directly by the tensions set up between the scientific demands on the one hand and the inherent resistances on the other. To this, the science of language and the art of teaching are wedded.

FOOTNOTES

[1]Aldous Huxley succinctly states this quadratic natural hierarchy of human growth and development throughout an article printed in Science and Human Affairs, Editor, Richard E. Farson, Palo Alto, California: Science and Behavior Books, 196[illegible]

[2]Ibid. This statement is paraphased and enlargement of the thought expressed by Aldous Huxley.

[3a]Leonard Bloomfield, Clarence Barnhart, Let's Read: A Linguistic Approach, Wayne State University Press, Detroit, 1961.

[3b]Wallace Cathey, This Reading Series, Department of Research and Publication, Independent Shore District 22, Shiprock, New Mexico, 1967.

[3c]Donald D. Durrell, Helen A. Murphy, Speech-to-Print Phonics: A Phonics Foundation for Reading, Harcourt, Brace and World, Inc., New York, 1964.

[3d]Charles C. Fries, Rosemary Green Wilson, Mildred K. Rudolph, Merrill Linguistic Readers, A Basic Program for Primary Grades, Charles E. Merrill, Columbus, Ohio, 1966.

[3e]Galeb Gattegno, Words in Color, Learning Material, Chicago, 1962.

[3f]Donald Rasmussen, Lynn Goldberg, SRA Basic Reading Series, Science Research Associates, Chicago, 1965.

[3g]Lucille D. Schoolfield , Josephine B. Timberlake, Phonovisual Method, Phonovisual Products, Inc., Washington, 1960.

[3h]Catherine Stern, The Structural Reading Series, L. W. Singer Co., New York, 1966.

[4]The principal investigator was David C. Davis, Associate Professor, University of Wisconsin, assigned to the Tri-University Project, 1967-1968. During class discussion under the direction of Hugh Rudorf several participants contributed in this focus.

[5a]Leonard Bloomfield, Clarence L. Barnhart, Let's Read, Wayne State University Press, 1963.

[5b]Jeanne Chall, Learning to Read: The Great Debate, McGraw-Hill Book Co., 1967.

[5c]Charles C. Fries, Linguistics and Reading, Holt, Rinehart and Winston, Inc., New York, 1963.

[5d]Helen M. Robinson, editor, Innovation and Change in Reading Instruction, Part II, The Sixty-seventh yearbook of the National Society for the Study of Education, 1968, The University of Chicago Press, Chicago.

[5e]Henry Lee Smith, Jr., Language and Linguistics, Films produced at the University at Buffalo.

[5f]George D. Spache, Toward Better Reading, Garrard Publishing Company, Champaign, Illinois, 1963.

[6]Leonard Bloomfield, "Linguistics and Reading," Elementary English, 1942, March and April, 125-130, 183-186.

[7]A common definition of reading that causes great concern and irritating cross discipline relationship is the popular statement, "Reading is obtaining the meaning of the material read."

[8]Chall, Jeanne, Learning to Read: The Great Debate, McGraw Hill Book Co., New York, 1967.
Controversy over this report has already kindled more fire. Basal-reader followers find Jeanne Chall's report lopsided and ill-defined when identifying code system emphasis.

[9]David C. Davis, Patterns of Primary Education, Harper & Row, 1964, pp. 83-153.

[10]David C. Davis, Madeline Davis, Literature for the Young, University Extension, The University of Wisconsin, 1967, Chapters 4 and 13, pp. 31-35, pp. 77-84.

[11]Paul Hanna, Richard Hodges, Jean Hanna, Erwin Rudorf, Phoneme-Grapheme Correspondences as Cues to Spelling Improvement, U. S. Government Printing Office, Washington, D. C., 1966, p. 1, 850.

[12]Dolores Durken, Phonics and the Teaching of Reading, New York Teachers College, Columbia University, 1962.

[13]New and old phonic programs which arrange instruction through pattern or rule deduction.

[13a]Rachel G. Blake, New Phonics Skilltexts, Charles E. Merrill Books, 1963.

[13b]Sister Mary Caroline, Breaking the Sound Barrier, Macmillan, New York, 1960.

[13c]Julie Hay, Charles E. Wingo, Reading With Phonics, Lippincott, Co., 196[illegible].

[13d]Virginia W. Jones, The Graphoneme Concept, State University College, Oswego, New York, 1967.

The author of this privately printed eclectic approach to reading believes the closed syllable to be the structural unit within words which produces consistency of grapheme-phoneme relationship. The instructional use of graphoneme is to find it in multisyllabic words as well as regular single syllable thus aiding independent word attack.

[13e]Glenn McCracken, Charles C. Walcutt, Basic Reading, Lippincott, 1965.

[14]Two major linguistic writers have published systematic programs using a pattern base as a keystone to initial instruction.

[14a]Charles C. Fries, Merrill Linguistic Readers, A Basic Program for Primary Grades, Charles E. Merrill, 1966, Columbus, Ohio.

[14b]Leonard Bloomfield, Clarence L. Barnhart, Let's Read, Bronxville, New York, 1966.

[15]Katherine Spicuzza, i.t.a.; A Systematic Approach to Initial Reading Instruction, University of Wisconsin, Curriculum and Instruction, I.M.C., Madison, Wisconsin, 1965.

[16]Harold J. Tanyzer, Early-To-Read i/t/a Program i.t.a. Publication, New York, 1966.

[16a]John R. Malone, "The Larger Aspects of Spelling Reform," Elementary English XXXIX, May, 1962, 441.

[16b]Edward Fry, "A Diacritical Marking System to Aid Beginning Reading Instruction," Elementary English XLI, May, 1961, 526.

[16c]Galeb Gattegno, Words In Color, Learning Materials, Encyclopedia Britannica Press, Chicago, 1962.

[17]Kellog W. Hunt, Differences in Grammatical Structures Written at Three Grade Levels, the Structures to be Analyzed by Transformational Methods, U. S. Office of Education, Co-operative Research Project No. 1998.

[18]John D. Ebbs, "My Trip to Boston," The Tri-University Project, University of Nebraska, Lincoln, March, 1968.

[19]Jean Molmstrom, Language in Society, Hayden Book Co., New York, 1965, p. 34.

[20]Stuart Robertson and Frederic C. Cassidy, The Development of Modern English, 2nd Ed., Prentice Hall, Englewood Cliffs, N. J., 1954.

[21]Ruth G. Strickland, The Language of Elementary School Children: Its Relationship to the Language of Reading Textbooks and the Quality of Reading of Selected Children, Bulletin of School of Education, Indiana University, Vol. 38, No. 4, July, 1962.

UTILIZING THE GRAPHONEME CONCEPT IN TEACHING THE INDEPENDENT DECODING OF READING VOCABULARY

Virginia W. Jones
Evelyn Wiggins

Recent research has shown the necessity for placing increased emphasis upon the teaching of decoding skills during the period of initial reading instruction.[1] Since the graphoneme concept described in the Appendix presents an effective way of utilizing the stability which exists within the structure of English words in promoting independent decoding, it appeared to the writers that a need existed to utilize this concept to the optimum by making it available to classroom teachers. The problem was: How can pupils engaged in basal reading programs be taught decoding skills utilizing the graphoneme concept?

The following procedures were employed in this investigation:

1. The writers examined Dechant's list[2] of the 149* words common to the most popular basal reading series for primary grades.
   a. What percentage of these word structures were stable in their phoneme-grapheme correspondences?
   b. How many graphonemes (closed syllables) could be identified within these word structures?

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[1] Chall, Jeanne, Learning to Read: The Great Debate, McGraw-Hill, New York, 1967.

[2] Dechant, Emerald, Improving the Teaching of Reading, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1964, p. 202.

*NOTE - Dechant refers to this as 150, but examination of his list reveals the repetition of the word "now."

c. If the graphoneme concept were used in the analysis of these words, how many additional monosyllabic words (that could be expected to be found within the listening and speaking vocabularies of primary grade children) could be generated?

d. Approximately how many multisyllabic words could be decoded whose components would consist of these same graphonemes?

2. Once the above data had been accumulated, the investigators then turned their attention to the development of teaching procedures which would enable a primary grade classroom teacher to utilize these findings.

The Data

Dechant's list of the words most common to the popular primary basal reading series consisted of the following 149 words:

a	boat	farm	her	like
about	boy	fast	here	little
again	but	find	him	long
all	call	for	his	look
am	came	from	home	make
and	can	fun	house	man
are	come	funny	how	many
as	could	get	I	may
at	cow	girl	in	me
away	day	give	is	mother
baby	did	go	it	Mr.
back	do	good	jump	must
ball	dog	good-by	just	my
be	down	had	kitten	night
big	duck	happy	know	no
birthday	eat	has	laugh	not
black		have	let	now
blue		help		

of	said	that	toy	were
on	say	the	tree	what
one	saw	them	two	when
open	see	then	up	where
out	she	there	us	white
over	so	they	walk	who
party	some	this	want	will
play	something	three	was	wish
put	soon	time	water	with
rabbit	stop	to	way	yellow
ran	take	too	we	yes
red	thank	took	went	you
ride				your
run				

Careful examination of these words yielded the following data:

1. One hundred words on this list are monosyllabic and contain 69 graphonemes.
2. Eighteen words on the list are polysyllabic words which are stable (in whole or part) and in these could be identified 11 graphonemes not found in the 100 stable monosyllabic words.
3. Thus, the 118 stable words contained a total of 80 graphonemes.
   a. Seventy-one of the 80 graphonemes evidenced two-way stability - i.e., one graphoneme represented one phoneme.
   b. Eight graphonemes could evidence duplicity in phonemic reproduction.

      wind - find; some - home; how - show; have - gave; what - at; down - grown; four -our; here - there - were
   c. There was only one instance of duplicity in graphemic reproduction.

      night - white

4. Thirty-one words in the list could not be decoded using the graphoneme principle, and therefore the writers considered these to be sight words.

An examination of these statistics reveals the very significant fact that 79.1% of the vocabulary in Dechant's list can be decoded by grapho-neme identification.

The next procedure was to classify these 80 graphonemes according to their vowels:

a		e	i		o		u
ab	arm	eat	ig	ite	out	ome	uck
ad	at	et	in	ill	oat	ouse	ump
ag	as	elp	ing	ish	or	ow	un
ain	ast	en	ind	ith	om	own	up
all	ack	ent	ir	ight	ood	ook	us
alk	ake	es	irl	id	ot	oy	ust
an	ave	ed	ive	ide	oth	ould	ut
and	aw	em	im	is	on	og	
ank	am	er	ime	ike	oon	ong	
ap	ame	ere	it		op	our	
ar	ay	ey					
		ell					

The writers next determined how many monosyllabic words could be generated from this available group of 80 graphonemes. No effort was made to discover all such words, but rather the investigators merely listed those new words which readily came to mind which could be formed by initial consonant substitution, and these were classified according to the

vowels with which they began:*

In the (a) group - 217
In the (e) group - 73
In the (i) group - 127
In the (o) group - 108
In the (u) group - 35

560

Since it was apparent that a group of 80 familiar structural elements (graphonemes) could readily yield a total of 560 words which would probably be within the listening and speaking vocabularies of primary grade children, and since this represents a ratio of seven-to-one, the writers felt that teaching pupils the identification of these graphonemes would unquestionably be valuable in independently decoding words.

Attention was next directed to the possible fruitfulness of employing these procedures in analyzing multisyllabic words. It is suggested that words of more than one syllable be handled in two different ways: The teacher can encourage pupils to generate such words through encoding as well as using the more familiar decoding procedures. Either encoding or decoding can be used in analyzing any of the following representative

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* Such an informal procedure may appear at first reading to be something less than scholarly; however, since the purpose of the investigation was to make this concept of decoding as simple as possible for any classroom teacher to use, this informality was felt to be an advantage. There was, however, one important criterion used in the generation of these words - namely that only words would be listed which the writers felt to be ones which would already be in the listening and speaking vocabularies of most primary grade children.

multisyllabic words:*

contain	convent	maintain	discontent
dinner	cluster	banker	blanket
consistent	supper	command	commander
forbidden.	contented	enjoyment	entertain
installment	gunpowder	imprison	improper
lemonade	interstate	investor	lavender
temper	operate	organ	permanent
blemish	remember	September	member
window	armor	kitten	winter
princess	balloon	orphan	powder
blended	prisoner	promote	thunder
visitor	thunderstorm	thundershower	understand
mainspring	wallet	wonder	contended
		sentimental	

Teaching Procedures

It is suggested that teachers wishing to instruct pupils in decoding procedures utilizing the graphoneme concept set aside approximately 15 minutes per day for this purpose. A typical period of this kind might consist of the following procedures:

1. The teacher would select from the basal reading vocabulary two or three words which are known to the children, and which he has decided can best be used for this purpose.

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* Once again, the writers made no attempt to list all of these words which occur in the language and which might be in the listening and speaking vocabularies of primary grade children. This list therefore is merely representative of those multisyllabic words, every part of which consists of one of the 80 graphonemes identified in Dechant's list.

run and her*

2. From each of the words chosen, generate a list of familiar monosyllabic words.

run	and	her
fun	sand	
run	land	
bun	grand	
sun	band	
spun	hand	
	brand	

3. Present the following multisyllabic words which contain the same three graphonemes found in the words: run, and and her.

under	thunder
understand	hunter

Obviously, on succeeding days of decoding practice as pupils internalize larger numbers of graphonemes, the variety of multisyllabic words which can be chosen for independent decoding practice becomes greater.

Conclusion

It is obvious that the graphoneme concept can be implemented in programs of beginning reading instruction without the necessity of specially prepared reading materials. Since such a high degree of stability was found to be present within the structures of the 149 words common to the basal reading series most often found in primary grade classrooms, these words can form a corpus of structural elements which, when taught to pupils, can be of significance in teaching the skills of decoding. It is

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* NOTE: The pronoun "her" will not generate any familiar monosyllabic words, but er is one of the most useful graphonemes because of its frequent occurrence in multisyllabic words.

suggesting that teachers wishing to follow these procedures first become thoroughly familiar with The Graphoneme Concept*, and then use the procedures suggested in this paper to initiate this kind of word analysis. Once teachers and pupils have learned to identify graphonemes, they will find it possible to independently decode most English words.

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RESEARCH AND OPINION ON THE UTILITY AND NATURE OF THE SYLLABLE: A SUMMARY OF A PAPER

PATRICK GROFF

Teachers have been advised for a long time to teach their pupils how to syllabicate words. The voices of commentators who doubt the value of this practice have been seemingly drowned out by the many writers convinced of the appropriateness of this instruction.

It would seem logical that teaching pupils the process of syllabication is an aid to spelling and reading. This logic is not supported by the research on the relationships between syllabication knowledge and learning to read and spell, however.

It is apparent, then, that by using the statistical evidence on this matter one could disagree with Dolch's contention (1940) that "The sounding out of syllables is a major problem in reading in the middle grades . . . and beyond. More research is needed to determine how it may be solved." The presently available evidence would lead one instead to say, "Teaching the sounding-out of syllables in reading in the middle grades and beyond is a doubtful practice. More research is needed to determine to what extent, or if, this logical-seeming procedure is psycholinguistically relevant to the task."

Could the failure for the lack of positive relationship be explained as the incompetence of the teacher and/or of the material used for instruction in syllabication? There is research evidence that teachers know less than is desirable in this matter. Linguists have also pointed

out that the traditional dictionary syllabication which is generally used by them is not appropriate for this purpose. The methods used have also been faulted. Thus, teachers are urged to develop "habits of responding" about syllabication rather than "formally stated rules." Some research would suggest that teaching children "closed" syllables, an, ill, ate, etc., may have a positive effect on results in beginning reading.

Probably at fault also is the lack of understanding by teachers, and educationists who write about teaching the syllable, as to precisely what this phonetic phenomena is. They often seem unaware that the traditional definition and dictionary portrayal of syllabication (the Third New International Dictionary is a notable exception) have been rejected by the authorities of language or phonetics. From the nature of the advice they give to teachers educationists appear ignorant of the fact that among phoneticians and linguists the syllable is perhaps the most extensively discussed of phonetic phenomena, and at the same time that on which there is the least agreement.

Different linguists define syllables on different bases. Some say its distinguishing characteristic is stress. This is the relative increase in energy during the pronunciation of a syllable. Others say it is its sonority. For a sound to be more sonorous means it has greater "carrying" power. This varies with the openness of the vocal tract. The sonority of a sound is determined by the size of the resonance chamber through which the air stream flows. Still others believe a

syllable is only detectable by the use of acoustical equipment. For them the basis for determining syllables is sound in the spectrum as shown on the spectrogram. A fourth group insists we can only recognize the syllable on the basis of its physiological nature. Each contraction of the respiratory muscles (five or six per second), together with the resulting puff of air, constitutes the basis of a syllable. Finally, there are linguists who believe the syllable should be defined in terms of the distributional features of the language. For them, syllables can be determined on the basis of the permitted or possible sequences of vowel and consonant clusters in monosyllabic words. A syllable could not begin with a cluster that does not appear or is not in such a possible sequence at the beginning of a monosyllable.

Conclusions

What can one conclude about classroom practices from the research findings and opinions about teaching syllables and the nature of this phonetic phenomena? First, and most importantly, I believe they say that teaching pupils rules that correspond to some selected traditional dictionary syllabication of words is likely not worth the effort. As we have seen, the research evidence on spelling and syllabication gives little comfort to the teacher who believes that time taken for teaching traditional dictionary-based rules of syllabication will lead to greater gains in spelling for pupils than would the same time spent in more direct instruction on other generalizations about sound and

spelling. Moreover, children do not need to syllabicate words, as the traditional dictionary directs, at the ends of lines of writing. The requirements of format in elementary school rhetoric need not insist on this. Thus the defense for teaching dictionary syllabication that it teaches children to break words "properly" at the ends of lines of written composition can be dismissed. If this must be taught it can be done in levels of schooling above the elementary school, when such niceties of format apparently have more social consequences. Finally, the extremely complex, and therefore controversial nature of, and the determination of, the true and accurate limits of the syllable add further substance to the advice to drop the teaching of traditional dictionary rules, I feel.

Does this mean, then, that the teacher should discontinue, as some recent commentators have urged, all attention to the syllabic nature of words? Not necessarily. It is inconceivable that bringing to children's conscious attention elements of our language, in this case the phenomena of the syllable, can not but help them in spelling and reading. I will not let the evidence from the studies that demonstrate the failure of the influence of the teaching of traditional dictionary syllabication upon language growth deter me from this hope. My hopothesis does require that I see the teaching of syllabication in a different form, of course. If one can start by accepting the disturbing, yet authentic, fact that even the authorities in phonetics cannot agree on the true limits of all syllables, why should not the

teacher be willing to experiment with different procedures from those dictated by the rules of traditional dictionary syllabication? Why should not the teacher encourage the pupil to divide words (with some help) for the purposes of spelling and reading as his linguistic intuitiveness directs or guides him?

The forms or exercise of such linguistic intuitiveness would perhaps best be described by giving an example. If the pupil finds he needs to spell a word such as factory, for instance, he could rely on his ability to listen for the sounds of vowels, and then to attach to these sounds the consonant sounds that seem to make up vowel-consonant clusters. Accordingly, one pupil might decide he hears fac-try; another fact-ry; another fac-tr-y and yet another fact-r-y. (Differences in dialect might condition this.) Any of these pupils might very well spell the word as faktre. This is not the issue. In all instances the lack of regular correspondence of sound and letter in the spelling of any word would add to the task. With faktre, however, the pupil could be said to have demonstrated he recognized three parts, or syllables, of the word and their constituents--vowels and consonants. (Note: the pupil would have to learn that r has vowel characteristics when it occurs in certain places in words.) This seems a more reasonable way to have him approach a spelling word, regardless of the regularity of its spelling, than to simply have him memorize its letters in serial order.

With longer words, such as investigate, the pupil would likely hear in-vest-i- (note the natural or open juncture between in and vest, no word begins nv) (or ves-ti or ves-tig or vest-ig); and gate (or ate). Whatever the combining or clustering of vowel and consonants (after the open junction) for each "syllable," this free-wheeling division should be a better way of helping the pupil keep in mind the sounds of the word as he spells it than would be some hoped-for application of a rule based on dictionary syllabication. Correct pronunciation of such free-wheeling syllables can both help and hinder a "correct" spelling, of course. A spelling such as investugat might indicate that while syllabication helped, the correct pronunciation of the word was both a help and a handicap.

Whether in this process the pupil would inevitably hear closed syllables (e.g., est), as some seem to imply, or some combination of closed or open clusters of vowels and consonants is an empirical question. They would probably be aware of open junctures. Further research on these points would be very helpful, of course. This research also might reveal that the reason that "calling attention to difficult parts of words in presenting the words of a lesson is a doubtful practice" is so because the "hard spots" are not heard in the same parts of words or syllables by all children. Teaching them as if they were might account for the rather surprising evidence that such instruction has "little or no value."

In instruction in reading, going from spelling to sound, such free-wheeling syllabication might also prove to be useful. Again, no

time for learning traditional dictionary based rules of syllabication would be required. This time could be spent in having pupils visually determine the limits of syllables according to the individual's perception of clusters of vowel and consonants in much the same way as he did in going from sound to spelling. The goal here would be one of approximation. That is, for our word investigate, the same clusterings as seen in the spelling example might be made. (Obviously the pupil would soon become aware of frequently occurring patterns (in-est-ate) and recognize these as wholes.) An example of this approximation can be given for the word demonstrate. The pupil might visualize the clusters here to be de-mons-trate, and pronounce the first cluster dē, and the second, mons. It is hypothesized that this pronunciation would be approximate enough to the true one in the child's aural recognition vocabulary however, that he could quickly make the necessary phoremic correction. This is something like diaphonetics, which is illustrated by the Mississippian's ability to understand the speaker of British English.

In summary, I am compelled to believe that the idea of syllabication "the working unit of pronunciation," as linguists call it, is too essential an element of linguistics to be easily dismissed as inevitably useless in teaching children to spell and read. Consequently, I feel that continued searches for other ways to find effective uses for understanding of the idea of syllabication should be made. At the same time I would insist that these searches be kept within the

framework of the pupil's intuitive perception of language elements, while the teacher must be aware of the nature of syllables, this does not say he must be bound particularly by traditional or formalized concepts of syllabication in using the idea with children.

THE i.t.a. SYSTEM AGAIN: SOME CONCLUSIONS

John D. Ebbs

With the end of the 1967-68 school year, a system of initial reading based upon Sir James Pitman's initial teaching alphabet will have gone through its seventh year of experimentation. Used widely in England and in the United States, the i.t.a. system posed some rather unique problems from the beginning. With the absence of a significant body of research, it has not been possible to answer satisfactorily some of the central questions concerning i.t.a. However, enough has now been done, both in actual classroom practice and in pure research, to venture answers with a degree of confidence.

Before such a venture is begun, however, it seems of value to describe the i.t.a. reading system in order to understand the nature of the problems that have been identified and the reasons for the various questions. The i.t.a. reading system begins with the hypothesis that a system of reading which uses traditional orthography (t.o.) presents from the outset severe difficulties in initial reading. The primary difficulty is a rather chaotic relationship between sound and symbol. It can be demonstrated, for example, that there are over 2,000 ways to represent the 40 basic sounds of English. The most salient feature of i.t.a. is its attempt to replace this chaotic condition with one of order. It attempts to achieve a one-to-one ratio between sound and symbol. The i.t.a. symbols, some of which are identical to those of t.o., some of which are combinations of t.o. symbols, and some of which have been created anew, number 44. To those who have designed the i.t.a. system, learning how to read consists of learning how "to break a code--a code in which letters of the alphabet stand for sounds which make words we know."[1]

Implementation of the i.t.a. system has never involved any new, radical, or unique method. Like any other reading system or approach, it recommends a period of reading preparation. When the actual reading instruction begins, any of the various methods that have been devised to teach initial reading may be used. It has consistently been maintained

in i.t.a. materials that the i.t.a. system is not primarily a phonics system; however, the Downing Readers Series suggests that the teacher begin with the look-and-say technique and introduce phonics later. The following quotation helps to explain the rationale here:

> Most teachers will continue to prefer the mixed-methods approach in which an early look-and-say period gives the proper emphasis to meaning from the very start. It gives the right orientation to reading. It indicates from the beginning that reading is about words and sentences, not just letters, and that books contain interesting stories and information. However, in the Downing Readers, care has been taken to choose words and sentences which will enable children to discover for themselves the relationship between letters and sounds. Many teachers believe that when children make discoveries for themselves, the learning which results is much more permanent. Perhaps it would be more appropriate to say that learning acquired in this way becomes permanent more rapidly because the child feels that he has discovered something belonging in some special way to him. Naturally the capacity to reach these conclusions unaided differs greatly from child to child to child; but in producing this series it has been felt that the opportunity should be created for those children who can take advantage of it. At the same time teachers who wish to make an earlier start with phonics can do so through more deliberate teaching of these rather obvious relationships, even in the first books.[2]

What seem to be the pluses or advantages of the i.t.a. system of reading? Let me list and then discuss.

1. The i.t.a. system allows the child to gain reading competencies earlier.
2. The system succeeds in producing rather dramatic results in children's ability to write.
3. The system appeals greatly to the teachers using it.
4. The system seems to make reading a pleasurable activity for all children using it.

5. The system has provided materials which are more attractive and imaginative.

Relying solely upon observation (in my estimation, a strong method of research here), I feel that the above list comprises true advantages. I have seen children in first grade i.t.a. classes show rather amazing reading abilities, and every teacher of i.t.a. with whom I have talked has had nothing but praise for the system. The attempt for a one-to-one ratio between sound and symbol succeeds in helping the child to write earlier and to try to write independently during his first year in school, an achievement seldom witnessed in classes where t.o. has been used. I am convinced that the i.t.a. system helps the child rather early to gain confidence in reading and writing, and activities performed with confidence are most often pleasurable ones. The attractiveness and imaginative nature of i.t.a. materials, in my judgment, have the advantage of helping to lead the child to more independent reading.

Now that we have looked at the advantages, let us ask, What are the minuses or disadvantages? Again I shall list and then discuss.

1. The chief disadvantage lies in the transition the child must eventually make fro i.t.a. to t.o.
2. The i.t.a. system has failed to achieve an exact one-to-one ratio between sound and symbol.
3. There is evidence that the shapes of some of the i.t.a. symbols need to be changed.

From the beginning, the critics of the i.t.a. system have warned that the transition from i.t.a. to t.o. might not prove to be easy and might not prove to be permanent. In the face of these warnings the originators of the i.t.a. system and most of the teachers who have used the system have claimed that the transition can be made easily and permanently. Even in the face of the rather pervasive anxiety over the possibility of the system's producing a great number of poor spellers, those persons who have been most directly related to the system have made contrary claims. Now, however, there is evidence that these warnings and anxieties have had sound bases. John Downing, the originator of the i.t.a. experiment, has

written the following only recently:

> The really interesting recent development in the i.t.a. experiment is the discovery that the process of transition from i.t.a. to t.o. seems to be different from the one predicted when the experiment began. Here is "something wrong with i.t.a." . . .[3]

In addition, there is evidence that there has been misunderstanding, mainly in the United States, concerning the manner and time for the transition from i.t.a. to t.o. Downing has elaborated on this misunderstanding:

> Transfer is not encouraged and achieved in April or May of the first year. This is probably Ohanian's most dangerous misunderstanding. In Britain the average time of transition from i.t.a. to t.o. would be at the end of the second or beginning of the third year. More important, transfer to t.o. is individualized, and research indicates that a much longer period in i.t.a. will help slow learners.[4]

My position is that it must be termed more than just dangerous for a system, so firmly in practice in many of our schools, to make such misunderstandings possible.

When we consider the host of variant pronunciations of words, the matter of dialects, and the fact that the i.t.a. system originated in England, it should be considered genius on the part of Sir James Pitman that i.t.a. even comes close to achieving its goal of a one-to-one ratio between sound and symbol. The truth of the matter is, however, that it does not. And in each instance of its failure to achieve its goal, a difficulty in reading and writing confronts the child, producing identical problems charged to the chaotic nature of t.o. An example is the use of the i.t.a. symbols c and k for the same sound, and there may be other examples.

The disadvantage inherent in the suggestion that there may be a need to change the shapes of some of the i.t.a. symbols is one that I have learned by reading Downing's recent article on i.t.a. Let me quote his own words:

> [Sir James Pitman's] i.t.a. characters and spelling conventions are supposed to maximize transfer of learning from i.t.a. to t.o. once fluency in the former has been achieved. He based this on the

well-known research finding that fluent readers use only minimal cues situated chiefly in the upper part of the line of print. Therefore, as far as possible, the upper part of the i.t.a. configurations of whole words are similar to the upper part of the t.o. configurations of the same words. Study of the errors i.t.a. students make in reading t.o. indicates that we need to consider a smaller unit of processing than the top half of the configurations of whole words.

In summary, something is wrong with the i.t.a. writing-system itself. Despite i.t.a.'s success, both before and after transition to t.o., there is clearly room for improvement on i.t.a's present design.[5]

A later article by Downing makes clear what some of these changes might be:

	1	2	3	4	5	6
i.t.a.						
Possible improvements						

In additon to the above disadvantages, there have developed what have been called problems of accretion in relation to the i.t.a. system. The ones that seem most to merit our attention are the following:

1. There are essentially two i.t.a. systems--that of England and that of the United States.
2. There have been claims made, almost entirely in the United States, that the i.t.a. system is a near panacea for reading problems.
3. There has been a great deal of confusion concerning the ownership of the copyright to Pitman's initial teaching alphabet. (The truth is that there is no copyright.)[7]
4. Because of this confusion--really misunderstanding--there have not been enough publishers of i.t.a. materials to generate a worthwhile competition in this field.

Now, where does this leave us in a final evaluation of the i.t.a. reading system? It brings me to the conclusion that in spite of the demonstrated

weaknesses and problems of the system, the experiment in i.t.a. should be continued. I cannot think of a single educator and/or reading specialist who would vote to "junk" the system entirely. The encouraging note here, I think, is the fact that persons like Downing are alert to the weaknesses and problems of the system and intend to improve it. It is also worthy of note that the i.t.a. system is being used in our schools and will be used again next year and, without doubt, the next. Thus, my statement concerning recommendations for teacher training is little different from what it was last November. At that time I wrote:

> i.t.a. has been in use for only six years; consequently, there has not been sufficient time for an adequate evaluation of its inherent merits. Yet, reports from those who have used it have all generally agreed upon one point: it works. Further, i.t.a. is being used throughout the nation, primarily upon an experimental basis, but there are indications that some schools and systems plan to adopt it permanently. With this knowledge before us, it seems certain that numerous teachers will find themselves using i.t.a. materials in the future. It is my opinion, then, that a realistic teacher-training program should include i.t.a. among the various reading approaches in which prospective teachers and teachers in the field (through in-service training) are trained.

I would add only that I feel the Tri-University Project (an experiment in its own right)--out of a sense of fairness to and respect for future and present teachers in our elementary schools and out of a consideration that literally thousands of teachers have been excited and pleased with the results this system has produced in their classes--should endorse the conclusion of this paper and the above recommendation.[8]

EDITOR'S NOTE: Professor Ebbs has prepared an excellent bibliography containing all published references to i.t.a. arranged alphabetically according to the years of publication. Copies of this bibliography can be obtained by contacting Professor Ebbs, East Carolina College, Greenville, North Carolina, 27834.

NOTES

[1]Keith Gardner and Ulyth Roberts, Sail Away Series: Teacher's Notes. London: Initial Teaching Publishing Co., Ltd., 1965, p. 1.

[2]Interim Teachers' Manual. London: Initial Teaching Publishing Co., Ltd., 1964, pp. 5-6.

[3]John Downing, "What's Wrong with i.t.a.?" Phi Delta Kappan, XLVIII (February, 1967), 265.

[4]Loc. cit. See V. Ohanian, "Control Populations in i.t.a. Experiments," Elementary English, XLIII (1966), 373-80.

[5]John Downing, "What Wrong with i.t.a.?" op. cit., p. 263.

[6]John Downing, "Can i.t.a. Be Improved?" Elementary English, XLIV (December, 1967), 852.

[7]See Sir James Pitman, "Is i.t.a. Public or Private Property?" Phi Delta Kappan, XLVIII (June, 1967), 524; John Downing, "Will i.t.a. Copyright Prevent Improvement?" Phi Delta Kappan, XLVIII, (June, 1967), 524.

[8]For complete co-operation throughout the 1967-68 school year in providing the opportunity for me to work with i.t.a. materials and observe i.t.a. reading practices, grateful appreciation is extended to Mrs. R. S. Mickle, Principal of Pershing Elementary School, Lincoln, Nebraska, and Mrs. Brauer and Mrs. Stamm, teachers of first grade i.t.a. classes at Pershing.

READING COMPREHENSION

and the

DEVELOPMENT OF THINKING SKILLS

Virginia W. Jones

Traditional Attitudes Toward Comprehension Skills

Teachers of reading have too long been satisfied to deal with the skills of comprehension only at the most basic level, that of literal feedback. They have been accustomed to seeing objectives to be accomplished in this area listed only in the following fashion:

1. Reading to find the main idea of a page, paragraph, or story
2. Reading to note the significant details
3. Reading to answer specific questions
4. Developing the ability to summarize facts
5. Developing the ability to organize ideas in logical sequences
6. Learning to make generalizations
7. Developing the ability to exactly follow a given set of directions, whether oral or written
8. Learning to predict outcomes
9. Learning to make critical evaluations of material read
10. Learning to understand and use the language of reading - phrase, sentence, paragraph, etc.
11. Learning to locate information
12. Reading for enjoyment of plot, language, knowledge gained

There is nothing wrong with enumerating comprehension skills in this manner, and indeed such lists can be found in the newest reading texts. However, research is showing us that there is far more than can be done to further the development of thinking skills during the teaching of reading.

One of the most authoritative delineations of thinking processes can be found in a taxonomy devised by a group of psychologists. The theoretical framework they constructed was edited by Benjamin S. Bloom of the

University of Chicago, and the resultant publication is widely known as "Bloom's Taxonomy."* The taxonomy identifies six levels of thinking skills:

1. Knowledge
2. Comprehension
3. Application
4. Analysis
5. Synthesis
6. Evaluation

Some years after the publication of Bloom's Taxonomy, Norris M. Sanders, Director of Research for the Manitowoc Public Schools in Manitowoc, Wisconsin, realizing the implications inherent in the taxonomy for the improvement of classroom instruction, published Classroom Questions. In his text, Sanders acknowledges questions to be the instructional tool without which teachers can scarcely function. Furthermore, he discusses the structuring of questions in a manner designed to promote on the part of pupils the kinds of thinking identified and categorized by the taxonomy.

The work of Bloom and Sanders has significance for every teacher of reading at every level, including First Grade, for if we believe that reading is the ability to derive meaning, we are also assuming that thinking accompanies the act of reading.

Organizing Thinking Skills

The writer has devised an organization of thinking skills intended to clarify and adapt the taxonomy of Bloom in a way which makes its practical application to the work of the classroom readily understandable.

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* Bloom and his colleagues identified three domains--cognitive, affective, and psychomotor. Handbook I deals only with the cognitive domain, and this is the area concerned in this discussion.

The six categories of Bloom have been altered in light of the goals of reading instruction, and four distinct levels of pupil responses have been identified. To illustrate the manner in which questioning and subsequent thinking on the part of young pupils can be included into a good program of reading instruction, consider the following diagram:

			Creative Thinking
		Critical Thinking	Critical Thinking
	Interpretation	Interpretation	Interpretation
Literal Comprehension	Literal Comprehension	Literal Comprehension	Literal Comprehension

Let us examine each of these four categories in an effort to determine how they contribute to the total thinking process and to determine in what ways the spontaneous use of skillful questioning in these categories can further the child's understanding of what he has read, and so increase his own thinking capacity.

Literal Comprehension

As this paper stated earlier, the level of literal comprehension has been the level at which teachers have all too often been satisfied to elicit responses and then consider the task concluded. Consider the following simple sentence:

Bill ran down the street.

Once a child has read this sentence one might ask him

What did Bill do?
Who ran down the street?
Where did Bill run?

Notice that in each of these three questions the child is only required to parrot back to the teacher exact words from the sentence which he has read. He is not expected to do anything beyond this. Even at this simplest level, there are certain capacities which a child must have in order to

perform: intelligence, reading ability, and memory. Obviously, he must have a minimum intellectual potential, must be able to read the words of the sentences, and must be able to remember what these words were so that he can recall the facts of the sentence when asked to do so. This constitutes the level of literal comprehension and is the lowest and simplest of the comprehension levels. No independent thinking is required.

Interpretation

At this level the child is again required to do everything that was required of him at the first level, that is to say, he must, by using his intelligence, his reading ability, and his memory, be able to parrot back to the teacher the facts of the sentence. But in order to interpret what he has read, two new ingredients must be present. The first is a background of experiences upon which he can draw. The second is the ability to relate those experiences to the task at hand. For example, if we go back to our first sample sentence, Bill ran down the street, questioning on the interpretive level might be, "Was Bill going quickly or slowly?" "How do you know?" Notice that the child's ability to answer this question depends entirely upon his understanding of the meaning of the word ran, a word describing an action in which most children have engaged many times themselves, and the child must be able, in light of the teacher's question, to sort out from his vast number of experiences and understandings that which is applicable to this particular situation. He knows that Bill was going quickly because he knows the meaning of the word ran, and because he can associate running experiences of his own with that of Bill in the sentence.

Thus we now have an accumulation of five requirements: intelligence, reading ability, memory, background of experiences, ability to make associations, and with these pupils can operate on an interpretive level.

Critical Thinking

When a child is capable of performing these five enumerated skills and has therefore passed through the previous two stages in his thinking, we may then require of him that he draw a conclusion, make a generalization,

or formulate a judgement. In order to do this, he must analyze a given situation. He must not only draw upon his previous experiences, but he must synthesize several experiences, evaluate them, discard extraneous ones, and on the basis of these procedures arrive at a satisfactory conclusion.*

To return again to our simple sentence, Bill ran down the street, a question designed to provoke critical thinking might be, "How could this be a dangerous thing for Bill to do?" Note that in order to answer this question, a child not only has to draw upon his background of experiences and be able to make associations, but he must analyze the whole situation of a child running down the street. He must draw from his background of experiences a number of related concepts and synthesize these, discard those that are extraneous to the subject, and then arrive at a conclusion.

Therefore, we might correctly say that in this stage known as critical thinking, the child must exercise: intelligence, reading ability, memory, have a background of experiences, be able to make associations, analyze, synthesize, and then make judgements.

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* Satisfactory used in this sense does not mean satisfactory in the sense that the conclusion is what the teacher wants. When a child has performed a critical evaluation and has arrived at a satisfactory conclusion, we mean he has arrived at one that is satisfactory to him; one that he can rationalize and verbalize to others. Because each of us has an entirely different background of experiences upon which to draw, and because each of us varies in the degree of skill with which we can perform tasks, teachers should welcome responses at this stage of thinking which deviate from the "norm." As long as a child can justify his response and in so doing exhibits careful thought, the answer should be considered to be meritous. This attitude of acceptance on the part of the teacher is crucial to the development of thinking skills.

Creative Thinking

The writer believes this to be the highest of all levels of human thought and certainly a level worthy of recognition by establishing for it a separate category. A word of caution must be inserted here: the word creative here means "original to the person having the experience," not necessarily creative in the sense of being an entirely new addition to the general fund of knowledge. Original or creative thinking requires that the subject have each of the eight qualities involved in the three previous levels of thinking, but in addition, he must add to these qualities one or more of the following: imagination, emotion and energy. If a child has arrived at a judgement or a generalization or a conclusion through his ability to think critically, and if he then can add to this the highly individual ingredient, imagination, he can come up with an original, creative thought. If this original thought is one about which he feels strongly (has emotion), and if in turn his strong feeling overcomes his lethargy and causes him to exert energy in this direction, he produces original thinking.*

Once again think about our simple sentence, Bill ran down the street. A question designed to stimulate original thinking might be, "Why was Bill running down the street?" Pupils, having been led successfully from the simpler to this highest level of complexity in thinking can, through the use of imagination, evolve some extremely interesting answers. Notice that there is no right or wrong answer. Each child's answer is original with him and regardless of its pertinence, if this answer has been arrived at because of the activation of his own thinking processes, his response should be properly acknowledged.

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* Is this not how innovation and creativity operate? We are fond of saying in colloquial fashion, "He has an idea," and we become very excited upon learning about the end product of this idea. But what is an idea? Is it not one or more stimuli to which the individual has been subjected, which he has evaluated and considered, which he has combined with imagination, and then about which he has acquired strong feelings, and finally been moved to take some action?

It should be further noted that in this instance all the child had to do to reach this level of original thinking was to add a bit of imagination. He was not required to have strong feelings about it or to exert any energy in this direction. However, if any child, upon formulating an original answer to the question is moved to write a few sentences, a short story, or draw a picture, without further stimulation from the teacher, he would have employed those prime qualities which enabled him to produce some tangible evidence of the originality of his thinking.

Conclusion

Obviously, the examples given above have been over-simplified, but they should serve as an introduction to the kind of attention to comprehension and thinking we want to promote with our children. This procedure of "digging" into the hidden meanings as well as those obvious meanings in the material we read should have particular learning significance for elementary school children. Careful follow-through of these four categories of thinking will lead pupils from the simplest to the more complex processes involved. The simplicity of the sentences used as examples in this discussion, both in content and in syntactic patterns, should make it apparent that the procedures advocated here can be employed in the development of thinking skills with our youngest pupils. There is no need to postpone this vital instruction until the intermediate grades. It can and should be started on the pre-primer level.

Summary

To summarize, we might outline these skills in this fashion:

1. Literal feedback
   a. requires intelligence, reading ability, memory.
   b. requires that pupil parrot back words of text.
2. Interpretation
   a. requires literal comprehension.
   b. requires background of experiences, plus ability to make associations.

3. Critical thinking

   a. requires literal comprehension.

   b. requires interpretation.

   c. requires the ability to analyze, to synthesize, to make judgements.

4. Original thinking

   a. requires literal comprehension.

   b. requires interpretation.

   c. requires critical thinking.

   d. requires imagination, emotion, and energy.

Tri-University Project
David C. Davis
April, 1968

THE NEGLECTED DIMENSION IN READING INSTRUCTION: MACHINES

The idea of using mechanical devices as teaching aids is not an innovation in the field of reading. It only comes as a shock to persons whose eyes are on the future improvement of learning environments that mechanical aids are not more universally used or efficiently applied. This impact has been labeled "future shock" by Alvin Toffler[1] and Harold Shane.[2]

Recognition by professional workers of this future shock in the mechanical or technological dimension is long overdue. The possible contributions that machines may make to each child's education are considerable. It is regrettable that the 1968 National Society for the Study of Education, Sixty-Seventh Yearbook, Innovation and Change in Reading Instruction, allotted only two pages of discussion to the technological dimension.

The reasons for this neglect should be constantly reviewed along with short descriptions of machines and techniques which will be beneficial to all children in any classroom. We hear many reasons for avoiding extensive use of machines in schools. Perhaps, the following encompass the most common rationale.

. Education often exhibits a casual and sometimes pious indifference to machines.

. There is a failure to grasp the meaning of cybernetics.

. There have been insufficient materials or programs developed, especially in the area of reading instruction, for efficient use of machines.

. There is an evident lack of imagination to grasp the functional need for the use of Harold Shane's invention of the compounded word Cyborg. "The word, cyborg, is derived by combining cybernetic and organic. Functionally speaking a man with an artificial kidney is a cyborg. Within the next ten years -- we are almost certain to develop cyborg teams: teachers whom educational media and technology have extended beyond our present capacity to imagine . . . Schools will be centered around media from which people of all ages and backgrounds would learn. The designing of learning, the retrieval of information, the encouragement of self-directions, the extension of experience for persons of all ages at any time of the year, and above all the consummately skillful low-pressure nurture and guidance of human development and questioning would be the task of the cyborg team teachers."[3]

. There has been slow recognition on the part of professionals that machines are only an extension of the human faculties. The wheel is an extension of our feet, the typewriter an extension of our hands and skill of writing, and films the fusion of all systems of communication except the direct person-to-person.

. Ostrich-like behavior prevents people from recognizing the tribalizing effect of mechanical communication (television and radio) upon the oncoming generation. Few persons reflect the knowledge of the intensification and modification that television is making on the various code systems invented by men for communications.

. There has been a failure to build upon the vast unindexed body of information which children have acquired from television and radio before beginning kindergarten.

By allowing such a rationale to govern their use of the technilogical dimension of education educators too often close their eyes and their minds to machines which may aid instruction in the reading area immeasurably. Among such neglected machines and techniques we may find the following.

. Individual carrels, each containing at least two or three cartridge type informational retrieval machines.

. 8 MM sound and silent cartridge type projectors.

. Speechreading machines such as the Language Master, TTC-Card Reader tape for the recorders, designed for self-operational study situations.

During the Tri-University Project assignment, David C. Davis developed material to demonstrate the value of independent study machine (Language Master) for initial code identification instruction.

Robert E. Stepp and George Propp at the University of Nebraska, Midwest Regional Media Center for the Deaf, have developed some excellent captioned films for teaching deaf children to read. These captioned films need to be explored and expanded for normal classroom use in the area of reading.

. Transparencies for use in overhead projectors which will aid in techniques of a visual lingual reading program. There are available materials developed by eight reading specialists (Editor, M. Jerry Weiss) and produced by Tweedy which have been designed to activate the viewers to respond with verbal expressions.

. Listening centers with headsets for a group of students to listen to recorded material available on discs, wire and tapes.

. Flash readers which permit tachistoscopic use of film strips and slides.

. Carousel slide projectors with captioned slides.

. Videotape machines to capture reading experiences for skill development.

. Polaroid camera for recording child involvement in a reading situation to insure self-identification with the learning task.

. Thermal copy machine (one per building) for multi recording of group reading experience stories.

. Talking typewriter as developed by Moore in the Responsive Environments Foundation, Hamden, Connecticut.

. IBM 1500 computer. A machine programmed for sound, visuals, and responses centered on initial reading instruction. Brentwood Elementary School at East Palo Alto, California, has this computerized program of exercises and reading games for the child learning to read.

. Closed-circuit television for testing in the skill area of reading instruction. This technological use of television will aid in exacting standardization of the reading test situation.

. Classroom group discussion centered on the messages received in out-of-school viewing and use of machines. (television, radio, records, films). This teaching practice should be held daily during the elementary years. Discussion should be focussed on the data acquired, the use of various code systems, the interests and changes of interests among the group, and the factors identified for development of critical judgment.

. Multi-screen and multi-sensory listening-viewing. Encourageing the young child to select and reject sensory images or fuse several to construct concepts may be accomplished by imaginative use of such machines. The film of the future as demonstrated in the Expo in Canada (1967) should be allowed classroom exposure.

. Self realization centers. These may be defined as unified educational complexes (rooms or areas) in which persons may self-select materials for special reading needs.

Much of the debate concerning machines and technology in the learning environment has centered on foolish thoughts. Ideas that man-made machines may control the maker or machines may replace the teacher are less than realistic if sound principles of education are followed. Schools in the future should be media plants which provide both stable and mobile machinery to expose all students to learning materials and activities. Mobile reading buses (similar to bookmobiles) may be developed for extending reading instruction to family members who, since they are outside the school involvement, impress the pupil with the importance of becoming literate.

If we can rid ourselves of the demonic image of machines the future of schools as social change agents may be as certain as the present proves them to be fixers of status quo. This evolution, however, will not come until the educational complex insists on hiring imaginative planners and

navigators for the lower level of education rather than the upper level. A model for a lifetime curriculum will need to incorporate men, ideas, and machines which develop concepts of the individual in areas of service to others, maximum physical-mental development, need for general and specialization knowledge and a balance of and respect for play, effort, contrast environments, others, solitariness, contemporary problems and man-conceived habits of thinking scientifically, socially, and freely.

Children will not develop into steriotypes if the learning environment directs both people and machines to recognize the individual. Machines and technology, imaginatively used in the classroom, may liberate teachers from the time-consuming tasks of collection and arrangement of material for the more personal task of contacting the child and centering on his individual educational needs. The encouragement of schools toward more self-direction and self-responsibility will make learning a self-gratifying experience.

FOOTNOTES

1. Alvin Toffler, "The Future As A Way of Life," Horizons, Summer, 1965.

2. Harold G. Shane, "Future Shock and the Curriculum," Phi Delta Kappan, October, 1967.

3. Ibid.

INDIVIDUALIZED READING

Evelyn Wiggins

Individualized reading was devised by educators who recognized the fact that each individual's growth pattern is unique and that the direction is toward self-realization. It is based primarily on principles of child development, seeking, self-selection and self-pacing.

The individualized reading program attempts to break the lock step practices of committing children to the same type and amount of reading material. Each child reads material he has selected individually on his own level and at his own speed without the harmful effects of inter-pupil competition.

The child motivated by internal needs will select and attempt to read those materials which are suited to his needs and interests. In the process he will build permanent tastes and interest in reading and progress in reading skills as his readiness for new skills permits.

Individualized reading has been described as not a single method but a broad, somewhat freely defined plan of teaching, or even as a way of thinking about reading. May Lazar states:

> Individualized reading is a way of thinking about reading - an attitude toward the place of reading in the total curriculum, toward the materials and methods used, and toward the child's developmental needs. It is not a single method or technique but a broader way of thinking about reading which involves newer concepts concerned with class organization, materials and the approach to the individual child. The term Individualized Reading is by no means fully descriptive, but for want of a better term most proponents of this approach continue to use it.[1]

One may question the feasibility or even the practicality of conducting an Individualized Reading program at the beginning-to-read stage. Many educators recognize the important role "independent reading" plays in the Individualized Reading program so they wonder how a six-year-old can

be expected to do such reading when he does not yet understand the process of decoding and the other reading skills.

First grade teachers who follow the Individualized Reading program utilize children's first-hand experiences as a base for teaching reading skills. Using inquiry and discussion, teachers prepare reading material in the form of experience charts for children. Such areas of experience from which charts are constructed might include the following:

News

Lists of class helpers

Directions or plans

Dictated personal stories

Share and tell activities

Field trips

Seasonal events

Announcements

Short letters

On-going experiences

Experience charts utilize the language of the child; thus children's writing becomes the first reading material. Such charts are timely and provide a link between current experiences and the reading process while they also provide for direct practice of word recognition skills.

The vocabulary of a month's supply of experience charts would be larger and richer than a basic text would permit. The teacher keeps a record of all the new words systematically taught by charts, and thus a basic sight vocabulary, basic to the child's speech, is built.

Charts also provide the base for teaching beginning reading skills such as:

Left-to-right perception

Auditory and visual discrimination

Configuration

Context clues

Most first grade teachers work with the total class or small groups with much chart work and then introduce simple books. At this point some teachers utilize basic-readers, preprimers and primers but this action violates the principles of Individualized Reading and may according to some authorities[2] be actual retrogression.

A good Individualized Reading program continues to capitalize on the child's informal learnings as he begins to read on his own and moves into simple books. One teacher expressed it in this way:

> As all the language and first-hand experiences are going on, I begin to introduce simple books. I read each one to the children. They discuss it and dramatize it before it is put on the library shelf. The child must know what the book is about in order to tell whether or not he wants to go to it. The children begin gradually to gravitate toward these books, tell each other the story from the pictures and begin to read the simple text.[3]

As Individualized Reading moves into the later primary and intermediate grades children are not placed in traditional reading groups. The teacher determines the child's reading level by the use of standardized tests and observation of the child in a variety of reading situations. Materials to be read during the regular reading period are selected by the pupils themselves. They are then allowed to read at their own speed. Each child is directed to locate materials in keeping with his interests and skills in reading. Trade books, newspapers, magazines, and sometimes even basal readers are selected.

The teacher is available during the reading period to give help as requested or most often in a regularly scheduled conference with each child. The teacher moves about listening to reading, noting difficulties in skill development, discussing concepts and conferring about materials. The teacher attempts to diagnose needs and to provide adequate instruction and practice in building skills. Reading skills lists appropriate for each grade level are available.[4]

Skill training is provided daily and as needed by using teacher-prepared materials. Word analysis is also taught through spelling and composition.

Pupils with similar needs may be temporarily grouped for instruction for a single specific purpose. Interest groups may be formed for the purpose of discussing material read by several children.

Pupil as well as teacher records are kept of the reading done. As each child reads he keeps a record on a card or in his notebook of the books he reads. He may also be asked to list words which he has difficulty reading or understanding. At the time of the individual conference the child brings his record to the teacher. Teacher records concern primarily the systematic presentation of reading skills and the ability of the child to use them effectively.

As we look at Individualized Reading some advantages or strengths emerge. Individualized Reading:

1. stimulates greater enjoyment and interest in reading
2. increases the amount of reading done
3. uses a wide variety of reading materials
4. gears reading materials, tempo and techniques to individual child
5. encourages progress at child's own rate
6. teaches skills on an individual basis according to need
7. increases the feelings of security and independence due to the absence of competition and comparison
8. combines best elements of recreational reading with one-to-one skill teaching
9. teaches word recognition through an integrated approach

Individualized Reading, in my opinion, is based on sound psychological principles. Its methods and procedures are in keeping with the way children learn in that it takes full advantage of past learnings and emphasizes the choice aspect.

I do believe that a weakness of this approach is that it overlooks the

fact that most teachers are unfamiliar with the wide variety of reading materials necessary to its success. Courses need to be provided in teacher education which will help students gain this necessary background.

Scheduling and conducting conferences requires great efficiency on the part of the teacher, not to mention the labor of record keeping, but I have seen "good" teachers do this with apparent ease. It can be done.

As one examines the research in Individualized Reading as to its effectiveness in pupil competence, outcomes vary to a great extent. Most reported studies are favorable, but Dr. Jeanne Chall[5] in her review of current research as to the effectiveness of various types of beginning reading instruction favored those programs with heavier code-emphasis over Individualized Reading.

I came to the Tri-University Project favoring Individualized Reading and its sister program the Language Experience Approach. My feelings have not changed as a result of my study and experiences here. I still view the child as the heart of any so-called reading method, approach, program, etc. Individualized Reading comes closer to meeting individual differences especially through the self-selection of reading materials, pupil-teacher conferences and written records of each child's progress.

On the other hand, I see the need in beginning reading for teaching some form of decoding. At this point I favor the less formal methods. Virginia W. Jones' "The Graphoneme Concept"[6] seems to hold much promise as a useful tool in decoding. It could be taught easily and naturally to children who are reading a variety of materials.

Now I ask myself, as a teacher of teachers, what changes must take place in teachers to enable them to individualize reading? How can I give my students the knowledge of how to proceed? These are questions I have not fully answered, but I feel I am closer to these answers. Hopefully, with continued study and experimentation, I can institute change. But I do know this: I want to prepare teachers who are aware of the child's world of the home and the street, teachers who are sensitive to a child's needs and are able to talk with him. I want to prepare teachers who have

the know-how to guide children but at the same time are willing to let each child find his own way. Such teachers will go at reading differently.

As Laura Zirbes puts it:

> If we are sensitive to developmental needs we look at reading differently and go at it differently. We go at it as creative guidance. The materials are not subject matter. They are the resources we use.[7]

A creative, perceptive teacher, then, is the key to effective reading instruction.

NOTES

[1] Lazar, May, "Individualized Reading: A Dynamic Approach." The Reading Teacher, II: 75-83; December, 1957.

[2] A Practical Guide to Individualized Reading. Board of Education, City of New York, Bureau of Educational Research Publication #40, October, 1960.

[3] Ibid., p. 98.

[4] Barbe, Walter, An Educator's Guide to Personalized Reading Instruction. Englewood Cliffs: Prentis Hall, 1961.

[5] Chall, Jeanne Learning to Read: The Great Debate. New York: McGraw-Hill Book Co., 1967.

[6] Jones, Virginia W., The Graphoneme Concept. 1967.

[7] Zirbes, Laura, Spurs to Creative Teaching. New York: G. P. Putnam's Sons, 1959, pages 166-167.

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RECORDING LANGUAGE EXPERIENCE

STORIES IN "VERSE FORM"

Virginia W. Jones

Introduction

It has become accepted practice in primary grade classrooms to devote much of the time allotted for language arts instruction to the development of language experience stories by pupils. Indeed, there are those who advocate this procedure as a total program for beginning reading. Whether language experience stories should constitute part of an approach or the focal approach to initial reading is immaterial to the purposes of this discussion. The pertinent factor here concerns itself with the manner in which the teacher records what children have said.

Present Practices

Observations in many first grade classrooms led the writer to formulate certain generalizations about what happens to the language of the child during the recording process.

1. The actual words of the child are frequently changed. Sometimes this is done to insert words (usually these are the "service words") which the child has omitted, and which the teacher feels are necessary to the sense of the sentence. Sometimes non-standard usage, either as to syntax or as to word form, is corrected.

2. Teachers tend to ask questions, to re-state thoughts of the children so that the finished product (the recorded sentence) often resembles the sentence patterns most frequently associated with basal readers. The occurrence of the noun-verb pattern dominates most chart stories, and this tends to make the completed "story" read more like a basal reader, with sentences related in that they deal with the same content, but lacking the smoothness, the flow which is characteristic of natural speech.[12]

Perhaps this changing of what the child says represents an unconscious effort by the teacher to control the vocabulary; perhaps it represents an unconscious imitation of the text which the teacher knows the youngest readers will encounter, and therefore such structuring is seen as a mode of transition; perhaps it represents an unconscious effort to promote clarity and prohibit rambling, to promote coherence. In any case, there is no evidence that teachers consciously favor such stilted patterns, but there is evidence that the end result reflects a kind of conformity, whatever the reason for its occurrence.

3. In the recording of speech, no effort is commonly made to exploit natural junctures. The movement from line to line is more often determined by the space available on the chart paper than by suprasegmental units or phrasal units within sentences.

4. Theoretically, the reading aloud of something one has said immediately following its having been recorded should be easy to do, since usually the persons reading are the same as those who have spoken. But in practice, this is not always the case. When stories are cooperatively constructed, pupils called upon to read aloud will have heard, but not necessarily spoken, what is being read, and therefore tend to forget some of the vocabulary used. When individual stories are recorded, the limitations of the time which any one teacher can devote to recording the speech of any one child becomes a factor, and children frequently forget what they wanted to say and how they wished to say it while waiting their turn. Furthermore, the interruption of thoughts because of the unnatural junctures recorded (#3) tends to produce jerky, incoherent oral reading.

In an effort to examine the problems involved in attempting to utilize to the fullest the practice of developing language experience stories, the writer examined many such stories composed by first graders. The following sample is felt to be typical:

1. Santa Claus wanted a
2. reindeer, so he went out to
3. look for one.
4. He walked over some train
5. tracks, over snowy hills, and
6. through a forest.
7. When he came out of the
8. forest he saw millions of
9. Rudolphs.
10. Santa looked and looked, but he
11. couldn't decide which Rudolph to
12. take, so he took all of them.
13. Santa took them to the North Pole.
14. When Mrs. Santa saw them, she
15. said, "They will eat us out of house
16. and home."
17. So Santa decided to pick
18. the one with the shiniest nose.
19. They all thought they had the
20. shiniest nose so they fought
21. with their antlers.
22. Then Santa looked out the
23. window and saw one Rudolph
24. standing in the snow.
25. And that was the real Rudolph.

A group of first graders in the Meadow Lane Elementary School in Lincoln, Nebraska, constructed cooperatively the language experience story which appears here at the left. The teacher recorded the thoughts of the children on large, lined chart paper of the type found in most first grade classrooms. Care has been taken to duplicate here the final form of the story, for the writer believes that what happens to the language and thoughts of children when forced into forms like this constitutes one aspect of significance which bears analysis when examining the written representation of speech.

Notice that the entire story encompassed 25 lines . . . and notice the "breaks" in the thought patterns which occurred. More than half of the lines of the story move within the thought patterns themselves to the next lines at junctures which are unnatural. On lines 4-5, we find an adjective has been separated from the noun it modifies; on lines 14-15, the simple subject-verb pattern is broken. The balance

of the "breaks" constitutes interruption of phrases, and there are eleven instances of this.

There is no question but that the difficulties apparent here are due entirely to the limitations of the chart paper as a recording device, not to any lack of knowledge on the part of the teacher.

It seems apparent that the problem of junctures is crucial in the improvement of language experience stories. Le Fevre[6] stresses the importance of intonation in spoken language as the conveyor of meaning and intention. Repeatedly, in educational literature directed toward those who concern themselves with the problems of reading and language development one can find reiteration of the accepted generalization that children, even prior to their entrance upon the school scene, have internalized their mastery of the basic structures of American English. An important part of this mastery is their ability to employ intonational patterns which convey meaning.

What, then, happens when we record speech in a manner which interrupts those patterns which the child has employed in his speech? And what can be done about this? In the construction of basal reader stories, great care is usually taken to see that no phrases are broken in the movement from line to line, but no such precautions are evidenced in on-the-spot writing when language experience stories are recorded. (Again, it should be emphasized that this failure to respect natural junctures is not due to teacher-inadequacy in determining where the junctures should occur, but in the physical, spatial limitations imposed.)

Recording Ideas in Verse Form

An alternative is offered which appears meritous: record the spoken language of pupils in "verse form." Such procedures accomplish several

worthwhile goals at once:

1. The natural junctures of the children's speech constitute the signals for separating lines in the story.

2. The "smallness" of the number of words included in any one line, converts the written expression of thought into units more easily managed.

3. Because of the resemblance between the child's speech as recorded in this fashion and the form of poetry, a degree of license may be tolerated which permits speech to be recorded exactly as uttered by a given child without censorship by the teacher.

4. The mastery of basic written structures, already present in the speech of young children, can be furthered by the placement of lines in a manner which clearly shows the elements of subordination and coordination.

To examine the specifics of such a procedure, consider again the story about Rudolph. In the previous version, the first two sentences of the story constituted six lines of text, and in these six lines one can identify four distinctly undesirable breaks. How would these sentences look had they been recorded in verse form?

Santa Claus wanted a reindeer,
so he went out
to look for one.

He walked
over some train tracks,
over snowy hills,
and through a forest.

The space available on story paper has not changed, but the format is rather startlingly changed. Notice that instead of the indentation of each sentence (an attempt to emulate paragraphing?), each sentence begins at the far left, and then the subordinate elements are indented beginning with the second line. In light of what has been said, test the sample with respect to these goals: Are the junctures now natural? Does the length of

the units make them now appear more easily manageable? Are the elements of subordination more clearly delineated? (There is no opportunity to observe the third objective in this portion of the story.)

The writer became intrigued with the possibilities of using this form in the development of language experience stories, and visited several classrooms where cooperative teachers assisted in gathering data. The following samples are printed here in two ways. The sentences on the right are recorded in the familiar prose form. On the left can be seen the same idea recorded in "verse form." Some of the samples recorded here were transcribed ver batim from tapes made in classrooms, and some were stories recorded instantaneously from pupils' conversations.

Since the story paper averages 28 characters per printed line, this same number was held constant in recording these samples.

The first group is an outgrowth of a discussion stimulated by allowing a group of kindergarten youngsters to examine a pair of Alaskan mukluks:

They could be Santa Claus boots - or firemen's boots - or cement boots for when you work on cement.	They could be Santa Claus boots, or firemen's boots, or cement boots for when you work on cement.

Notice that the use of "verse form" here provides a good picture of the subordination of structures which occurs within the sentence.

Alaska's like an iceberg - sort of.	Alaska's like an iceberg, sort of.

The chances are that the teacher would have done some rearranging of this thought, or else eliminated the "sort of." Notice also that use of the verse form appears to illustrate the expression "sort of" as an afterthought, which indeed it was.

Ice is when the water turns to frozen.	Ice is when the water turns to frozen.

Once again, chances are the teacher would have "corrected" the child's use of the word frozen in this sentence. yet the verse arrangement gives the line a certain charm which typifies childish expression and tends to make the word form appear acceptable.

In the following sample, an adult was questioning a child in an Operation Head Start group about a model city which had been constructed on a classroom table:

We built this city
and nobody runs it.
Nobody wants to!

I have a baby brother
and he cries and cries
and he pulls my hair, too!

We built this city and nobody runs it. Nobody wants to.

I have a baby brother and he cries and cries and he pulls my hair, too.

The stringing together of related thoughts through the use of innumerable "ands" is typical of the small child in a hurry to express his thoughts. Too frequent use of the conjunction would again invite editing by the average teacher, but when this expression is written in verse form, the repetition of "and" acquires an incremental repetitive quality which enhances, rather than detracts from the thought.

Just prior to Christmas vacation, some first graders were asked to tell what Christmas meant to them. Here are some of their answers:

Christmas?
When you get presents
and it snows.

It's, well,
when we give things
and stuff like that.

Christmas?
Fun.
Snow.

Jesus got born,
and it's Jesus's birthday.

Christmas?
Jesus's birthday -
when we love each other.

It's something
that you have fun with.

It's a happy day -
Jesus's birthday -
and you get presents.

Well, when Santa Claus comes,
and we get presents.

Christmas?
Get presents -
when you hang up stuff.

Jesus got born,
and it's Jesus's birthday.

Each of these was recorded in this manner by the teacher, and the pupils drew illustrations above their stories. The oral reading presented no problems, and the children evidenced much pleasure in reading their stories aloud to the group.

Philosophy Inherent in the Procedure

Many of the observations made here could be said to bear some positive relationship to the findings of Piaget[5] regarding the thinking processes of children ages 4 to 7. This is what Piaget defines as the pre-operational period, and Piaget states that children during this stage of development think, but can't think about their thinking.[11] This can be very easily demonstrated by recording one of the simple stories of a young child and then asking him what he meant.

Many youngsters find this a very frustrating experience, for they give utterance to their thought at the moment of its occurrence but usually express impatience with adults who try to explore its meaning in prosaic, logical, adult fashion. The attitude of the child might be said to go something like this: "I said it. You heard it. I'm all done with that; I haven't anything else to say." Recording children's utterances exactly as spoken can alleviate this, for the child is not required to sit idly by while his teacher molds his spoken thoughts into some pre-determined form, which, from the child's point of view, must be a perplexing procedure to say the least.

Another characteristic which can be supported from an examination of Piaget's theories is that the young child focuses only sporatically, and that he lacks the ability to link together successions of events. This appears to give further credence to the use of a format for recording the speech of these young children which reflects shorter passages and ideas, for these can correctly be recorded in segments without requiring "x" number of sentences being strung together in story fashion.

The talk of the child (Frye's Level I[6]) is largely egocentric partly because he speaks only about himself and partly because he does not attempt to place himself at the point of view of his hearer - anyone handy is suitable as an audience. The nature of his language gradually changes from egocentric to socialized as he chooses or demands a particular audience and when he is willing to adopt the point of view of the hearer--in other words when language becomes a two-way communication process rather than a monologue.

Understanding of these two levels used by children (which could appropriately be considered sub-levels of Frye's Level I) would appear to suggest the need for provision for some kind of transitory period which might have as its objective the implementation of techniques which would assist the child in moving from egocentric language to socialized communication. Recordings of language in verse form might provide such a transitional device. The verse, because it expresses the thought of the child, and because it is intended for no particular audience, illustrates the egocentric level. Because this same thought in its written form exemplifies an accepted form of English rhetoric, it can be read and shared, and therefore fulfills the requirements of socialized communication.

Significance of the Procedure

The usefulness of this format may well shed light on some important questions regarding the use of children's language as a vehicle for early reading:

1. How soon can these techniques be employed in the classroom?
2. What benefits to the development of reading skill might result from the use of verse form in recording children's stories?
3. What linguistic understandings might be enforced through the use of this technique?

Regarding the first question, the writer is speculating about the use of this technique as early as kindergarten level. It appears that here the use of this form can perhaps best solve the needs of the pupils and the

goals of pre-formal reading. The wisdom of introducing reading skills prior to first grade entrance now appears to have been established through respectable research. The Denver Study[1] demonstrated that children who had been engaged in a pre-reading program in kindergarten demonstrated greater facility in the acquisition of reading skill in first grade. Durkin[2, 3] found that pupils learning to read at an earlier age than first grade showed consistent higher achievement throughout the primary grades, and at the conclusion of grade 3 their scores in reading exceeded an achievement level higher than that which might have been predicted for the children based upon earlier intelligence tests. Hillerich[7] conducted a study which again demonstrated significance in favor of early reading, as did Wise[13], and Eames[4]. To further verify the seemingly valid claims for early reading experience, one has only to examine Montessori's reports[10].

Regarding the second question, one benefit might be the enforcement of those positive attitudes which young children bring to the reading situation. Mason[9], in 1966, attempted to determine the attitudes of three, four, and five year old children in one Georgia county regarding learning to read, and his tabulation of their responses strongly indicates a keen desire to acquire the skill. It is interesting to note that the majority of children interviewed in his study assured the investigators with absolute confidence that they already knew how to read and that they were capable of performing the task independently. It is safe to assume that both the desire to read and the insistence upon already having acquired the skill are merely reflections of the middle class mores existent in our society today. Since it is common practice in the construction of language experience stories to take down the words of the children but, in the process, to force these thoughts into accustomed rhetorical patterns, it occurs to the writer that both the anticipation of learning to read and the insistence upon being able to do so might increase were teachers to use verse form and abandon the current practice of "story" forms when recording these early language experiences.

Another benefit might be increased fluency in early oral reading. Since the natural junctures used originally by the child himself are employed in the recording process, the story may tend to flow more smoothly from thought to thought.

In considering the third question, it is interesting to note that in recording language experiences in verse form, supra-segmental units and phrasal units are clearly indicated. The simple device of indention makes it possible to clearly see the relationships which exist among the various parts of the sentence.

Summary

The evidence gathered in this study would seem to indicate the inherent worth of recording early language experience stories in verse form. Replication and experimentation are needed to give the idea broader exposure. The writer would advocate using this form only initially, hoping that it might provide a more satisfactory way of introducing our youngest pupils to written language.

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RECOMMENDATIONS FOR TEACHER TRAINING

E. Hugh Rudorf

One conclusion which seems inescapable at present is that regardless of the method of initial teaching of reading, the most important variable is the teacher. The "good" teacher seems to succeed in teaching most of her pupils to read. The burning question then is, What is a "good" teacher? And what can teacher training institutions do to further the development of good teachers?

We often hear it said that good teachers are born and not made. If this were completely true, then the teacher training institutions are not only helpless but totally unnecessary. But even though we grant that there are certain qualities of personality that make one equally well-trained person a better teacher than another, it is impossible for us to conceive that teachers do not need to be trained--in the knowledge of the discipline they will attempt to teach, and in the accumulated knowledge of how to teach which experienced teachers and researchers have accumulated through the ages.

Our deliberations for the past academic year, our perusal of research on reading, and the information passed on to us by numerous speakers and consultants to the project have led us to believe that there are certain reasonably well-defined areas of knowledge that should be made available to the potential teacher of reading in the elementary school. We have not attempted to spell out an exact curriculum for an undergraduate teacher-training program. This would be impossible for several reasons, most importantly that state certification programs already control a large proportion of the curriculum requirements in any given institution. Another limitation upon the implementation of the suggestions we have to offer is the availability of staff.

While the group as a whole concurs in the necessity for teachers to be educated in the following areas, we must leave it up to the individual institution to decide how they may best meet the needs of teachers within the framework of their state, institutional, and budgetary requirements.

1) We believe that the prospective teacher of reading must have an adequate understanding of the nature and structure of language in general and the English language in particular.

This is a rather strong statement to make since the simple fact is that most teachers of reading in this country today know little or nothing about language and the structure of English. But with the onslaught of new methods, materials, media, and even theories about reading, it is becoming more and more necessary for the teacher to have such knowledge. Few, if any, of the opponents of the recently developed "linguistic" methods of teaching reading would go so far as to deny that linguists have contributed significantly to our understanding of the language and of the writing system and that such knowledge would not aid no matter what method she used.

2) The teacher needs to know about different types of writing systems and about the structure of the English orthography. Lack of such knowledge and the concomitant confusion that reigns in the minds of most teachers (and the laity in general) about the relationship between writing and language, has caused problems in the teaching of reading and will frustrate any method which is based upon a scientific view of this relationship.

It may be well to note here that although this report is primarily concerned with the teaching of reading, that the knowledge that we suggest is necessary for the teacher of reading also is highly relevant to the teaching of spelling and writing skills in general.

3) The teacher needs to know how children learn, and specifically how they learn to read.

Here again the research evidence is not as rich nor as conclusive as we would hope. But steps are being taken to answer this very vital question. And many of the newer theories about language acquisition which may be relevant to learning to read as well are so new (within the last ten years or so) that they have not filtered down into the typical undergraduate course in the psychology of education. A course in psychology of education should include some information about the relationship between learning

theories and learning to read. It is noteworthy in this regard that for the first time in its history, the national convention of the International Reading Association held a pre-convention institute in "Psycholinguistics and Reading." Some long-ignored questions are at least beginning to be asked and the teacher will profit by being made aware of this research.

4) A number of our speakers and consultants this year (Kohl, McDavid, Bailey) and a number of speakers at the psycholinguistics institute referred to above (Goodman, Shuy, Nussbaum) have stressed the importance of the teacher's understanding of dialect and its possible relationship to reading instruction. While it might be assumed that an understanding of dialect would come from an understanding of the nature and structure of language in general, this area is so sensitive and so loaded with affective judgment that it deserves special emphasis in teacher training. Everyone speaks a dialect. And it is difficult to conceive of a classroom anywhere in America where teacher and pupil speak a completely uniform variety of English.

Strickland has made an analysis of the syntax of beginning reading texts versus the syntax of the children utilizing those texts and shown the tremendous divergence between the two. The studies of Labov, Shuy, and Stewart of ghetto speech (particularly morphological and syntactical elements) and of Bailey and others of the phonology and morphology of deep south Negroes--all point up the problems that arise when the language of instruction deviates markedly from the language which the pupil brings to school with him. This problem, pedagogically speaking, is far from solved, and recommendations vary even among the group of linguists most closely allied with the study of the problem. But at the very least the teacher must be made aware of the problem. There are some known errors which she can be taught to avoid.

Summary:

The thirteen elementary school teachers who made up one of the groups in the double practicum of the Tri-University Project at Nebraska are by the very fact that they were selected for this program, good teachers. They come from all parts of the country and represent anywhere from two

to 18 years of experience. They were all graduated from an accredited college and have met state certification requirements. Most of them have had some graduate work in education and three had masters' degrees. They may not be a random sample, but their knowledge of teacher-training programs as they have been typically patterned in the past, and their acquaintance with a large number of teachers scattered throughout the country would seem to give their evaluation considerable credence. It was their unanimous opinion that, at least up until very recently, most of the teachers they came in contact with

1) lack any sort of adequate preparation in linguistics in general,

2) are unacquainted with more than one or two "methods" of teaching reading. Usually they were taught one method in their undergraduate reading methods course, and may have had to learn something about a new method which was introduced into their school system through a one or two day "workshop" conducted through the auspices of the publishers,

3) have either not had a course in educational psychology, or if they have had one it was almost always completely behavioristically oriented and/or statistical in nature and never addressed itself to the newer research and theories about language acquisition and possible implications for the teaching of reading,

4) lack proper understanding of dialect and are generally prescriptive in their views of language and usage,

5) lack any clear-cut set of criteria for evaluating reading materials and methods.

Perhaps this last item is the most important lack of all, since in one sense it may encompass all of the rest.

In our present state of knowledge no one theory, no one method, no one technique, no one orthography has been proven superior to all others for teaching any or all children to read.

Teachers, as professionals, would like to have the certainty that a doctor has when he graduates from medical school that there is one proven

best method for performing an appendectomy, one classic drug for treatment of malaria, one diagnostic instrument for determining pregnancy or diabetes.

We would like to be able to give teachers a prescription for teaching all children to read in 36 easy lessons, and for diagnosing all reading illnesses. But we can't. What we can do and what we must do to improve reading instruction in our schools is to provide teachers with the kind of background knowledge about the language, the writing system, and the psychology of reading--in its present tentative state, so that each teacher will be able to critically evaluate her pupils and the materials at her disposal for the teaching of reading. We do believe that even though we do not have all the answers that we are beginning to ask the right questions. And we also believe that the properly educated teacher can at least avoid making many errors which have been perpetuated in the past simply because "that's the way we always did it." At least the simple avoidance of known error is some sort of progress.

APPENDIX

THE GRAPHONEME CONCEPT*

Grapheme-Phoneme Stability

Linguists and reading specialists alike have long recognized that the task of learning to read would be much simpler if English words were regular in their spelling and in their sound-symbol relationships. We have an alphabet of twenty-six symbols (graphemes), but these actually represent forty-four speech sounds (phonemes). The logic of this desire for stability becomes apparent when one examines the vocabulary which commonly confronts the beginning reader:

"Come home, Bill."
"What is that?"

One can readily envision the confusion which a young child must experience upon seeing sentences like this in his preprimer.

Many attempts have been made to correct this situation. Strange looking alphabets have been devised to bring stability into the language. Some linguists have advocated the teaching of lists of regularly spelled words, thus emphasizing grapheme-phoneme stability, but these usually ignore sensible reading content.

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*This material has been exerpted from a pamphlet, The Graphoneme Concept, Copyright 1967 by Virginia W. Jones, which was not included in this publication in its entirety since it was completed prior to the work of the Tri-University Project. This approach to the decoding of words was presented during one of the reading seminars, and as an outgrowth of the discussion which ensued, Professors Wiggins and Jones conducted the study which is reported in this publication, "Utilizing the Graphoneme Concept in Teaching the Independent Decoding of Reading Vocabulary." Since understanding of this research depends upon acquaintance with the earlier study, the basic concepts of graphonemes has been included in this Appendix. Copies of the complete study can be obtained by contacting Professor Jones at the Northwest Regional Educational Laboratory, Portland, Oregon.

The problem appears to have been that while much has been written and spoken about grapheme-phoneme consistency, few have examined this basic question: What produces this consistency? What structural unit within English words causes there to be stability in the relationship between graphic representation and oral pronunciation? The author believes this stable unit to be the closed syllable, i.e. a syllable which begins with a vowel and ends with a consonant, semi-vowel, or "silent 'e'." Such a structural unit is called a graphoneme*.

> A graphoneme is a closed syllable, one which begins with a vowel and ends with a consonant, semi-vowel, or "silent 'e'."

an	ay	ate
et	ew	eme
in	ow	ike
or	uy	ole
uch		une

Closed Syllables

Closed syllables are natural units of the English language. However, much of our spelling is based upon Latin, and since the open syllable is natural to the Latin language, many English words syllabicated according to standard dictionaries appear to be open. For example, the word terminal is syllabicated ter-mi-nal, thus producing the open syllable, mi. When the same word is viewed as being composed of graphonemes, the open syllable no longer exists - terminal**. Since we know the consonants to

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* The author originally referred to closed syllables within words as phonograms (The Phonogram Method, © 1963 by Virginia W. Jones), and in recent years has published reports about phonograms and their use in attacking new vocabulary. The terminology was changed and the word graphoneme devised since phonograms, according to established definitions, can also be open syllables.

** Joos, Loyal W., The Phonogram Method, Experimental Research Series Report #127, Baltimore County Public Schools, 1964, p. 7.

be fairly regular in their pronunciation and the vowels to be less regular, it would appear that it is the presence of a vowel in an open syllable which causes the difficulty. According the open syllable mi its proper phonemic value requires knowledge of the complexities of diacritical markings; according the closed syllable in its proper phonemic value causes no problem. The presence of the consonant following the vowel produces stability.

Since a graphoneme is by definition a closed syllable, it can therefore be identified as the basic structural unit which produces stability between the graphemes and phonemes in English words.

Teaching Procedures

When the Graphoneme Concept is taught in the initial period of reading instruction, the axiom to be followed is simple: Teach first those words in which stability already exists, and postpone irregularities until reading skill has been acquired to a sufficient degree that pupils can adjust to the differences which exist in word structures. Examples of the way in which this can be done are numerous:

eat	seen	cat	save
neat	green	bat	gave
seat	queen	fat	wave
(Don't teach great)	(Don't teach been)	(Don't teach what)	(Don't teach have)

When a graphoneme cluster can be pronounced in more than one way, teach only one pronunciation until a later date:

show	vs	how	good	vs	food
grow		now	wood		

When a phoneme cluster can be represented by more than one spelling, teach only one at first:

night	kite	ate	eight	or	four
fight	white	late	weight	for	door

Thus we imply a generalization of one pronunciation for one spelling pattern and provide the vocabulary to make this consistent. When the time comes for duplicity or exception, pupils will have gained sufficient confidence so that the exception is less likely to result in confusion.

Identifying Graphonemes

The identification of graphonemes is a very simple procedure - merely look through the word from left to right, underlining letter clusters which begin with vowels. To check yourself in their identification, underline the graphonemes in the following words:

beat	lamp
flight	chair
ground	slow
splash	dress
tape	rain
smoke	bank
brought	car

This same procedure can be used in analyzing many stable multi-syllabic words. Can you underline the graphonemes in these words?

swaying	hampering
willingness	continent
carpet	walking
cigar	planted
flower	finish
Janet	Sunday
insulate	

By folding this sheet twice on the heavy black lines, you can check your responses.

beat	lamp
flight	chair
ground	slow
splash	dress
tape	rain
smoke	bank
brought	car

swaying	hampering*
willingness*	continent*
carpet*	walking
cigar	planted*
flower	finish
Janet	Sunday
insulate*	

*In these words, you would be equally correct if you underlined them in this fashion:

wil, ins, arp, hamp, cont, plant

The only requirement is that the syllable be closed.

WORD FAMILIES VERSUS GRAPHONEMES

Students of reading theory will be quick to recognize an apparent similarity between word analysis through graphoneme identification and familiar "word family" approaches. The similarity is, however, only coincidental, for graphoneme analysis extends beyond the limited phonetic relationships existing in "Nan can fan Dan," or "The fat cat sat on the mat." It should be acknowledged that such monotonous rhyming occurs in first grade vocabulary because this early reading vocabulary is largely monosyllabic. The Graphoneme Concept avoids this pitfall through the implementation of two important procedures, spacing and the introduction of multisyllabic words.

Spacing

Spacing is the key to the problem of the "fat cat," for spacing utilizes grapheme-phoneme correspondences that are natural in the flow of language. Although pupils may practice reading many words using the stable graphoneme at, forcing the use of several words of such identical structure within one thought unit defeats the real purpose of learning to read. Meaning and intelligence must not be replaced by a desire to repeat as many structurally related words as possible in the shortest amount of time. Usually only two, and never more than four words containing the same graphonemes should occur in any one passage.

Multisyllabic Words

Pupils learning graphoneme analysis are moved as quickly as possible from monosyllabic words (where the graphoneme always occurs in lateral position in the word) to words containing more than one syllable. Thus pupils learn that an is a stable unit whether it occurs in initial, medial, or lateral position.

Initial - animal
Medial - advancing
Lateral - ran

Pupils who have learned to read the words run, and her, are expected to independently read the new word hunter. If in and show are known, the word window is not pre-taught. Restricting the initial reading vocabulary of beginning readers to include largely just those words which exemplify the Graphoneme Concept enables pupils to more quickly and securely assume independence in word attack. This combination of spacing techniques and an immediate shift to multisyllabic vocabulary enables the production of reading text which exemplifies a smooth and natural flow of language.