

Recent Trends in Reading Comprehension Research

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The study of the psychology of language, and hence reading comprehension, was dramatically altered as cognitive theories eclipsed behaviorist approaches. This was marked by several notable events, the first and most prominent being Chomsky's (1959)⁽¹⁾ critique of Skinner's *Verbal Behavior* (1957)⁽²⁾. While the behaviorist camp holds that language consists of learned associations between words or classes of words that form "legal" strings, Chomsky postulated that linguistic competence stems from an underlying knowledge of syntax, that the words in a sentence are organized by deep structural relations, and that these relations can be described by a set of formal rules.

George Miller followed up Chomsky's critique⁽³⁾. First, Miller pointed out that the meaning of a sentence is not equivalent to the sum of the meanings of its component words. Second, a principal basis for grouping words is needed to account for ambiguous sentences such as "John likes tennis more than his brother." Third, he stated that the infinite number of legitimate words sequences in any language would preclude the acquisition of linguistic competence on the basis of reinforced practice. In short, behaviorist theory can explain neither the creativity of language nor the comprehension of novel statements. Miller's earlier work (such as *Seven Plus or Minus Two*, 1956)⁽⁴⁾ had demonstrated that the human information processing capacity was, in all probability, too limited to accommodate a linguistic scheme such as the one envisioned by the behaviorists. A related event was Jerome Bruner's work on "going beyond the information given." Bruner(1958)⁽⁵⁾ saw the

mind as much like a programmed computer using rules it already possesses to interpret and classify new information in abstract terms not specified by the stimuli.

These theoretical shifts heralded the start of a new era of research. Studies began to appear on knowledge structures underlying regular behavior, as in the early psycholinguistic work on sentence completion and memory by Fodor, Bever, and Garret (1974)⁽⁶⁾. These studies sought to determine the information loads associated with various numbers and types of mental operations, mainly by determining the extent of their interference with concomitant tasks. Studies that compared perception and memory for word strings of varied syntactic and semantic structure tested the contribution of pre-existing knowledge to the perception and organization of new information in memory (Miller and Selfridge, 1950)⁽⁷⁾. Efforts to determine where and how these effects took place, i.e. in immediate perception and organization of new information or in its transfer to long-term memory, led to the investigation of the interactive nature of the reading process. The synthesis of this work created a new understanding of reading comprehension.

This new view is radically different. While it does not deny the importance of fluent decoding, it assigns it a secondary role. Instead it emphasizes active construction of meaning from text, with decoding a means to that goal instead of an end in itself. We establish first a purpose for reading the text and then call to mind anything we know about its topic based on the title and headings. Drawing on prior knowledge, we actively construct a reasonable interpretation of what is written on the page.

The implications of this theory lead us to several research areas in reading comprehension: firstly, it is essential to realize that the emerging view dismisses neither the importance of skill in decoding nor the need to teach it. The interactive view merely states that both higher and lower orders of knowledge are brought to bear, interacting and influencing each other. This fact leads us to the first important area of research—Decoding and Automaticity.

Secondly, it holds that while reading, we draw on background knowledge and actively construct a sensible interpretation of what is written. This implies the existence of another area of research—Background Knowledge in Comprehension.

Thirdly, it does not imply a “Humpty Dumpty” approach to comprehension, in which a text can mean “anything I choose it to mean.” Rather, authors follow certain conventions of writing, omitting information they know the reader will provide on the basis of shared language, culture, and tradition. Obviously, if this assumption of shared knowledge is not met, the author’s message may be misunderstood. There is strong reason to assume that readers need to acquire cognitive strategies for inferring the author’s message. (Indeed, novice readers, lacking adequate knowledge of these conventions, experience a great deal of difficulty reading intelligently, as their understanding of what reading involves is only partially complete.) This, then, points to another research area—Metacognition in Reading.

Finally, this reconceptualization of the reading process did not occur in a vacuum. Rather, it was continually influenced by ideas in many other fields, especially linguistics. This leads into the last, most theoretical, main area of research—the Influence of Recent Linguistic Researches on the Reading Comprehension Theories.

[1] *Decoding and Automaticity*

1. Theories

Decoding, the translation of print to speech and thought, includes both “sounding out”—using phonic principles, and instant recognition of words. It is crucial to reading. A main concern in the 1960’s was whether phonic procedures for word decoding should be taught directly. A major paradigm for reading research of this period was the comparative study, a global approach that compared in their entirety two or more reading curricula. These studies, however, did little to advance knowledge of reading instruction.

From the mid 1970’s to the present, the focus of research on decoding has shifted notably. This change, due mostly to progress

in cognitive psychology, has greatly refined and enriched our knowledge of the reading process and led to a new model of the cognitive processes associated with reading. This interactive model assumes that information from print and the reader's knowledge act simultaneously and influence each other (Carpenter and Just, 1981; Stanovich, 1980)^(8,9). As visual information is abstracted from a text page, it is acted upon by pre-existing knowledge. This knowledge includes awareness of letter-sound correspondences and spelling patterns, knowledge of word meaning, of syntactic possibilities and language patterns, and memory of the previous context. These interact to extract information from the textual source, identify it, and integrate it with what has come before. Thus, the meaning of the textual message is constructed. The importance of efficiency in the reading process follows from the fact that human information processing is limited (Miller 1956, etc.)⁽⁴⁾. That is, active attention can be directed only to a few processes at once. This limited capacity implies that some subprocesses in a complex task such as reading must be automated. The automation of low-level subprocesses, such as letter-sound matching, is necessary if attention is to be focused on high-level subprocesses, such as drawing inferences.

Perfetti and Hogaboam (1975)⁽¹⁰⁾ studied the relation between children's comprehension and speed of single-word decoding. Their results showed that though both good and poor comprehenders could accurately respond to the words presented, good comprehenders were reliably faster. Marr and Kamil (1981)⁽¹¹⁾ replicated these results.

2. Instruction

The evidence that efficient cognitive subprocesses are a prerequisite for successful reading implies that a key to understanding reading problems may be found in the reader's limited proficiency with components rather than completely missing skills. Two directions for pedagogical research have emerged from this: identifying vulnerable components of the reading process and alleviating reading

problems through training aimed at increasing the proficiency of individual vulnerable components.

A study designed to identify these vulnerable subprocesses was conducted by Calfee and Piontkowski (1981)⁽¹²⁾, investigating the acquisition of specific components of the reading process in first-graders. The investigators broke down decoding into discrete subtasks. Their findings support earlier work indicating that children learn more from direct instruction and that decoding skills lead to comprehension skills rather than the reverse. They also concluded that poor student performance can be linked to specific classroom and program effects. Lesgold and Resnick (1983)⁽¹³⁾ plotted development of reading skills across ability levels in two different pedagogical methods—phonic instruction and whole-word instruction. Their main finding was that automaticity was more closely correlated with comprehension than accuracy with comprehension.

Efforts to overcome some of the vulnerable points in processing have emphasized providing children with practice in lower-level processing. The relation between rapid access to word meaning and comprehension of text was investigated by Beck, Perfetti, and McKeown (1982)⁽¹⁴⁾. In this study, fourth-graders underwent an intensive vocabulary program in which they learned the meanings of 104 words under two frequency conditions—either 10-16 or 26-40 instructional exposures. In a single-word task, the words met more frequently were responded to faster and more accurately. In a sentence task, there was no difference between the two frequency conditions, though both were superior to a non-instructed control situation.

3. Comment

Given that the goal of reading is comprehension, the main question that this work raises is whether the speed of comprehension can be increased by increasing decoding frequency.

The second question that comes to mind is how fluency might

be increased. Practice is the recommendation most often encountered, though it is hardly a revolutionary idea. However, how practice might be most efficiently conducted, and how it might be best integrated with comprehension instruction, are still open questions.

[2] *Background Knowledge in Comprehension*

1. Theories

Studies of the role of background knowledge in understanding go back to the very origins of educational, psychological, and philosophical thought.

There are two main aspects of all schemata—activity and organization. In the 1960's, Braumer (1960)⁽¹⁵⁾ and Ausubel (1963)⁽¹⁶⁾ stressed the importance of these two different aspects. For Braumer, the key to knowledge was active integration of old and new information. A reader³ could, for instance, fill in gaps in the text by drawing on previous experience. Ausubel believed that knowledge is arrayed in a hierarchical manner, with the most abstract and encompassing ideas at the top. His main contribution to the field was the conception of the "advance organizer," a short introduction to a text that provides the abstract structure needed to assimilate the more detailed information that follows.

During the last decade major strides have been made in explicating the role of prior knowledge in the reading process. We now possess more subtle and precise evidence that the knowledge a reader brings to a text is a principal determinant of how that text will be understood and of what may be learned and remembered.

One way to gauge the importance of a given factor is to compare its influence to factors whose effects are already well-established. Freebody and Anderson (1983)⁽¹⁷⁾ had Midwestern sixth-graders read two descriptions of games. One, familiar to the students, was that of horseshoes; the other, unfamiliar, was that of a North American Indian game called "huta." The texts were constructed so that there was a point-by-point correspondence between the topics covered and so that the syntax and wording were virtually identical. The fact

that comprehension was reduced in the description of the unfamiliar game indicates that this difference in comprehension was due mainly to differing levels of background knowledge.

a. Schema Theory

Schema theory explains how pre-existing knowledge affects comprehension. A schema is an abstract knowledge structure. The concepts that constitute a schema are said to provide slots into which specific information from a text can be inserted. A reader understands a message when he or she can actively construct a schema that gives an accurate account of the objects and events described. For comprehension to be successful, a schema must be developed which accounts for the relations between the various elements in a text. It is not sufficient to identify the elements concretely and individually—they must fit together.

According to Paul Wilson and Richard Anderson (1986)⁽¹⁸⁾, the function of schemata in comprehension is as follows : 1. A schema provides an ideational framework. 2. A schema directs allocation of attention. 3. A schema permits inferential elaboration. 4. A schema allows orderly searches of memory. 5. A schema facilitates editing and summarizing. 6. A schema permits inferential reconstruction. Taken together, these six functions provide the broadest possible interpretation of the available data concerning prior knowledge effects on learning and remembering.

Comprehension usually proceeds so smoothly that we are not aware of the operation of our own schemata. We remain unaware of the process of fitting information into a schema in order to obtain a satisfactory account of a message.

b. Text Structure

Primarily two kinds of prior knowledge have concerned researchers in the field of reading comprehension—knowledge of text structure and of text context. For centuries, authors have attempted to write within the constraints of a given genre. Readers could then assess the author's skill by gauging his or her success

at working within the genre. Literary texts are not the only ones with well-defined structures; personal texts and instruction manuals, for instance, have typical structures. Simple stories, however, are the texts which have received the most research attention. In his paper *Notes on a Schema for Stories* (1975)⁽¹⁹⁾, Remelhart outlined a "grammar" that could be used to represent the structure of simple stories. By means of this "grammar," it is possible to analyze simple stories as episodes centered on attempts to resolve a given problem. Theorists such as Black and Brown (1980)⁽²⁰⁾, have postulated a hierarchical structure for the story schema. Events or information closely linked to the protagonist's problem, his or her goal, and the eventual resolution rank highest in the hierarchy.

It has been well-established that the story schema permits inferential elaboration and inferential reconstruction of information. Young children, it seems, make use of the story schema in recalling or reconstructing story events, and this ability improves with age.

In order to account for systematic deviations from natural temporal order which authors in some kinds of stories use to achieve surprise, suspense, or humor. Brewer and Lichtenstein (1982)⁽²¹⁾ distinguish between event schemata and story schemata. Understanding a story requires knowledge of an event schema, while appreciating it requires knowledge of a story schema. Recently, extensive progress has been made in understanding how readers use their story schemata as aids in comprehending simple narratives.

c. Text Context

While text structure schemata represent knowledge about discourse-level forms, content schemata represent knowledge of the meaning conveyed by the text.

Studies of the role of content knowledge fall into three categories. In the first, subjects are chosen on the basis of qualitative differences in the knowledge they possess. Cross-cultural studies are an example. These, for instance, show that cultural variation within the U.S. could be a significant factor in regional and ethnic

differences in reading achievement. In the second, readers are chosen on the basis of quantitative differences in knowledge on a particular topic. Expert-novice contrast studies fall into this category. These conclude that high levels of prior knowledge allow more rapid acquisition of new information, as new data are mapped onto existing knowledge. In the third, subjects are induced to bring differing kinds or levels of prior knowledge to bear on identical or nearly similar texts by means of differing introductions or instructions prior to reading. A survey typical of these is that of Owen, Bower, and Black⁽²²⁾, who concluded that people preferentially retain information from a description that is relevant to their assigned perspective. For example, subjects who read a description of a house from the perspective of a potential buyer retained physical details—such as the presence of wall-to-wall carpeting, a spiral staircase, or a leaky rook roof—more readily than information about the current occupants or furnishings.

2. Implications

For basic and structural research on schemata to progress, attention should be focused on the development of schemata embodying knowledge of school subjects. Such research will have significant implications for designers of curriculum. However, this is a concern for the future. In the meantime, three main areas for application stand out: (a) helping students use text structures; (b) providing instruction that builds or activates knowledge of content; and (c) helping promote an active pursuit of meaning on the part of the student.

a. To this end, children should be fed a steady, daily diet of good stories from the earliest stage of kindergarten. Furthermore, they should probably obtain direct instruction about the story schema itself, so that they will recognize the basic elements of a story and hence more rapidly develop their ability to apply this schema flexibly.

More text-structure training studies are needed, in addition to

more consistent application of instruction in text structures in American classrooms. Students can actually enjoy learning how text structures can be used to organize and represent what they know already, which can then serve as a basis for elaboration to new, less familiar content.

Note, however, that these recommendations only hold if all texts used in American classrooms have clear structures.

b. It should be obvious that if students do not already know something about the content of a passage, they will often misinterpret or fail to comprehend it. Ensuring that students possess a minimal prior knowledge of the content of texts they will encounter should be the first priority in every classroom. In order to build this knowledge, pre-reading discussion and the use of analogy have been recommended by educators for years. The diversity of subjects present in children's reading selections requires a considerable breadth of prior knowledge, so teachers may be correct in their assessment that a fair amount of time may be required to build and activate appropriate knowledge for each new lesson. Finally, teacher's manuals should provide systematic help in building and activating students' prior knowledge, in assisting students to use what they know, and in evaluating how their knowledge has changed as a result of reading.

c. Readers must be able to reason about text material while reading. There is evidence that self-questioning strategies (such as described by Andre and Anderson (1978))⁽²³⁾ promote an active pursuit of meaning. Predicting the subject of a text (see Stauffer, 1969)⁽²⁴⁾ is also a useful way to lead students to make judgments, so that they can fit new blocks into the partially built conceptual structure already in their head. Research also indicates that direct instruction in techniques that required active reasoning about texts enhances comprehension (e.g. reciprocal teaching, in which the teacher and students take turns asking and answering questions about sections of text.) Developing superior reading skills requires

a curriculum rich in concepts from geography, history, science, art and literature. Any knowledge a child acquires will eventually help in comprehension of written material.

3. Comment

a. Students can hardly be expected to make progress in reading if teachers invariably direct them in accordance with their own limited schemata. The crucial problem is how to increase that range of student's schemata through reading. Good methods should also be sought out in order to account for students' differing cultural backgrounds in the teaching of new reading schemata.

b. If the structure of "grammar" becomes too complicated or unsystematic, students may face difficulties in applying it to the story they are reading. More work is needed here, especially in the comparison of expository and narrative text structures. It may prove fruitful to draw on the long-standing traditions of literary criticism, stylistics, and rhetorical theory as well as the contemporary field of composition teaching. Teachers should be mindful of the fact that "grammar" can only explain the type of stories and narratives, not all the complicated parts of stories.

c. The studies in text content point to the strong and varied effects of content schemata. Evidence differentiating between the specific functions served by schemata, however, is scant. Another shortcoming of the existing body of research has been the use of contrived, irrelevant, and even whimsical texts involving such matters as fictitious baseball games, imaginary burglars, and so on. What instructions are to be issued before reading, given the individual differences in prior experience and knowledge between students, is another topic which has not yet been properly investigated.

[3] *The Role of Metacognition in Reading and Studying*

1. Theory

Metacognition plays a vital role in reading. The word means one's understanding of any cognitive process—cognition about cognition, as it were. Understanding in the context of reading can be revealed in two ways: first, in one's knowledge of strategies for learning from texts, differing demands of various reading tasks, textual structures, and one's own strength and weakness as a learner; second, in the control readers have over their actions while reading for different ends. Successful readers monitor their internal state of learning: they plan strategies, adjust effort appropriately, and take measure of the success of their ongoing efforts to comprehend.

Understanding the role of metacognition in reading involves knowledge of four major variables and how they interact to affect the outcome of learning (see Brown, Bransford, Ferrara, and Compione, 1983; Brown, Compione, and Day, 1981)^(25, 26). These are (a) text—the features of reading materials that influence comprehension and memory; (b) task—the requirements of various tasks and purposes that children commonly encounter in school; (c) strategies—the activities readers undertake to understand and recall information from the text; and (d) learner characteristics—such as ability, prior knowledge of the material, motivation, and other personal qualities that influence learning.

a. Text

Many features of a text influence students' understanding of it, and one crucial form of metacognition is the knowledge readers have about relevant aspects of the material they read. How aware are young readers of such factors and does such an awareness, or the lack thereof, influence their reading proficiency? There is evidence indicating that novice readers have trouble distinguishing (1) between

difficult and easy texts; (2) important elements from trivia; (3) contextual constraints on meaning; (4) textual structure; and (5) anomalies and confusions present in the text.

b. Task

An important constraint in learning from reading is prior knowledge of what will be used to test the acquired knowledge. If students know beforehand about the type of test to be given, they can structure their learning activities appropriately. Even if they know that they must pay close attention to the content of what they read, this does not mean they have mastered the task. They must also realize that different criteria are required for different kinds of reading tasks, and that they should adjust their actions accordingly, slowing down if they run into difficult material, speeding up if they encounter trivialities, and so on.

Skimming is an example of adjustment in the reading rate to reflect the purpose at hand. Young children have different ideas of what skimming means. The problem of how to adjust reading activities, however, is not merely tackled by the grade-schooler. Sensitivity to the match between what is known now and what is still left to be mastered is a late-developing metacognitive skill. An excellent method for examining effort-allocation is the study-time apportionment task introduced by Masur, McIntyre, and Flavel (1973)⁽²⁷⁾. The ability to fine-tune one's allocation to reflect proficiency develops late, perhaps because it involves the co-ordination of many and various forms of knowledge.

c. Strategies

The efficient learner employs appropriate strategies to help him or her learn better. There is a broad body of literature on the common study methods employed by experts. Some of the traditional ones are note taking, summary writing, underlining and highlighting, and more elaborate strategies such as mapping or networking (Anderson and Ambruster, 1984)⁽²⁸⁾. The development of reading strategies in children has been studied recently in two different

ways, those aimed at “fix-up” strategies in response to the failure of comprehension and those examining the emergence of traditional study strategies such as outlining and summarizing (Armbruster, Echols, and Brown, 1982)⁽²⁹⁾.

1. Fix-up Strategies

If comprehension breaks down, the reader must make several strategic decisions. First, he or she must decide whether to take any remedial steps, a decision that depends largely on the purpose of the reading (Alessi, Anderson, and Goetz, 1979)⁽³⁰⁾. If the reader decides to take action, he or she must choose among the following courses of action: store the problem in memory as a pending question in the hope that clarification will soon follow; reread the text; look ahead in the text; or consult another source. These have been called “fix-up” strategies (Alessi, Anderson, and Goetz, 1979)⁽³⁰⁾.

2. Study Strategies

On the matter of study strategies, it is important to distinguish between a technique and a strategy. A technique becomes a strategy only if students know how to properly employ it—know the when, where, and how of its use (Brown, 1978)⁽³¹⁾. Only with this understanding do note taking, underlining, and the like have meaning for students.

d. Learner Characteristics

Expert learners take into consideration their personal strengths and weaknesses when contriving a plan for studying. For instance, a reader can only keep a certain amount of information in mind at any given instant. Effective readers know this and do not overburden their memories by trying to hold in mind large chunks of text, too many pending questions, too many unfamiliar words and abstract patterns, and the like.

Individual differences in a learner's beliefs about studying can also affect monitoring activities. Individual conceptions of understanding determine how students evaluate their success at studying. The fact that the relative approach leads to better grades, while

dualists who need help in altering their conception of what learning really is, would benefit from instruction on monitoring their understanding (Ryan, 1982)⁽³²⁾.

2. Instruction

It is now the time for us to combine the modern emphasis on training with awareness with the more traditional study skills (blind training studies such as Robinson's SQ3R method, 1941)⁽³³⁾.

Standard procedure in such blind training studies is to instruct students to perform particular tasks, but without explaining the significance of such activities. Although blind training methods can help people learn a given set of materials, they do not necessarily help people change their general approach to learning new sets of materials. Something other than blind training is needed to help many students learn on their own.

The main aim of cognitive training with awareness is to assist students' realization of the need to adapt their study activities to the needs of the task at hand, the nature of the material, and their individual preferences and activities. The goal is to provide novice learners with the information and practice necessary to design their own effective learning. Such training would awaken students to the active nature of critical thinking and studying, and to the importance of employing problem-solving routines so as to increase understanding.

Research directed at gauging the results of adding metacognitive supplements to strategy training has become popular over the past few years. Two such varieties of experiment are those involving "informed" training and those involving "self-control" training (Brown, 1983)⁽³⁴⁾. "Informed" training implies that the trainees are told of the significance of their learned activity. Feedback about students' performance after recall is also provided. "Self-control" training, on the other hand, involves explicit training in metacognitive skills such as checking, planning, and monitoring. Although informed training includes provision of information about the study activity and its effects, self-control training also includes help with

planning and overseeing one's action. However, students required direct training in rule application and overseeing before any significant improvement was achieved.

The investigation of Paris et al.⁽³⁵⁾ (1982) a program aimed at teaching children metacognitive aspects of reading showed that well-structured training programs designed to improve basic cognitive skills of reading and metacognitive factors of awareness and control can lead to dramatic, long-term improvement in children's reading skills.

3. Comment

We still need to know more about the kinds of misunderstandings that novice readers have about their roles as active learners, especially the relation between a student's misunderstandings of learning in general and how he or she goes about the process of reading. Studies demonstrating instructional feasibility in the actual classroom are scarce.

More training studies are needed to gauge the generality of the success of metacognitive instruction across student populations and across the cognitive skills implicated in reading, and research must address the question of what exactly determines success.

[4] The Influence of Recent Linguistic Researches on the Study of Reading Comprehension

1. Theory

Beginning in the 1960's, researchers like Kenneth Goodman (1968)⁽³⁶⁾ and Frank Smith (1971)⁽³⁷⁾ asserted that low-level decoding skills play only a minor part in reading. This was at odds with the traditional, "linguistic" approach, with its emphasis on decoding. This new school, calling itself "psycholinguistic", soon came to dominate studies on comprehension while "linguistics" was relegated to studies of lexicon, morphology, and phonology.

In the 1960's and 1970's linguists concentrated on sentence syntax, hoping for eventual applications to literacy, though little was done to connect this with reading. Attempts were made to

link what was then known about kernel sentences to developing writing skills (Roberts, 1970)⁽³⁸⁾, but schools gave up the hope of making little grammarians out of their unwilling students.

Two radical shifts in linguistic thought were needed to link language analysis close enough to the issue of literacy to be hopeful in any way. The first was the development of sociolinguistics in the late sixties; the second was the focus on units of analysis larger than the sentence, or discourse analysis, in the seventies.

Sociolinguistics is a vaguely defined term. Somewhat arbitrarily, it refers to six concerns: (1) language in social context rather than isolation; (2) local and cultural variability in language in addition to linguistic universals; (3) the dynamics of language and linguistic change rather than the static representation of language; (4) empirical data in addition to mere intuitive analysis; (5) subjective reactions to language, not simply objective language use; and (6) a concern for the functions of language, not just its forms.

Discourse Analysis was the study of sentence and higher-level linguistics. It was the characteristic concern of linguists in the late seventies and early eighties—in contrast to the focus on phonology and morphology in the forties and fifties, or on syntax in the sixties and early seventies.

In the seventies, linguistics began to pay attention to the work of philosophers of language such as Searle (1967)⁽³⁹⁾, Austin (1962)⁽⁴⁰⁾, and Grice (1975)⁽⁴¹⁾, who held that the conveyed meaning of a statement is not necessarily the same as its semantic meaning. This led to the inception of pragmatics and speech act theory, the latter meaning simply the means by which a speaker uses language to get things done.

We need to learn how language is used in writing and speaking to get things done and how to process (in listening and reading) the means by which others use language to get things done. To come to an understanding of language functions, and the various strategies which people use to reveal these functions (depending on setting, subject, participants, and the like), language must be

viewed from a different level than in the past. Generalizable functions, such as requesting information, reporting facts, apologizing, denying, and so on, are both linguistic and cognitive processes.

Recent studies show strong evidence of the trend toward analyzing discourse in reading and writing (see Boggs, 1983; Green, 1978; Griffin, 1977, for examples)^(42, 43, 44). Other recent studies show evidence of regard for pragmatics and speech act theory in literacy (Brewer, 1977; Cohen, 1979; Freeman, 1981; Green, 1980)^(35, 46, 47, 48). Other efforts focus on communicative competence (Brause and Bruno, 1980; Floris and Clark, 1979; Gearhart and Hall, 1979)^(49, 50, 51). Meanwhile, sociolinguistic studies of literacy also continue (Ainsworth, 1981; Chafe, 1982; Gearhart and Hall, 1979)^(52, 53, 54).

Current research on the language of literacy is distinguished by concern with four factors; (1) the natural direction of learning; (2) the context of learning; (3) holistic learning; and (4) the individual learner.

2. Implication

Though it might seem obvious to teach strategies that show up language functions, we instead teach grammar, spelling, punctuation, and vocabulary—the forms of language. Instead of teaching ways of accomplishing the underlying construct that relates to the speaker's intention to do something through language, current practice is to engage in direct task teaching. This is a *poor* alternative to generalizable function teaching. The functional teaching task should be how to write, read, speak, or hear the appropriate language function strategies to get things done.

The major studies of this nature were on grammatical interference in beginning reading, but it was often fatally flawed, as Simons (1973)⁽⁵⁵⁾ and Venezky (1970)⁽⁵⁶⁾ point out. There were great problems in obtaining adequate, naturalistic reading samples as a basis for consistent and realistic passages, and analysis of the results in an appropriate manner.

A variation on this search for the influence of vernacular lan-

guage on literacy should be taken note of. In 1969, efforts were made to develop beginning reading materials in vernacular English, thus avoiding the mismatch of spoken to written language. White-man (1981)⁽⁵⁷⁾ examined the extent of the oral language's influence on the writing of VBE (Vernacular Black English) speakers and found that some of the aspects of spoken language which characterize VBE speakers come up even in the writing of working-class white children, though they do not occur in their casual speech, however.

The report of the NIE Summer Study Group in Linguistic Communication, delivered over a decade ago, suggested the need to emphasize the influence of the child's surroundings, "anthropological-type observations" in addition to experimental studies. It urged the undertaking of cross-cultural studies and research into the influence of dialectical variation and, most of all, comprehension.

3. Comment

The fact that the linguistic theoretical and empirical knowledge base is incomplete raises major problems for literacy studies at the discourse level. Language use studied without a due notion of discourse, however, is not fruitful either. Without a complete and adequate view of discourse, all the researcher can do is to run new data through an already accepted model—making little or no new progress.

More questionable still is the matter of whether a list of functions and a group of strategies associated with each are at all a satisfactory reflection of the true nature of functional language. Such a model owes a great deal to speech as theory and recalls some syntactic models, but it is doubtful whether it is safe to suppose that it can capture all the important aspects of functional language.

In conclusion, these new developments in linguistics have yet to bear much fruit that can be applied to practical classroom instruction.

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