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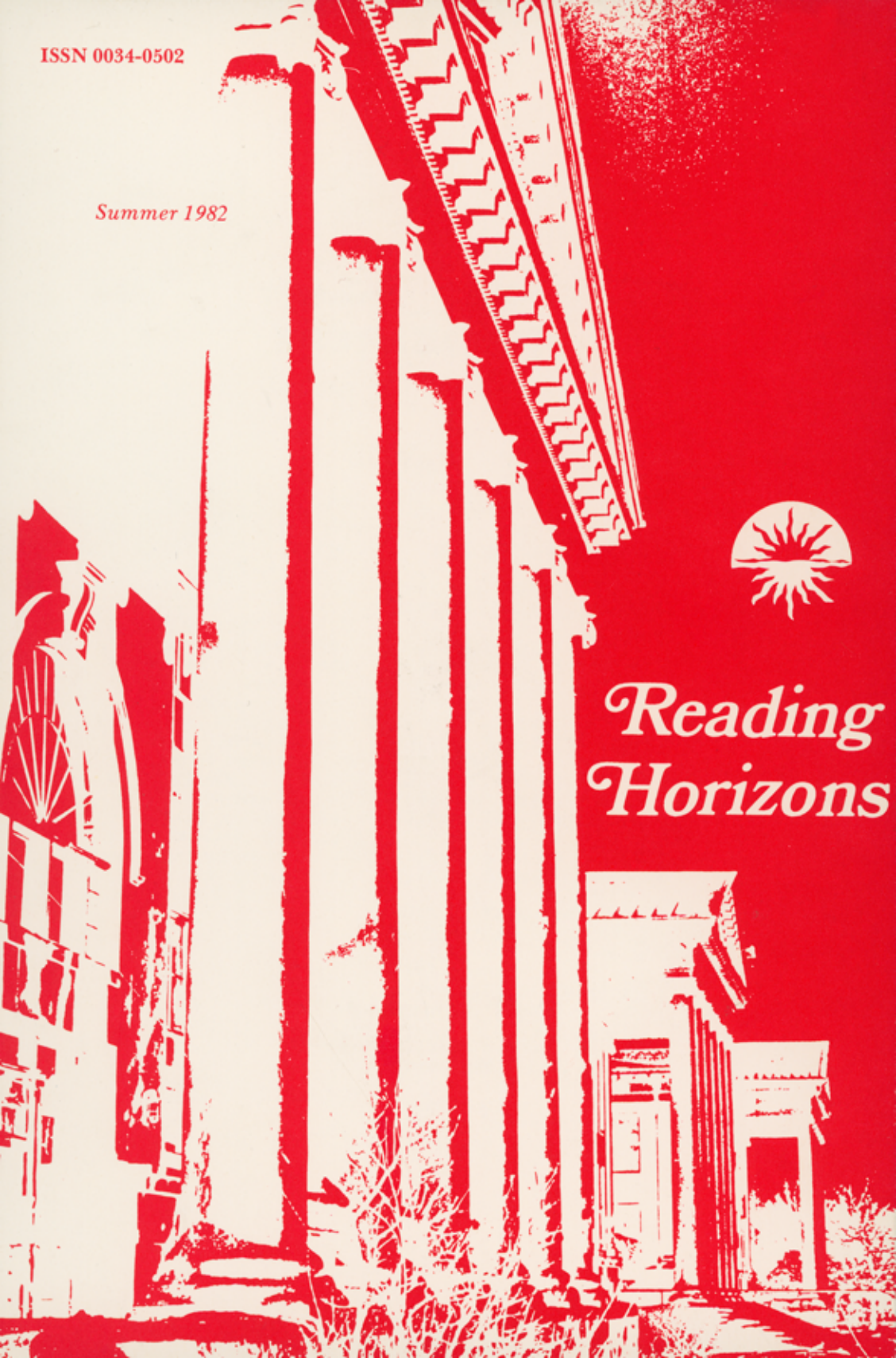


ISSN 0034-0502

Summer 1982



Reading Horizons



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Our authors are listed below, each highly qualified to write his or her part of the volume. We ask that you notice, our book covers the range of "schools of thought" in this challenging and often difficult area, geographically as well as philosophically.

Richard D. Robinson—Univ of Missouri
 Joyce Hulett—Columbia, MO, Publ Schs
 Linda M. Clary—Augusta College, Ga.
 Eleanor Buelke—Portage Mi. Pub Sch
 Jerry L. Johns—Northern Ill Univ
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 Allen Neilsen—Univ of Calgary
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 Anne M. Ferguson—SE Louisiana Univ
 Karla H. Wendelin—U of Texas, SA
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 Thomas P. Fitzgerald—NY Dept of Ed
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 Earl & Martha Cheek—La. State Univ
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 JoAnne Vacca—Kent State, Ohio
 Ula Casale—Univ of MO, KC
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CORRECTION

In our Spring Issue, 1982, the article entitled "An Analysis of Published Informal Reading Inventories" by Larry A. Harris and Jerome A. Niles (VPI and State University, Virginia) contained errors in reference to the Reading Inventory authored by Dr. Eldon Ekwall of El Paso, Texas. We received the following corrections and explanation from the authors:

Dr. Ekwall properly points out that self-corrections are not counted as errors in the Ekwall Reading Inventory. Our article failed to make this clear in Table 5 (page 170). This is, in our estimation, an oversight that needs to be corrected. We hope that no one has been inconvenienced by this error.

A second matter related to "Stated Purpose(s) of IRIs" as reported in Table 1. Dr. Ekwall indicates that, contrary to our report, his IRI has the stated purpose of determining capacity. The inventory itself states, "It may also be used to determine students' listening comprehension level" (p. 2). We interpreted this to be a permissive statement, but have no argument with the author on the point. Clearly the Ekwall Inventory can be used to measure capacity (as we reported in Table 6).

Finally, as Dr. Ekwall indicates that repetitions should be counted as errors on his inventory. In Table 5 (page 170) we incorrectly show in a footnote that repetitions are not counted as errors. Our error is the result of confusion due to our interpretation of the directions on page 7 of the inventory (i.e., NOT TO BE SCORED AS ERRORS IN MARKING INFORMAL READING INVENTORIES). What we took to be an admonition concerning repetitions is actually intended to be a heading for several points that follow. The fact that the heading is indented under point 7 (i.e., Underline repetitions with a wavy line) led to our misinterpretation. If our error on this matter helps others avoid the same mistake, all those who use the Ekwall will benefit.

READING HORIZONS apologizes to Dr. Eldon Ekwall for what he has called to our attention in the previous issue, and we hope that no one has been misled by the inadvertent errors.

The Editor.

Reading
HORIZONS

VOLUME 22, NUMBER 4

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READING HORIZONS has been published quarterly since 1960, by the College of Education, Western Michigan University, in Kalamazoo, Michigan. As a journal devoted to the teaching of reading at all levels, HORIZONS provides all interested professionals with the ideas, reports, and important developments that constitute the ever widening horizons of reading.

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ANNOUNCEMENT

HORIZONS is preparing a 2nd Edition of SELECTED READINGS, hoping for publication in January, 1983. We are gearing the new volume to meet the needs of foundations courses in reading, thus we are replacing all but the most useful and informative materials in the first edition.

We ask you to read our tentative table-of-contents, and consider the possibility of using the book in a teaching-of-reading course you have in your charge. We dare not print more than we can sell; as you may remember, HORIZONS was almost killed by that blunt instrument, deficit, a year ago. Your support spurred the journal on, and we can make the book of 400 pages available for about \$10.00!

Note, as you look over the listing, that we have tried to obtain definitive, practical, current material in every part of this complex professional field. And we tried to get the authors to write about their special areas of expertise. Finally, we are laboring diligently with the classroom teacher of the 80s in mind, they will need all the help they can get. Please, give us some indication if you will be able to make an advance commitment—this is a useful collection!

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BEGINNING READERS' PERCEPTIONS OF READING AND READING INSTRUCTION

Beverly Swanson

EAST CAROLINA UNIVERSITY, GREENVILLE, NORTH CAROLINA

Recent research has indicated young children beginning to read are confused in regard to the purpose and nature of the task (Reid, 1966; Downing, 1979; Francis, 1973; Johns, 1980). As a result, attention has begun to focus on the child's view of reading and learning how to read.

The purpose of this paper is to briefly review relevant research concerned with the child's perception of reading, and to examine possible reasons for the confusion.

What Research Literature Says

Research clearly supports the notion that the young child entering first grade or kindergarten may be misinformed or confused about the purpose for reading.

Vernon (1957) was one of the first to emphasize the cognitive confusion of the child when presented with the task of learning to read. Since then, interviews with young children have supported these findings about the confusion toward the written language. Reid (1966) found that five year olds in her study failed to recognize a purpose for the written language, being unsure whether to read the pictures or the "marks" on the paper. Five classes of first graders, when Weintraub and Denny (1965) asked "What is reading?" showed a fourth of the answers expressed no logical meaningful purpose for learning to read. A third had no idea how it was to be accomplished.

A more recent interview (Johns & Ellis, 1976) investigated the concepts that students in grades one through eight had about reading. Findings revealed that "students' views of reading were restricted and often described reading as anxiety occurring in the classroom using textbooks, workbooks, or reading groups" (p. 115).

The beginning reader is confused not only about the purpose for reading but also about the language involved in its instruction. The child's attempt to make sense of the task of learning to read is further complicated by the "language instruction register" (DeStefano, 1978). They do not know the technical jargon teachers use to teach reading. Studies (Reid, 1966; Meltzer & Herse, 1969; Clay, 1972; Kingston, Weaver & Figa, 1972) have noted the confused concepts children have for the terms word, letter, and so nd, often confusing "writing" with "drawing" and "letter" with "number". Beginners' perceptions of speech segments do not usually coincide with the units of "word" and "sound" in the register used by the teacher.

The way reading is currently taught may lack consideration of the thought that beginning readers may not know the use of words like letter, word, sentence, and sound. These words, says Francis, are not "so much a direct aid to instruction but a challenge to find their meaning" (1973, p. 22).

Reasons for Misconceptions

Fitts and Posner (1967), and more recently Pidgeon (1979), view the child's confusion about reading as one caused by reading instruction geared one level above that necessary for children to become aware of the skills necessary for the task. Bruner (1971) provides a vivid account of what a beginning skill-learner must deal with:

a skilled action requires recognizing the features of a task, its goals, and means appropriate to its attainment; a means of converting this information into appropriate action, and a means of getting feedback that compares the objective sought with present state attained (p. 112).

Thus, before children can deal with the linkage of instructional terms such as "first sound," "letter," or "word" that are used so frequently in readiness activities, they must have an understanding of these terms and the relationship between them. The beginner must discover what the skill is used for, its function, the salient aspects of the task to attend to, the technical concepts, and the jargon for talking and thinking about the skill. In other words, a person in an unfamiliar situation must find out what to do.

Another reason for the child's confusion about reading is not being able to see the relationship between the many skills presented in reading instruction and the reading process (Artley, 1980). Before a child can make the connection between skill work and reading, more purposeful reading and writing throughout the school day must be arranged. For most children, the concept of reading is derived when they are asked to take out a reading book or complete a skill sheet. The actual task of learning to read, then, must seem insurmountable. When a skill sheet is completed, another is presented; when one list of words is learned, a longer one is required; and, of course, when one basal is completed, another replaces it immediately (Kingston, 1979).

The incomprehensible aspects of instruction itself further emphasizes the confusion experienced by the young child (Smith, 1977). The teacher's role of breaking down words to sounds, written words to letters, and meaningless drills and exercises has, according to Goodman (1976) been reduced to one of a technician in a highly structured delivery system.

Factors outside the school have also contributed to the child's lack of understanding of the reading process. Since the advent of television, an increasing lack of literature in the home for leisure time activities has been observed. Likewise, fewer and fewer children see their parents or brothers and sisters reading, and so few are being read to regularly that the purpose for the "marks" on the page and their relationship to one another is not clear. Furthermore,

society's demands on the six year old to learn to read is not the motivating force that it is for oral language. Perhaps, if the same interest were exhibited in written language that is shown in oral language, the young child would view the reading act in a clearer and more positive manner.

Summary

Research has clearly shown that the child beginning to read is often confused by the task. The reasons for their misconceptions appear to be linked to factors both in the home and at school. The important task ahead is to identify those specific factors and plan situations that will enable the child to realize that language, spoken and written, serves a communicative function.

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GETTING STARTED IN THE FALL: ORGANIZING READING INSTRUCTION

James F. Baumann
NORTH TEXAS STATE UNIVERSITY

A Scenario

Time: First day of back-to-school inservice

Place: Sunnyview Elementary School

Person: Ms. Janice Wilson, a third-grade teacher of five years

Situation: Ms. Wilson, returning from summer vacation, goes about the usual process of organizing her reading program for the new school year. Since teachers in her district are expected to use the adopted basal reader, Ms. Wilson's task involves grouping her 28 third graders for reading instruction. She inspects the cumulative folders, noting for each student the basal reader s/he completed at the end of the second grade. She also confers with the second grade teachers in order to obtain additional information about the reading ability of each of her students. Based upon these data, she forms reading groups, and on the second day of school, hands out the appropriate textbooks and commences formalized reading instruction. As always, she vows to conduct individual Informal Reading Inventories for the purpose of evaluating her students, but she never quite finds time to do them.

The Problem

Does this sound familiar? Such a scenario is not atypical of the process countless elementary teachers undergo at the beginning of school each fall. Based upon data from the preceding year, the teachers form reading groups, hand out the basals, and jump right into reading instruction. There are several disadvantages, however, in initiating a reading program in this manner. First, records indicating prior placements may not be accurate predictors of current placements: past reading group assignments themselves may have been inaccurate, and/or children may have regressed (or possibly progressed) in reading ability over the summer. Second, teachers need time to get to know each individual child and his/her reading strengths and weaknesses before determining an instructional level and assigning him/her to a reading group. And third, students need time to readjust to school and "warm up" their reading skills before they can be expected to perform effectively in a rigorous, developmental reading program.

A Suggestion

It is the purpose of this article to describe an alternate approach for initiating a reading program at the beginning of the school year. Rather than rushing into groupings and formalized reading instruction, we urge teachers to take two or three weeks during which: (a) the students can exercise their probably dormant

reading skills and engage in activities designed to promote positive attitudes toward reading; (b)informal, diagnostic information is obtained for each student; and (c)flexible, informal reading groups are formed with the purpose of "trying out" students in a reading group situation. After this period, the teacher will be better prepared to form developmental reading groups, and the students will be ready to engage in the hard work of developing and expanding their reading skills.

Reading "Warm-Up" Period

Since many children will have read very little over the summer, time to rejuvenate reading and language art skills is appropriate at the beginning of the school year. Students can be taken to the school library and allowed to self-select books of interest to them. Sustained, silent reading periods should follow these visits and become a part of the weekly schedule. This will help students develop the habit of always having a book they are reading for enjoyment.

Teachers should read to their class daily and continue this throughout the school year. Informal "book reports" can occur in which students share favorite or exciting parts of books they have read. Involving students in art activities such as constructing mobiles or dioramas or illustrating books will promote children's literature, and at the same time, decorate the classroom. Children can become literary critics and orally review books they have read, perhaps using a "Critics' Corner" in the classroom. Merely asking the class "Has anyone read a good book lately?" will result in a lively discussion of popular children's books and will enhance interest in independent reading.

The class can begin viewing one of the many fine children's literature programs on educational television during this period. A classroom reading laboratory or kit can be introduced to the class. A student-produced class newspaper or literary magazine may be initiated. Creative writing periods, dramatizations of books or plays, choral readings, and the like can become a part of the language-rich environment in which reading and other communication skills are valued and regularly practiced.

Informal Assessment of Reading Ability

During this two or three week period, a teacher can informally evaluate the students' reading and language arts abilities. This can be accomplished by observing the children engage in all the reading, writing, speaking, and listening activities previously described. Based upon these observations, judgments about strengths and weaknesses in these areas can be made.

Additionally, some form of specific informal reading assessment should be conducted. If the basal program to be used possesses placement tests, these can be administered to all students. If these are not available, an Informal Reading Inventory (IRI) can be constructed and administered. Ideally, this involves individually assessing all students' word recognition and comprehension skills using an instrument constructed from the basal readers. Administering and scoring 25 to 30 IRIs, however, is very time-consuming and may not be feasible, especially for a teacher who does not have access

to a teacher aide or other helper.

An alternative is to administer a modified IRI that does not take so much of a teacher's class time. This can be accomplished by having the students individually read and tape record the oral reading sections of the IRI. The comprehension assessment is obtained by having groups of students silently read other graded passages from the basals and then respond in writing to comprehension questions. The teacher can then score and analyze the oral reading and the comprehension questions later after class. Although this process is surely not as accurate as individually-conducted IRIs in finding students' instructional reading levels, it does supply a teacher with one additional bit of information that can be used in assigning students to reading groups.

Tentative Reading Groups

Based upon the information gained from the modified IRIs, observations of students in warm-up activities, and the students' prior placement and performance in reading groups, a teacher could go ahead and group children for reading instruction. But regardless of the care taken in assigning students to groups, one never knows how well a child will perform until s/he has had some time to work in that group.

In order to give students such a trial opportunity, tentative reading groups can be formed. Rather than using the basal readers that will be ultimately used for instruction, however, other material should be used for this trial period. Many school districts have multiple copies of children's trade books in paperback. By selecting interesting books at the appropriate instructional levels (a readability formula can be used to estimate the difficulty of the trade books), one can conduct basal-like groupings that involve directed readings and skill instruction. The advantages in employing this procedure include: the children enjoy it since they have a chance to read a quality children's book; it gives the teacher one more opportunity to assess instructional reading levels and observe how students perform in a reading group situation; and, since the basal readers were not yet used, changes in these tentative groups can be made without the trauma associated with a later move to another reading group—especially if it involves a move "down" to less difficult materials. If multiple copies of children's books are not available, older basal readers would be suitable—though less desirable—alternatives for use in these tentative groups.

Conclusions

In summary, the advantages of deferring formalized reading instruction for two or three weeks in the fall and substituting some of the less rigorous activities described above are twofold in nature. First, the teacher will know her/his students' reading abilities much better and will subsequently make more accurate placements in reading groups; hence, individualizing instruction within these groups will also be facilitated. And second, the students will have an opportunity to revitalize their reading skills and possibly strengthen or develop positive attitudes toward reading.

It should be noted that although this procedure was described

with the assumption that basal readers and reading and reading groups were to be the resultant organization (since it is the most common), many of the suggestions would apply to other reading programs as well. For example, if a teacher planned to initiate a highly individualized reading program involving student self-selection of trade books, or if a teacher planned to implement a language experience program, many of the warm-up and informal assessment activities would still be helpful, for the advantages in waiting to initiate a formal reading program apply, whatever the specific organization.

Both students and teachers need time in the fall to prepare themselves for the tasks of learning and teaching. Providing for this time within the reading program will help both students and teachers be more effective in their respective roles.

ET TU, JUDY BLUME: ARE THE BOOKS GIRLS CHOOSE TO READ, SEXIST?

Jon Shapiro and Geraldine Snyder

THE UNIVERSITY OF BRITISH COLUMBIA

The decade of the 1970's could be characterized as period of feminine consciousness, a period of concentrated awareness of social and economic imbalances and injustices, which led to thorough examinations of educational materials. Sexism was discovered to be rampant, though perhaps not unexpected, throughout reading materials intended for young people. Many studies examined the frequency of appearance of male and female characters, which a majority focussed on sex role stereotyping.

Britton (1973) investigated sixteen reading series to determine the extent of sex role stereotyping. While the previous year Graebner (1972) had reported a small increase in female career role occupations, the results of Britton's more thorough analysis were not so encouraging. Britton found that only fourteen percent of the stories, analyzed by content and illustration, depicted females in career occupations. At the time of this analysis, women comprised forty-two percent of the labor force. An additional finding was that women were virtual captives of three career roles: mother, teacher, or nurse.

In a follow-up study, Britton and Lumpkin (1977) found little improvement in the reduction of sex-role stereotyping. This paucity of improvement existed even though new guidelines on sexism, as well as ethnicity, were enacted by most educational publishing companies. The lack of corrective action corroborated other follow-up investigations (Frasher and Walker, 1972).

Another area of frequent concern has been in the characteristics of the sexes, as depicted in children's literature. The Committee of Women on Words and Images (1975), after analyzing 2,760 basal reading selections, found that boys were characterized as adventure loving, physical, and bright. At the same time, girls were depicted as timid, passive, emotional, and often slow-witted. These findings supported other investigations (Feminists on Children's Media, 1971; Nilsen, 1971; Tibbets, 1975). Similar treatments were also found in adolescent literature (Nelson, 1975).

Some authorities suggest that the type of material girls read present inappropriate sex-role models (Taylor, 1973; Oliver, 1974) and indeed, imply that this may be harmful (Beaven, 1972; Bem and Bem, 1975). We have now experienced over ten years of research into sex role stereotyping, consciousness raising, and career role opportunities, with resultant recommendations to teachers, authors, and students. The mass media has certainly promoted awareness of feminist

issues. Therefore, as a portion of a study of the reading preferences of intermediate grade girls, the researchers decided to also examine sex role models as exemplified in girls' preferred reading material.

The Study

Data on the reading habits of 790 intermediate grade boys and girls were collected in forty-two grade five, six, and seven classrooms in a suburban district near Vancouver, British Columbia. (Snyder, 1980) Children in these classes were asked to record every book which they read during a five month Sustained Silent Reading Project (Summers, 1979). They were to indicate which three selections were their favorites and who recommended the books to them. From this population, seven classrooms at grade five, six, and seven were randomly selected yielding 100, 89, and 79 girls' recording forms respectively. The three favorites from each record form and who recommended each of these books were then compiled by grade level.

The content of the most favored books by grade level was examined. Each major and minor character was analyzed, using sections of the content analysis taxonomy devised by Saario, Jacklin and Tittle (1973). This taxonomy classifies characters by age and sex and codes each character according to their occurrence in specific environments; their occurrence as major characters; their exhibitions of distinct behaviors; their being recipients of discrete consequences; and, their instigation of consequences for others. For the purpose of this study various behaviors exhibited and received by the characters as well as the types of consequences (positive, negative, or neutral) incurred were charted.

Findings and Discussion

As might be expected, a great deal of inconsistency of lack of consensus appears in the choice of the girls' favorite books. At the grade five level, twelve separate titles comprised the top three choices. Seven titles appeared on the grade six list while ten titles appeared on the grade seven list. An interesting result, however, was the consistent selection, at all grade levels, of books authored by Judy Blume. In fact, *Are You There God? It's Me Margaret* (1970) was the most favored selection of grade five, six, and seven girls. *Deenie* (1973) was the second most popular book at grades five and seven, and tied for first at the grade six level. Six of the seven favorite books chosen by grade six girls were written by Blume.

As to who recommends books which become children's favorites, examination of the recording forms indicates that if a book is not self-selected, peers have the most influence in encouraging the reading of a particular book. Librarians and/or teachers were rarely indicated as the referring source. Although boys' preferences were not tallied for this study, the researchers noted definite sex differences in books selected by boys and girls. A mere look at the lists would tell one the sex of the reader; no boy listed any of the girls' top favorites.

Since *Are You There God? It's Me Margaret* was a first choice of all the intermediate girls, and appeared representative of a

popular type of realistic fiction being selected by girls, this particular book was chosen for an in-depth analysis. The book describes the life of a young girl entering puberty, and contains major characters and a majority of supporting characters who are female. Behaviors exhibited and types of consequences were charted for the following characters: Margaret; her mother; her fraternal grandmother; her best friend, Nancy Wheeler; and, Nancy's mother. No comparisons were drawn with the peripheral male characters.

Stereotypical female characterizations of emotionalism, dependence, passivity, conformity, etc., are recurring behaviors exhibited throughout the book. The majority of classifiable behaviors occurred in emotional expressions such as crying, and verbal expressions of love and hate. Examples of nurturing behavior were evident. Behaviors that could be classified as constructive or productive only appeared five per cent of the time. These behaviors were also stereotyped in that they usually consisted of such tasks as cleaning, washing clothes and washing dishes. Little aggressive behavior could be found with the exception of verbal arguments. Physical exertion was generally not evident; however, physical behaviors which were depicted were concerned with "bust development" exercising activities. Other behaviors exhibited with some frequency dealt with self-care (make-up, dressing), avoidance behaviors, and behaviors of conformity. As far as consequences were concerned, these were more positive (50%) than negative (35%). However, both consequences were usually generated from significant others rather than oneself.

The problems facing the characters are real, but more often than not, the characters are flat, with adults in stereotyped, often unflattering, roles. Are You There God? It's Me Margaret is a good example of a sensitive story about a maturing girl who is developing an awareness of self and of the impact of physiological and psychological changes; yet, she is surrounded by adults who offer little hope for girls as models of adulthood. For instance, the first view of Margaret's mother is one of her "sniffing under her armpits" (page 1). By page 4, Mother has her "bottom sticking out of a kitchen cabinet". Her mother is shown as preferring tailored things, thus denying Margaret a fluffy dressing table. Mother also paints pictures which are put down by Father as probably ending up in someone's attic. She is nurturing in behavior which is her outstanding characteristic. This is exemplified in actions such as purchasing items for Margaret, driving her places, and generally being there, seeing about dinner and being sure Margaret gets to where her friends are.

Margaret's friend, Nancy, also has a one-dimensional mother who bowls on Mondays, plays bridge on Thursdays, and apparently helps organize car pools, even for Sunday School. Nancy's mother is nosy, always washes swim suits after someone wears them, and is known only through brief conversations and comments from Nancy.

About the only women in the book with career roles were Miss Phipps, who was to be the teacher but ran off with some man; the lady who comes in to wash dishes; and, Miss Abbott, the gym teacher. All, of course, are incidental to the plot.

Margaret is depicted as preoccupied with self, with sorting

out life with typical pre-teen occupations. She is involved with a group of girls, concerned about school, what to wear for parties, becoming interested in boys, anticipating puberty, and worrying about not being like everyone else. She and Nancy tend to live a relatively affluent suburban life without much else but self as a source of concern.

Probably the most interesting female characterization is Sylvia, the fraternal grandmother who defies most stereotypes of "aged" females. She is healthy, fun, apparently financially independent, active, dresses in contemporary fashion (even changes her hair color), takes cruises, vacations in Florida, brings delicatessen, and is very fond of Margaret. She sends Margaret to summer camp, knits her sweaters, and is the reason, Margaret thinks, for the family's move to the suburbs, as Margaret's Mother considers Grandma too much of an influence. Grandma's independence is such that she indulges in several modes of transportation to arrive unannounced at the new home—and does it alone.

Conclusions

Analysis of top choices of books selected by girls in grades five, six and seven, revealed a lack of unanimity, but consistently chosen at all three levels were books by Judy Blume. The number one selection in all three grades, Are You There God? It's Me Margaret, was analyzed for exhibitions of stereotyped behavior. The female characters tend to represent much of what awareness groups have been trying to counteract during the past decade of fairly heavy research into sex role stereotyping.

Since the girls in grades five, six and seven all indicated the Blume books had either been self-selected or were recommended by a friend, a fair assumption is that some teachers, parents, or librarians might not be aware of the flat female roles depicted and the unflattering portrayals of women, especially mothers. Therefore, instances of specific behaviors were cited as evidence that girls are subjecting themselves to role models of little redeeming value.

Copyrighted in 1970 and in its twenty-sixth printing in October, 1979, Are You There God? It's Me Margaret is avidly read by intermediate girls across the continent. These girls have been maturing in a decade of wide-spread consciousness raising, so we might ask the question: If girls' choices for reading are replete with sterile characterizations, has the emphasis to overcome stereotyping had sufficient impact? Or, are the enticements of "realistic fiction" such that girls read with little awareness of the unflattering characterizations in their preoccupation with the more self-directed significance in the subject matter?

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MOTIVATION AND THE ADOLESCENT READER

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In the past decade unprecedented amounts of money and talent have been devoted to finding out why people buy products—what catches their fancy, what stimulates their interest in it, and what will make them buy it. Once these factors are categorized and tabulated, the information is used in designing packages, advertising or identifying some features of the product that will satisfy these needs and thus sell the product. This work in stimulating interest and determining the "appeal base" of a product falls under the heading of advertising or motivations.

I'm a pusher of a product, too—a product called literature. Students will never read Shakespeare if they don't learn to read and love to read. The literature for the adolescent movement, almost non-existent twenty years ago, is now of such importance that courses in it are a part of the training of English teachers, librarians, and reading specialists.

For years, educators have agonized over what appears to be a steady decline in reading ability. The annual report card on reading skills in our major cities is appalling. As usual the blame is spread around. School boards are singing songs of accountability while teachers' unions hold that the break-up of the family, working mothers and the home environment make the task of making readers out of children with deprived backgrounds impossible. Children's desire for knowledge is sometimes turned off by poor materials, poor methods, and poor appreciation of the joys of reading. Teaching through a greater emphasis on literature seems a partial answer to the problems of materials, methods and interest in reading. In the past, basic reading classes have been limited to early elementary grades and literature as such, not reading, was studied in the high school. In the elementary reading classes the main object was not to develop enjoyment of stories but rather to identify words, to group words into phrases, and grasp the meaning. The vocabulary was limited to the basic word lists and the objectives of the lesson were limited to the development of phonics. The stories were used as tools in skill teaching, and less emphasis was placed on literary quality and emotional appeal to the interest level of children. This must change.

We propose the integration of literary materials and the skill builders of basic reading will do much to improve the teaching of reading and the level of achievement. In the elementary school an emphasis on children's literature is needed equal to the emphasis on basic reading instruction. The skills on which literary reading

depends must be developed but the literary reading serves a purpose of motivation beyond those basic skills. Why should children learn and work so hard to read some of the John, Jean and Judy materials? If they are aware of the world of exciting books just waiting for them to open and read, they will work harder at unlocking the gates of adventure. Educators must take advantage of children's attention, interest, and enthusiasm for a good story. This must take place before junior-senior school.

Motivation can be categorized and compared in two ways:

- 1—Gimmicks vs. real motivations
- 2—Intrinsic vs. extrinsic

Gimmicks are activities or objects which only catch the eye and the temporary attention of the students and are not an integral part of literature but as such activities can be meaningful. A "real" motivation is an activity, question or object that really starts students thinking about a given topic. It is not just a contrivance, an eye-catcher, or a crowd pleaser. Gimmicks are limited in the degree that they can be used. Consumers do not want to be tricked into buying. Products should be sold on the strength of what they contain and what they do, and reading and literature should be initiated by some activity that leads students to think about a real situation, problem or question. No one—consumer or student—likes to be "conned" and discovery that s/he has been, makes one resentful.

Another way of categorizing and comparing motivations is by classifying them as intrinsic or extrinsic. An intrinsic motivation is an activity or object directly involved with the topic you are going to investigate. An extrinsic motivation stems from outside the subject matter area, but it is in some way analogous to it. The terms intrinsic and extrinsic also refer to their application to the state of mind of the student. Does he want to learn for the sake of the learning itself (intrinsic) or is he motivated by some outside stimulus (extrinsic)?

According to studies chronological age is more important than is mental age in determining what a child will enjoy reading. The average and the above-average thirteen-year-old will be interested in reading the same kind of books. Thus the whole attempt to accelerate the intelligent child by giving him the adult literature classics does not conform with the facts.

Preferences are determined not only by age but by acculturation and differences of sex. Because of this, there is a real difference between what the teen-age boy and teen-age girl want to read, between what the average Iowa farm teenager will choose to read and what the average child in the inner city may choose.

Enticement is the better part of salesmanship. We can all work up a lot more enthusiasm for a job when we can see some purpose for doing it. In the active learning classroom, students share in selecting the task, and some motivation is built in. Nevertheless, a good teacher in the teacher-centered class is aware of the need to motivate and keep enthusiasm at a high pitch. The teachers' originality will help supply ideas and materials that motivate, sources are only limited by their creative talents. You the teacher do not need "things" to motivate, although sometimes they help. You need

ideas and so do students. You can create mental pictures and you can help students to develop this talent. This is the teaching of reading and literature. The things you use, the materials, are valuable additions, however. This is the subject matter of Literature for the Adolescent.

Human beings are insatiably curious about themselves. We are forever interested to learn what people are doing and what they have done in the past. We learn about people by observing them, but we are also eager to hear reports of other people's observations. "Tell me a story" is the plea not only of children but of men and women in all countries and in all ages. Story tellers in both prose and verse have answered the plea in fables, folk tales, ballads, epics, romances, down to the complex forms of the novel and short story in more recent times.

Long ago, story tellers recounted the exploits of heroes, drawing on known facts about these flesh and blood people, but also embroidering on the facts. Their stories were thus a blend of fact and fancy. In later times we have come to distinguish between these two kinds of narrative, calling one history and the other fiction. Aristotle marked the difference between the two in a distinction that we still observe: History, he said, "describes the thing that has been," history deals in particulars, unique persons and events, that will never be repeated exactly. Fiction, says Aristotle, deals with "universals", it makes statements about what a certain kind of man or woman or child "will probably or necessarily say or do." In dealing with universals, fiction resembles philosophy; but in presenting the universal through particular characters and events, it resembles history. The realm of fiction, then, lies between the realm of history and the realm of philosophy.

Before we go much further, we must ask "What is adolescents' literature?" If we limit the field to books written just for adolescents, we limit the study. Adolescent literature should not be separated from literature in general for many reasons. Too rigid a definition of what adolescents' literature is should be avoided because like all other kinds of literature it is a portrayal of life and mind in language. However, some of the logical and emotional limitations of young adulthood will rule out some of the kinds of literature. Twentieth century exposure to television has increased their awareness of once taboo subjects as sexuality, violence, death and crime. Such exposure has forced adults to reconsider the appropriate subject matter of literature for the adolescent. Charlotte Huck has defined a "children's book as a book a young person is reading, and an adult book as a book occupying the attention of an adult." (Huck, 1976, p. 5)

There are differences between children's and adolescents' literature. Literature for the adolescent must satisfy their needs and meet them on their varied levels of development as opposed to the interest, needs and level of development of adults. When comparing children's and adults' books, Jean Karl says that "outlook" is one basic difference. This outlook includes the ability to look at life with hope, a sense of wonder about the world, a sense of adventure, and a feeling that life is valuable. (Karl, 1970, p.7) Books for teens differ from books for adults in vocabulary and types

of experiences. The teenager may know something of business and the work-a-day world but he will not choose to read about certain kinds of adult activity. The content of adolescent literature is limited by experience, by exposure to wider worlds and by the understanding of such things that children have met or experienced. Such emotional and psychological responses as nostalgia, cynicism, and despair are outside the realm of most teens. In adolescents' fiction there are many stories which adults enjoy and there are some books written for adults which are taken over by teens, e.g., *Rascal* and *The Hobbit*. There will be a less complex combination of language, character, plot, and theme in adolescent fiction. The smaller range of language is a limitation but a good literary work for teenagers demonstrates an ingenuity and flexibility within that range.

Alan Howe states, "Some teachers may feel that all they need to do is set novels before their students and start them reading; others fear that "mere" enjoyment of fiction is somehow not a solid enough goal, and thus belabor their students with a mass of historical, biographical and critical background which becomes an end in itself." (Howe, *Teaching Literature to Adolescents*, p. 21)

John Dixon, reporting on discussion at the Dartmouth Seminar reminds us, it is much easier to teach literary criticism than to teach literature. The teaching of literature should be our primary job. This means that the student in junior and senior high school should be led to take account of both the work and his reaction to it. The process of reading is most successful when the student can say, "That's me!" as he reads. "That's me" has two components and our aim is to move from the Me of personal identification to the that of the work of literature. That's me may reveal a very partial and too selective attention to the work but the teacher will get nowhere in the attempt to make the work meaningful if he does not begin with the me. Though this might imply that we should teach only narratives with which students may identify directly from their own past experience, we need not conceive of the Me so narrowly. Adolescents will not necessarily respond to a book about their own world if it seems fake to them, nor will they fail to respond to books about other worlds, provided these are within their understanding (though not within their experience) and are presented so that they seem coherent and interesting (Dixon, *Growth Through Literature*, pp. 59-60)

We know that we read different kinds of things for different purposes and in different manners. Donald Hall (*Four Kinds of Reading* p. 2) made distinction among these kinds of reading. The first is reading for information, the kind of reading we do when we read a newspaper, a set of directions or most textbooks. We read quickly, paying attention only to the facts we need to gather, ignoring the language in which they are presented, the rhythm of the sentence or the play of metaphor.

The second kind of reading, reading literature, is an altogether different activity. Hall states, "We hear the sound of words and perceive the rhythms of sentences as we read; we also register a tract of feeling through metaphors and associations of words. This kind of reading goes through the ear—though the eye takes in the

print and decodes it into sound—to the throat and to the understanding and it can never be quick. It is slow and sensual and a deep pleasure." Evelyn Woods has never experienced this. This is what we hope to unfold to our students.

The third kind of reading, intellectual reading, is too often substituted for the second in the reading of literature. Hall reminds us that, "Intellectual reading is reading in order to reduce images to abstractions." It is slow and much time must be spent with the eyes turned away from the page, reflecting on the text. To read literature this way is to turn it into something it is not.

The fourth kind of reading has been called narcotic reading. Everyone engages in narcotic reading occasionally, and perhaps most consistently in adolescence when great readers are born. This is what we as teachers of literature for the adolescent want to encourage—reading addicts. Teachers can take advantage of this tendency, both in the books they select for students to read and in the way they approach those books, in order to first develop a love for reading and then gradually lead students toward the more demanding reading. In both types of reading the students' imaginations are involved. We want reading to become an experience rather than a chore: In one case, the addicted reader escapes into another world; in the other, the literary reader develops new insights into his own world. But these insights should come as a result of the experience itself rather than as the end product of intellectual reading. Too often we are tempted to teach literature through intellectual reading alone—to wean students from the Hardy Boys in order to prepare them to discuss determinism versus free will in Carmier's After First Death. Carmier's novel does raise abstract philosophical issues, but it also tells an exciting and compelling story about a young man who is a living being. Carmier infuses the novel with ironies and a sense of impending doom, slowly drawing the reader into the full horror of the situation.

The adult critic of literature for the adolescent soon discovers there are vast numbers of books coming off the presses each year with qualitative differences from excellence to mediocrity by any selected criteria. We propose that there are evaluation criteria which adults can use to judge the varied offering of adolescents' literature.

The usual way of analyzing fiction is to consider its components—character, plot, setting, theme, point of view, and style. In a way this is a process of fragmentation, quite different from the wholeness of impression we receive when we read, but analysis of a story into its elements allows us to see why one book may be of greater literary value than another. The chief purpose of a course in literature for the adolescent is to help English teachers, librarians and reading teachers to apply these principles. Despite their great diversity, English teachers, librarians, and reading teachers love literature; and no one thinks that he has learned all there is to know about it. But as undergraduate English majors, most took courses in Shakespeare and in the great Victorian and American writers. However, it is unlikely that many became familiar with the writers of junior novels. A course in The Literature of Adolescence will not provide teachers with a detailed plan for teaching

such a course in the high school, nor will it lay out objectives and procedures. The course should provide class members with exposure to the large numbers and types of literature for the teenager, literary standards for the evaluation and analysis of new materials, and specific suggestions for approaching a number of junior novels as literary works.

There is a great deal of interesting, quality literature which can teach without pressure or preaching. We should be aware of the possible danger of making literature too much of a learning medium, which could turn teens off to all literature for fun. When the teacher uses literature with great care, students will reap many benefits. Dry facts are soon forgotten; attitudes, feelings, and general concepts can remain forever.

The goal or major objective in teaching high school English is the development of Literature for Life. Teachers can never teach all the great literature to their classes but they can open to students a world almost limitless because of great literature of the past, the present, and that not yet written. Through Literature for the Adolescent we hope teens will become hooked on books.

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MEASUREABLE EFFECTS OF A READ-ALoud PROGRAM

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Meaningful reading, to a large extent, depends upon interaction between the reader and the material read. In order to comprehend a given reading passage, the reader must bring his or her prior knowledge to bear on the passage (Otto & Smith, 1980). Because students come to school with such varied experiential backgrounds, teachers must make sure students are equipped with the required fund of experiences needed to tackle any given reading activity. If students are found to lack familiarity with certain kinds of experiences found in their basal reader stories, for example, filling in the experiential gaps usually falls to the teachers to accomplish.

One traditional way to extend students' experiences, albeit vicariously, is through reading aloud to students (Smith & Johnson, 1976). Not only does reading aloud to children enrich experiential backgrounds, but other benefits are said to accrue from the practice. Most often acknowledged is the heightened interest in reading which students receive from having books read aloud to them. Some stated academic contributions of read-aloud programs have included vocabulary growth (Cohen, 1968) and expanded language repertoire (Strickland, 1973). Educators have also been heartened to hear of Chomsky's (1972) finding of a positive relationship between having listened to books read aloud during preschool years and early achievement in reading. Thus, the case for reading to children is persuasive, based upon tangible and intangible findings.

Despite arguments for reading aloud to children, the practice often occupies a secondary position in elementary school curricula, behind math, reading, and other language arts-related concerns. McCormick (1977) believes educators often favor academic activities whose results are more easily measured than the more subjective benefits gained by reading aloud to children. In addition, measuring and recording knowledge gains attributed to a read-aloud program present more of a challenge for teachers of younger children who often can neither read nor write well.

The following report demonstrates that reading aloud to first-grade children impacts not only on their experiential backgrounds but also on their language-appropriate behaviors, in ways which are easy to measure. In the study to be described, both traditional and novel means of measuring program gains are utilized to marshal still more empirical support for reading aloud to children.

Method

Subjects

Twenty-six black first-graders attending an inner-city public school in the Midwest participated in the read-aloud experiment. All children were at least average in academic performance, with eight students above average, as judged by their teacher.

Materials

Thirteen fiction and non-fiction books related to the topic of circuses were drawn from the public library. The topic was chosen because all of the children stated they had neither read about a circus nor seen one. Only one basal reader story in their series (Lippincott) mentioned a circus, and that story never specifically described what a circus was. Use of the topic, it was felt, would allow results to attributed to the read-aloud program.

Procedure

All above-average students were randomly assigned to either the treatment (read-aloud) group or the control group; the same applied to average students. Children in both groups were pretested as follows. Children were asked to draw a picture of a circus, and to put in as many items as they could think of that belonged in a circus. Next, children were individually asked to tell a story about their picture; these stories were tape-recorded, and later transcribed and analyzed.

Treatment. Children in the treatment group were read to twice a week for eight weeks by their classroom teacher (Hooper). Each read-aloud session lasted 40 minutes, and the previously mentioned circus books comprised the materials read. All children in both the treatment and control groups were free to browse and examine all books in their spare time.

Prior to each reading, a purpose for reading was established. During the reading, the teacher accommodated active oral involvement by the students, as recommended by Hoffman (1976). In some instances, children wanted certain words explained. At other times, children expanded upon and attempted to explain some new information related in the books. For instance, one story mentioned that the circus was also referred to as a "mud show"; before the children were told why this was so, they provided their own explanations. During the interactions, children also responded to questions asked by the teacher, such as, "Why was a giraffe part of the circus long ago, but not today?" Teacher questions were asked to clarify points the books brought up.

Control. Children in the control group continued with regular school programs as was the case in the previous studies (Cohen, 1968; McDonald, 1967). While the treatment group was read aloud to, the control group worked on reading skills, watched filmstrips, and twice listened to stories in the library. None of these activities related to circuses.

Following eight weeks of treatment, posttests were administered to both groups in the same manner as the pretests were administered.

Results

Results confirmed that the treatment group expanded their experiential background with regard to the topic of circuses, where the control group did not. Furthermore, as previous researchers have learned, the treatment group utilized more mature language to describe the topic than did the control group.

The extent of gains from the read-aloud program was measured by two more or less traditional and one novel means. First, gains in knowledge were measured by analyzing children's drawings. Although some (e.g., Cohen, 1968; Esgar, 1978) have advocated looking at artwork to find out what children comprehend, details of how this might be accomplished still needed to be worked out. We devised a special rating system by having undergraduate education majors list items thought to constitute a circus; from these lists, a scoring sheet comprised of the 20 most frequently-appearing items was developed. Next, children's drawings were independently rated by three judges: an art teacher, a reading specialist, and a reading teacher with an art background. If a rater felt a drawing contained a lion, for example, which was listed on the scoring sheet, then the drawing was given a point for a lion. Drawings were not given points for items which were not on the scoring sheet. Raters had no idea which was the pre- or post-test, or which drawings belonged to what student. The average of the three raters' scores for each drawing was used for analysis.

Next, gains in maturity of language used to describe a circus were measured by looking at the language of the children's stories. In this case, the mean length of response (MLR), long judged to be a reliable measure of linguistic maturity (Shriver, 1974), was calculated for each pretest and posttest story. To obtain the MLR, one simply calculates the average number of words constituting a response, in this case, any unit marked off from the preceding and succeeding remarks by pauses.

Third, gains in diversity of language used to describe a circus were also measured by looking at the language of the children's stories. For this purpose, the type-token ratio (TTR), the ratio of different words (type) to the total number of words (token) in a language sample, can easily be calculated (Loban, 1963).

Across all three measures, analysis of pretest results demonstrated that both groups were comparable at the beginning of the read-aloud program, i.e., no significant differences between the groups were demonstrated. Table 1 (following page) presents the pretest and posttest results for the read-aloud and control groups.

Following treatment, differences between the two groups were evident. Students in the read-aloud program significantly increased their knowledge with regard to circuses over students in the control group. Furthermore, students in the read-aloud program displayed significantly greater maturity in the language they used to describe their circus picture story. Students in the two groups showed no differences in linguistic diversity, however, following the treatment. Table 1 documents these findings as well.

It occurred to us after the fact that the TTR was an inappro-

Table 1
Pretest and Posttest Results for
the Read-Aloud & Control Groups

Pretest:

Measure	Group				
	<u>Treatment</u>		<u>Control</u>		<u>t</u> ^a
	Mean	s.d.	Mean	s.d.	
Art	5.85	2.51	5.31	3.48	.49
MLR	5.83	1.96	5.07	1.51	2.05
TTR	.57	.13	.54	.12	1.00

Posttest:

Measure	Group				
	<u>Treatment</u>		<u>Control</u>		<u>t</u>
	Mean	s.d.	Mean	s.d.	
Art	8.38	3.60	4.69	3.45	3.14**
MLR	6.50	2.17	4.76	1.19	2.55*
TTR	.58	.09	.56	.11	.56

^adf = 24*p < .05.**p < .01.

priate measure of vocabulary growth in this experiment, for what the read-aloud group actually did was to narrow their choices of words to circus-appropriate vocabulary, not expand their vocabulary overall. The control group, on the other hand, behaved on the posttest as they did on the pretest; they exhibited great diversity in their word choices, including many words which were not circus-appropriate. To see if this observation was accurate, another test was devised, whereby another undergraduate class in education was asked to prepare a glossary of circus terms. From these glossaries, the 25 most frequently-mentioned words were selected for one scoring glossary. Pretest and posttest stories were reevaluated according to this glossary. Where no significant difference between treatment and control pretests appeared, t (24) = 1.05, p > .05, a significant difference between posttests, favoring the treatment group, did appear, t (24) = 4.48, p < .001.

Discussion

Both the preceding account and the enthusiastic reports of the children in the treatment group suggest the experiment was successful. First-grade children in the treatment group widened their knowledge base measurably vis-à-vis the topic of circuses, by their

participation in the read-aloud program.

We thought a treatment of this sort might be particularly valuable for keeping below-average students or non-readers knowledgeable about science, social studies, and other curricular content, while such students master basic reading skills. Students might certainly be able to extend their knowledge in ways not heretofore open to them, while enjoying the more subjective but quite apparent pleasures of listening to books read aloud.

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A COMPARISON OF SYNTACTIC STRUCTURES IN FIRST-GRADERS' ORAL AND WRITTEN LANGUAGE

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If language development is viewed as an integrated process involving both expressive language abilities (speaking and writing) and receptive language abilities (listening and reading), then knowledge of similarities and differences among these four language arts is needed for an understanding of language as an integrated process. Analysis of syntax, or sentence structure, is one means of describing linguistic utterances and thereby provides a means for noting similarities and differences among language samples. The present study was undertaken to compare syntactic structures in oral and written language.

Early studies of children's language considered total length of response (Bear, 1939; Hoppes, 1933), sentence length (Hoppes, 1933); McCarthy, 1954), and use of complex sentences (Bear, 1939; Hoppes, 1933) as measures of language growth. Within the last two decades, studies (Chomsky, 1969; Hunt, 1967; Loban, 1963, 1976; Menyuk, 1963; O'Donnell, Griffin, & Norris, 1967; Perron, 1977) have focused on syntax. Preference for T-unit analysis, a measure of syntactic complexity, has also been expressed (Hunt, 1967; Loban, 1976; O'Donnell et al, 1967).

A T-unit is a main clause and all subordinate clauses attached to it. T-unit analysis can be advantageous when studying the syntax of children's utterances because identification of their clause boundaries is often less difficult than determination of their sentence boundaries.

In the past it was thought that by the age of six the child had acquired most adult forms of syntax and grammar (Carroll, 1960). Later research, however, has shown this not to be true. Chomsky (1969) found that syntactic acquisition takes place up to the age of nine and possibly beyond.

Based on T-unit analysis, the following changes have been found to occur in syntax and are considered measures of language growth: 1) an increase in the number of words per language sample (Loban, 1963, 1976; O'Donnell et al, 1967); 2) an increase in the number of T-units per language sample (Hunt, 1967; Loban, 1963, 1976); 3) an increase in the number of sentences per language sample (Menyuk 1963); 4) an increase in the number of words per T-unit (Loban, 1963, 1976; O'Donnell et al, 1967); 5) an increase in the number of words per clause (Hunt, 1967; Loban, 1963, 1976); and 6) an increase in the ratio of clauses per T-unit (Hunt, 1967).

When comparing oral and written syntax of elementary school

children, both the O'Donnell et al study (1967) and the Loban study (1976) offer a number of insights. O'Donnell et al found oral responses were longer than written responses, third graders' oral syntax was more complex than written syntax, and from fifth grade on, written syntax was more complex than oral syntax. Thus, during the early elementary years, oral syntax was found to be more complex than written syntax. Loban also found oral syntax more complex than written syntax in the early elementary years. In average number of words per communication unit, oral language exceeded written language. This was also true when considering the number of dependent clauses per communication unit and the number of words in dependent clauses as a percentage of words in communication units. In addition, Loban found a greater proportion of noun, adjective, and adverb clauses in oral than in written language.

Results from the above studies brought forth the following question: If an elementary program included writing activities from the beginning of first grade, might students' written language be as syntactically complex as their oral language? A review of the literature found no study in which a comparison of syntactic features had been made between first-graders' oral and written utterances. The purpose of the present study, therefore, was to compare the same subjects' oral and written language samples. Using T-unit analysis, 19 first-graders' oral and written language samples were compared to determine similarities and differences in specific syntactic structures.

Description of Procedure

The children in this study began formal instruction in reading in first grade and began creative writing during the fall of the same year. The emphasis in the creative writing activities was on self-expression, rather than on the "correct" use of grammar and spelling. The grammar, however, revealed relatively few deviations from standard English, and the spelling differences showed some understandings of letter-sound correspondences. Creative writing was not the focus of the first grade curriculum; rather, it was incorporated as another important component of the reading/language program.

Pupils were divided into two groups according to a table of random numbers. Group A consisted of 10 students; group B consisted of nine students.

Two weeks prior to the study, students were given the Gates-MacGinitie Reading Test, Primary A, Form 1, by their regular teacher. This test yields two scores, vocabulary and comprehension. Although these children were first graders, the majority of students scored between high second and low third grade reading levels. The mean grade equivalent for group A was 3.13 on the vocabulary section and 3.15 on comprehension. For group B, the mean was 3.0 on vocabulary and 3.07 on comprehension.

The researcher was introduced to the students two weeks prior to the study and frequently visited the classroom and took part in activities in order to establish rapport with the students.

The study was conducted on two separate days, at which times students were shown parts of two filmstrips, each with a narrated

recording accompanying the story. Norman the Doorman was shown on Tuesday, and The Cow That Fell in the Canal was shown on Thursday.

On Tuesday, group A saw Norman the Doorman as a group. The filmstrip and recording were stopped part way through the presentation and students were instructed to write an ending to the story. There were no time limits. Pupils were asked to write without talking aloud or discussing the story among themselves. The pupils were instructed to spell in the best way they knew, and to raise their hands if they wanted help with spelling. The researcher supervised while students did their writing.

Also on Tuesday students from group B viewed Norman the Doorman, but did so on an individual basis and in a separate classroom. The filmstrip and recording were stopped at the same place as they were stopped when being presented to group A. Each member of group B, however, was asked to relate orally his/her ending to the story. The researcher recorded these oral endings on tape and later typed them.

On Thursday the same procedure was followed with the story The Cow That Fell in the Canal, but the assignments were reversed. Group A viewed the presentation on an individual basis, in a separate classroom, and were instructed to orally supply an ending to the story. Students in group B viewed the filmstrip as a group and were instructed to write an ending to the story. Again, the filmstrip and recording were stopped at the same place for both groups.

Thus each student contributed one written language sample and one oral language sample. These language samples were then organized into two groups—one was all written passages, the other all oral passages. T-unit analysis was then performed on each language sample to determine the following: number of T-units per language sample; number of words per T-unit; number of adjective clause; number of adverb clauses; number of dependent noun clauses; and, total number of clauses per T-unit.

TABLE I

	Oral		Written		T-Value
	Mean	Stan. Dev.	Mean	Stan. Dev.	
# T-units per passage	11.47	22.22	5.53	7.10	-1.07
# words per T-unit	6.81	2.73	7.79	2.80	+1.24
# adverb clauses per T-unit	.02	.05	.14	.22	+2.51*
# adjective clauses per T-unit	.06	.13	.04	.10	- .54
# dependent noun clauses per T-unit	.08	.23	.11	.21	+ .45
# total clauses per T-unit	1.16	.34	1.30	.30	+1.13

* Significant at .05

Results

Concerning the number of T-units per passage, the mean for oral language samples was more than twice the mean for written language samples. Students were more verbose when responding orally than when responding on paper. However, concerning the number of words per T-unit, the number of dependent noun clauses per T-unit, and the total number of clauses per T-unit, the means were higher for written passages than for oral. Only in number of adjective clauses per T-unit was the mean higher for oral passages than for written. There was one significant difference; in number of adverb clauses per T-unit, the mean for written language samples was significantly higher ($p < .05$) than the mean for oral language samples.

Discussion

This study sought to determine if the writing samples of first graders who had been involved in creative writing activities would be as syntactically complex as their oral language samples. With the exception of number of adverb clauses per T-unit, oral and written expression was found to be similar in syntactic complexity.

These findings raise the following issue: could early involvement in writing activities contribute to early syntactic maturity in written expression? Research based on actual classroom activities and early elementary language programs is needed in order to answer this question. The findings of the present study are limited and can therefore only suggest a need for further research. The sample size was small and the group was somewhat atypical, in that all children were reading above grade level as early as first grade. There were undoubtedly a number of factors contributing to the language abilities of these students. For example, informal observations revealed the following: The teacher was a very warm, caring individual. The classroom was inviting, filled with objects and displays of student work, and contained a variety of reading materials and teacher made games. Writing was encouraged and teacher comments concerned story content rather than attention to standard grammar and standard spelling. Children were frequently invited to the board to write a sentence about an unexpected classroom event. The teacher took advantage of "the teachable moment."

Conclusion

We have much to learn about the processes involved in language development and about their relation to classroom instruction. And equally important, we need to develop strategies which facilitate those processes. If language development is an integrated process, then we need strategies which are holistic in nature, which require the student to actively participate in the use of language in all its forms—listening, speaking, reading, and writing.

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REFERENTIAL QUESTIONING: A STRATEGY FOR ENHANCING THE READER-TEXT INTERACTION

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Current theories portray reading comprehension as a dynamic process which involves an interaction between the reader and the text (Anderson, Spiro, & Montague, 1977). Comprehension, then, can only take place when readers actively contribute their own knowledge and background of experience to the printed page. Yet, many readers do not make maximal use of this interactive process while reading. Instead, they tend to respond to textual material by compartmentalizing it, treating it as something entirely new, and separating it from their prior knowledge as much as possible (Spiro, 1977; 1980).

Since readers may not autonomously make these connections, it becomes the responsibility of teachers to promote the reader-text interaction through direct instruction. However, the issue of direct teacher instruction in reading comprehension remains unsettled. Although there may be no definitive answer, some teacher behaviors appear to improve understanding more than others. For example, studies show that teachers who attempt to improve readers' comprehension by asking questions after reading actually assess rather than instruct (Santa & Hayes, 1981). With some current practices, teachers seemingly spend an inordinately small percentage of time in direct comprehension instruction, believing themselves to be instructing, when in reality, they are evaluating (Durkin, 1979). It would appear that teacher questioning alone is one of the least effective methods for enhancing the reader-text interaction and, subsequently, increasing comprehension.

Strategies are needed which enable teachers to promote this reader-text interaction by establishing a connection between the concepts to be taught, the vocabulary necessary to teach them, and the experiences of the readers who are to learn them (Tierney & Spiro, 1979).

One such instructional strategy which helps to make this connection is called Referential Questioning, which requires that the teachers ask readers several questions about the concept to be learned that relate directly to their own prior experiences. This is done while continually explaining the connections between student responses and the target concept or main referent—thus the name, Referential Questioning.

The Referential Questioning strategy for concept development employs a combination of metaphor, analogy, and the Socratic method. Its major advantage is its reliance on metaphor, a powerful instructional tool eliciting the vivid imagery which encourages memorability (Ortony, 1975) and on analogy, an effective advanced strategy for producing transfer (Royer & Cable, 1975; 1976). Additionally, associations developed by means of this strategy serve as mnemonic devices for long-term retention. For instance, readers may have difficulty remembering what longitude is, but familiar student-generated associations such as "It is like a telephone pole" or "It's an upright pencil" may serve to facilitate recall.

As an approach to teaching concepts, Referential Questioning assumes that the questions a teacher asks can help readers activate their existing knowledge about a text to be read and facilitate, by means of association, the learning of new concepts and terms. What follows, then, is a rationale for the use of the Referential Questioning strategy. Question types are described and examples provided. Finally, an example of how the Referential Questioning strategy can be used within the context of a lesson is described.

The Strategy

Morphemic/Semantic Question

First, teachers ask a referential question requiring readers to see likenesses and differences in the morphemic or semantic elements of words. Readers must then engage in a recombining process, comparing the unknown to the known by relating the new word to some other words that they already know and understand. For example, if teachers want to pre-teach the concept of "subterranean" as it relates to subterranean cultures existing in the insect world, they would display the term and ask, "What are some familiar word parts you notice?" Readers might respond with a word part such as "sub, which is found in submarine, suburban, or subheading." Such responses would allow teachers to generate other questions, e.g., "What differentiates submarines from other ships?" "Where are the suburbs in relation to the city?" and "Where do insects make their homes?" By asking questions, teachers help readers draw appropriate conclusions which expand their general and technical vocabulary, both spoken and printed. By writing responses on the chalkboard, teachers help readers to note the morphemic and semantic similarities among the words named and to associate the meanings of the parts of words which are similar. In basic form, then, this referential question asks something similar to the following: "Do you notice anything familiar about that word?" or "What are some other words you know with similar parts?"

Metaphor/Analogy Questions

Two other types of referential questions are now posed, one requiring a direct analogy followed by one requiring a personal analogy. Teachers next formulate a referential question requiring a direct analogy. For example, a question concerning subterranean cultures might be, "What are some familiar occurrences which can be compared to this concept?" The students may suggest any number of likenesses, such as: "It's like being a cave dweller in pre-

historic times"; "It's like finding your way around when the lights go out"; or "It's like a subway in New York City." Teachers write the more salient responses on the chalkboard. Here again, the initial stimulus question provides a starting point for teachers to generate additional questions from the readers' responses and to further draw parallels to the concept being learned. Thus, teachers serve as mediators by helping readers "make the strange familiar" (Gordon, 1973). The basic form this referential question of direct analogy takes, then, is similar to: "What familiar object (person, event, feeling) is this like?"

Next, a third referential question is asked to elicit a personal analogy or a metaphor, a description concerning the actual feeling and identification with a thing, a person, an event, a concept, a plant or an animal. Gordon (1973) referred to this analogic form as the "be the thing" strategy since it requires an empathic response on the part of the reader. A typical question of this type on the topic, subterranean culture, might be, "How do you think this sensation might feel? Describe your feelings. Be the thing." Students' responses might include, "I feel damp and cold"; "I hear footsteps overhead"; or "We're groundhogs in winter." Teachers continue to elicit personal involvement from the class while directing the responses back to the main referent, subterranean cultures. Thus, this final referential question takes a form similar to: "Imagine that you could be described in these terms." "How would you feel?" "Be the thing."

Referential Questioning in an Instructional Lesson

Pre-Reading Stage

Step one: Define term. Teachers focus on one concept, usually textually explicit in nature. An example on the topic of rock layers will be used.

aquifers: rocks which store water in connected pores and through which water can pass freely.

It should be noted that supplying a definition to a new concept is often where pre-teaching instruction ends.

Step two: Morphemic/Semantic Question. Next, teachers ask a series of referential questions concerning the concept and write all the relevant responses on the board. The first type of question is asked: Do you notice anything familiar about aquifer? What are some other words you know with similar parts? Readers might respond with the following words from their experiential background:

aquanaut	aquaplane	aquamarine
aquarium	aquatic	

Here, teachers will want to add any additional information thought to be unknown to readers. In this instance, they may not know that "fer" derived from the Latin ferrum, is also a portion of the word ferrous, meaning "containing iron." A discussion ensues with readers examining their responses in relation to the key concept, "aquifer."

Step Three: Direct Metaphor/Analogy Question. Next, teachers ask readers an analogic type of referential question: To what familiar object, person, event, feeling can "aquifer" be compared or contrasted? Responses might include:

"It's like a paper towel because water can pass through it."

"It's not like iron because water cannot pass through it."

"It's like a sponge since it has pores and holds water."

"It's not like a baseball because a baseball is hard and nonporous."

Step four: Personal Metaphor/Analogy Question. Finally, teachers ask readers to relate personally to the concept. For example teachers might ask: "Imagine that you could be described in these terms. How would you feel? Be the thing." Readers may answer in the following manner:

"I feel transparent."

"I'm a piece of Swiss cheese."

"I don't feel opaque."

"I'm an oil filter."

"I feel loose and free."

"I don't feel tense and restrained."

After the referential questioning stage is completed, the board now displays several associations developed by the class about the concept. These associations contain all the relevant and meaningful responses the teacher feels will assist in clarifying the concept. Discussion, if necessary, can clear up any confusion on the part of readers. This information is recorded by the readers in their notebooks before proceeding to the next concept.

Reading

Step Five: Recording and Reading. The class begins reading the textbook selection. While they are reading, they derive from their text any new information not previously mentioned and add it to the existing associations recorded in their notebooks. For instance, readers may add the following information from the textbook:

"The porous openings must be connected in order to flow. Most aquifers are made of sandstone, limestone, or sand."

Post-reading

Step Six: Final Synthesis. At the conclusion of the reading, teachers return to each concept and discuss the textbook additions. For reinforcement, the class is asked to create analogies based on the information (text or personal) they have acquired. For example, some representative analogies might be:

aquanaut is to aquifer as submarine is to subterranean

aquifer is to impermeable as transparent is to opaque
 sponge is to aquifer as baseball is to nonporous rock
 free is to aquifer as restrained is to impermeable rock

In summary, it can be seen that Referential Questioning as an instructional strategy requires three events: (1) the use of a combination of morphemic/semantic and metaphor/analogy questions in the pre-reading stage; (2) the recording of new, explicit textual information in the reading stage; and, (3) the synthesis of both textual information and student-supplied information in the post-reading stage. The steps are sufficiently simple for anyone to use, yet the questions and the resulting discussions can be as complex as necessary to achieve understanding and retention of information. Further, a strategy like Referential Questioning would be appropriate for many concepts in any subject-matter area.

Referential Questioning is an attempt to explain new textual information to be encountered in terms which come from the students' own experiential background and, thus, enhance the reader-text interaction. Simply explaining a word in textbook or dictionary terms, or asking questions which assess rather than instruct are inadequate to insure comprehension. Teachers should use the prior experiences of readers as a foundation for learning new information. By doing so, learning becomes more relevant, more pleasurable, and more certain.

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HELPING CHILDREN CONSTRUCT MEANING: COMPREHENSION STRATEGIES THAT WORK!

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There has been widespread concern that students in today's educational system are not comprehending what they read. Reading comprehension can be taught (Durkin, 1978-79; Pearson & Johnson, 1978); however, Durkin reports that almost no comprehension instruction was found in grades three through six. Less than 1% of classroom time was spent on direct instruction in reading comprehension. Durkin further reports that an adequate definition of reading comprehension instruction could not be found in research reports or other educational publications. Lack of comprehension instruction may be due to the fact that teachers have not acquired an adequate understanding of reading comprehension; consequently, do not have a knowledge of the appropriate instructional strategies that develop children's comprehension of text. What can be done to improve classroom instruction in reading comprehension? First, teachers need to acquire some basic concepts about the comprehension process. Second, teachers need to learn instructional strategies that develop children's comprehension. Third, teachers need to implement these strategies so that children's comprehension can be improved. The purpose of this article is to provide the classroom teacher with a good grasp of comprehension as well as suggest specific instructional strategies that enable children to comprehend text.

Concepts about the Comprehension Process

Seven basic concepts are posited regarding teachers' understanding of the comprehension process.

1. Comprehension is an active process which requires the reader to think about the author's message; deciding whether to accept, reject, or modify the author's ideas.
2. Comprehension is tying the "old" with the "new" (Pearson & Johnson 1978). To comprehend the text, the reader relates the knowledge (old information) s/he presently possesses to the author's ideas (new information).
3. Comprehension is a conversation between the reader and the author (Pearson & Johnson, 1978). Through a formal medium of communication, the author discusses his/her thoughts and ideas about a subject. The written word tends to be more precise than the spoken word, but it is simply another way to communicate ideas.
4. Comprehension involves making inferences (Pearson & Johnson, 1978) or what Gray (1960) identified as reading between the lines.

Much of the author's message is not explicitly stated in text, but rather it is implicitly stated.

5. Comprehension is a constructive process which requires the reader to integrate information both within and across sentences to reconstruct a model of text (Goodman, 1976). The reader is required to sequence ideas, thoughts or events as well as to identify specific relationships in the text.

6. Comprehension is directly related to the reader's prior knowledge of the information presented in text. The more the reader knows about the topic to read, the greater is the reader's chances to better comprehend the text. Comprehension achievement is enhanced by the reader's prior knowledge (Pearson, Hansen & Gordon, 1979).

7. Comprehension is directly affected by the reader's interest and motivation. Children have been able to comprehend materials at their frustration levels due to their interest, enjoyment, and prior knowledge about the author's message.

The following strategies are based on the seven concepts listed. Each of the suggested strategies actively involves children in the reading task, integrates the children's knowledge with that of the author's, develops the concept of communication (reader and author), initiates children in thinking while reading, and motivates children to develop an interest in reading.

Directed Reading - Thinking Activity (DR-TA)

The DR-TA (Stauffer, 1970) capitalizes on the interests and the motivation of the reader by initially involving the reader with print. In this activity, the children are given a text and are asked to read the title and make predictions about what may happen in the story. To help children develop hypotheses, the teacher asks such questions as "From reading the title, what do you think will happen in the story?" or "Without reading the story, what do you think the story will be about?" Children should be given an adequate amount of time to develop their hypotheses as well as to justify them. Group interaction should be encouraged while the children are developing their hypotheses. Interaction will allow children to rethink and if necessary, revise their hypotheses.

The second step requires the children to read silently a portion of the story for the purpose of checking the accuracy or inaccuracy of their hypotheses. At this point, the children are told to read to check if their ideas were correct and note those places in the text that support their hypotheses.

The third step allows the children to "prove" their hypotheses through discussion and oral reading of the text. The teacher can ask the following questions to initiate interaction:

- (1) "Was your prediction correct?" and
  - (2) "What part of the story supports your prediction?"
- Read the sentences that prove your prediction."

At this point, the teacher asks the students to make further hypotheses about the story plot. The following questions may stimulate the children's thinking:

- (1) "What in the story makes you think...?"
- (2) "Why do you think these events will occur?"
- (3) "What are some possible outcomes to the story?"

The children are being asked to reason about what they know about the world and what they have just acquired from text to develop further insights into the story plot. Hypotheses are again made by each child. The children can read to the conclusion of the story or to another predetermined point in the text. While reading, the children are to keep their hypotheses in mind. Discussion about the children's hypotheses and the story's outcome occurs after the silent reading.

To develop a DR-TA the teacher divides the story into two or more segments. Dividing the story into segments should be logical, where the story action may rise or fall or where alternative events could occur. However, if there are too many divisions made in the text, the predicting, reading, and proving procedure may become monotonous and lose its effectiveness in engaging children to think while reading.

The DR-TA requires the child to think before and during the reading of text. A child makes inferences by developing hypotheses and proving or disproving them. The prediction process provides for the child's involvement and captures the child's interest by bringing about a continual check of predictions. The child is guided in constructing the author's message at each segment of the story through discussion of the accuracy of earlier predictions and through developing predictions according to new information given by the author.

Cloze Procedure

The cloze procedure is a strategy that enables the student to reconstruct a model of text. While reading the passage, the pupil is reconstructing meaning by predicting the words that have been deleted from the passage. A specific example will better illustrate the students' task during the cloze procedure.

The computer put Ollie exactly where he was - behind home plate. Barney was best suited to first 1, Mike to second. Herbie 2 shortstop, and Billy to 3 base —the same positions 4 were already playing. There 5 a change in the 6.

(Philbrook, 1978, page 414)

The author's exact words for the preceding passage are listed here in the order they appear in the passage: (1)base, (2)to, (3)third, (4)they, (5)was, and (6)outfield.

To construct a cloze passage for comprehension instruction, the teacher deletes those words that may be detected by means of context clues. Used for instructional purposes, the teacher does not have to adhere to the rigid guidelines established for purposes of readability; i.e., the teacher deletes those words which fulfill the instructional goals. Too many deletions within a passage may hinder the child's ability to predict from context. If the passage is 250 words in length, no more than 50 deletions should occur.

It is further recommended that the entire first and last sentence remain intact to facilitate comprehension.

Direct teacher instruction is vital for this procedure to be effective in developing comprehension, regardless of grade level (Bortnick & Lopardo, 1975; Rankin, 1977). A teacher needs to guide the child through the thinking, reasoning process when making responses to the deletions that appear within the passage. Help the student to use the context when making responses. For example, have the child read to the end of the sentence before s/he predicts a response.

If students have not been exposed to the cloze procedure, the following instructional sequence is suggested. The teacher should work with the group of students who will be completing the cloze exercise. The teacher reads the entire passage aloud while the students have the exact passage in front of them. The entire passage is read to serve the function of previewing, enabling the reader to construct an overall understanding or "gestalt" of the passage. Through group discussion, the students predict appropriate responses for each deletion in the passage. Typically, the student will predict more than one logical response per deletion. At this point, the teacher and the group of students should discuss each of the given responses. Questions that may enhance learning are:

- (1) "Which of the responses seem to be closest to the author's implied meaning of the passage?"
- (2) "Which responses are very close in meaning?"
- (3) "Which responses are quite different in meaning?"

The purpose of the discussion is to illustrate to the students that many responses are logical and may provide similar meaning of the passage. When the cloze passage is completed, the teacher should provide feedback; i.e., provide the exact responses the author used in the passage. Comparison of the author's and students' choices of responses should be discussed. The discussion should center around this question, "Where in the passage are the author's responses more appropriate than the students' responses?"

When students understand the cloze procedure, then the teacher can provide cloze passages for an individual or group of students to do without direct teacher instruction. Even when an individual or group of students complete this exercise on their own, feedback must be provided. The student or students must be able to compare their responses to the author's exact words used.

The cloze procedure requires the child to construct the author's message by predicting appropriate responses for deletions within the passage. The child develops an understanding of reading as communication by comparing his/her responses to the author's words.

Analogy

Analogy is a comparison between two ideas, events, or concepts. The purpose of an analogy is to provide clarity about a new idea so a better understanding can develop within the reader. How can an analogy be effectively used so comprehension is facilitated?

In a basal reader published by Houghton-Mifflin, a story about Harriet Tubman appears. The focus of the story is Harriet Tubman's involvement with the underground railroad. The concept of underground railroad may not be clearly understood by children, since most children have not experienced captivity and immobility which was an integral part of black slavery. The teacher's implementation of analogy may serve as a vehicle for a better understanding of the underground railroad which may facilitate children's comprehension of the basal story. The following analogy about the underground railroad may provide children with a bridge to understanding.

The underground railroad could be compared to a modern day situation—the smuggling of Mexicans across the American border. Presently there is a large group of people who are actively engaged in providing Mexicans with access to the U.S. This large group of people provide the Mexicans with specific routes to travel, places to stay while enroute, and illegal papers to remain in the U.S. The same basic idea happened many years ago during slavery where the underground railroad was made up of many people who helped the slaves escape to the northern part of the U.S. The people of the underground railroad would provide the slaves with the necessary knowledge of routes to travel and places to stay while the slaves journeyed for freedom in the North.

The events (Mexican smuggling and underground railroad) have similarities as well as differences. The Mexicans can not legally obtain the means to enter the U.S. and use an underground network to obtain entry. The slaves could not leave their masters for fear of brutal punishment and had to obtain the assistance of the underground to enter the North. In both events, Mexicans as well as slaves risk their lives. The Mexicans may be shot by border police or may die from the strenuous journey. The slaves also had a strenuous journey and could be shot by slave owners for escaping. Differences also exist between the two events. The Mexicans are not slaves but wish to come to the U.S. for a better economic way of life. The slaves were captives who escaped for freedom from a terrible system. The analogy presented is a way of building background knowledge and developing conceptual understanding about the story's main thrust—the underground railroad.

An analogy is a starting point for providing comprehension of text. Caution is important when one uses analogies to reach better comprehension of ideas, events, or concepts in text. Even though they may share similarities, they will have many dissimilarities, as illustrated in the analogy described. But, the great value of analogies is the clarity it can provide to ideas expressed in the text (Warriner, 1957).

Analogy provides children with the means to integrate their "old" information with "new" information that will be presented in text. The integration of children's understanding of concepts with that of the author's will facilitate comprehension.

Schemata

A key to guiding children's comprehension of text is to relate the children's direct and indirect experiences or schemata (Anderson, Spiro & Anderson, 1977) to the author's message. Schemata refers

to the knowledge the reader has in his head about an idea, event, or concept prior to reading the text. The schemata that a reader has acquired interacts with the meaning from text; consequently, textual meaning is positively or negatively affected. The teacher, who initiates pre-reading discussion about children's experiences that are related to the major points of the text, can assess the correctness or incorrectness of the children's schemata. After an assessment has been made, the teacher can begin or continue to develop accurate concepts or schemata about the ideas, events, or concepts in text. Strange (1980) suggests that building on children's prior knowledge may guide children to make predictions from their schemata about the content of the text to be read. He further suggests that pre-reading instruction will help the teacher recognize whether the children's schemata are sufficiently developed so the children can better comprehend the text.

The following example may provide teachers with a strategy for relating children's schemata about an idea, even, or concept to print. If children recently went on a nature hike through prairie lands, and they are to read Laura Ingalls Wilder's book, Little House on the Prairie; prior to reading, the teacher can have the children discuss the things they saw, heard, and touched while walking through a prairie. The teacher can have children make comparisons as follows:

- (1) Compare and contrast the things found in a prairie with those things found in a forest, and those things found in a city.
- (2) Compare and contrast a woods to a prairie — land form, vegetation, etc.

Discussion of the children's direct experiences with a prairie may provide insight into comprehending Wilder's book, Little House on the Prairie. Focus on the function of prairies may provide the children with an understanding of the reasons the Ingalls family moved from the woods of Wisconsin to the prairie lands of the West.

Direct or indirect experience, i.e., schemata for the ideas, events, or concepts of the story can create bridges from the known to the unknown, if the teacher guides children to make relationships between their knowledge to the information in print. Pre-reading discussion provides the reader with a focus that may lead the reader to develop a purpose for reading the text.

After the children read the text, discussion commences in which the children compare and contrast their concepts of prairies before and after reading Little House on the Prairie. Discussion after reading the text provides the final link in the chain where the "old" information is linked to the "new" information.

Teachers who develop children's knowledge of a concept prior to reading are encouraging them to be actively involved while reading the text. Relevant experience prior to reading enables children to integrate their knowledge with that of the author's, a process which in turn helps them whether to accept, reject, or modify the ideas. Such thinking while reading may enable children to better

comprehend the text.

A Final Word

The suggested strategies are only a few examples of engaging the reader to be actively involved in the comprehension process. The four strategies provide the teacher with an opportunity to develop children's thinking beyond the literal level, to develop and integrate children's schemata of ideas, events, or concepts found in the text, and to initiate the children's interest and motivation for reading the text. Teachers who understand what reading comprehension encompasses can identify additional instructional strategies within their repertoire that may enable children to better comprehend text. For children to benefit from the teacher's knowledge of the process, teachers should implement the four suggested strategies and other appropriate comprehension strategies. The results should be an increase in children's comprehension of text.

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REDUNDANCY AND READABILITY

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As the chemist trains a full array of analytical instruments and processes on an unknown solution to learn its properties, so too must the language/communication "scientist" bring a variety of theories and tests to bear upon the only partly understood concept of readability. Defined as what makes a text easy or hard to read, readability is somewhat like the unknown solution: a few elements are easily found with simple and superficial tests, but its major components remain elusive. The text and the reader as central determinants of readability have recently become more accessible to analysis as a result of the findings of research on redundancy, the natural overlap of information in language, and on propositional analysis, a strategy for analyzing meaning in a text. Both redundancy and propositional analysis help to reveal the nature of text-reader interaction, and are therefore two of the important missing elements in readability.

Redundancy is, in itself something of an unknown quantity, and a number of researchers have been experimenting on it (Horning, 1979). Several years ago, H. J. Hsia, a Texas Tech communications theorist, clarified several different types of redundancy, providing important insights into the ways in which these different types of redundancy contribute to readability (Hsia, 1977). Hsia's research helps to isolate some of the unknown elements in readability, and these elements look as if they have the potential to bond neatly to the textual analysis system proposed in great detail by Walter Kintsch of the University of Colorado (Kintsch, 1974). Propositional analysis provides a system for objectively analyzing meaning in a text, and may yield a measure of the properties of redundancy described by Hsia. If so, the result will be a much purer analysis of the nature of readability.

Professor Hsia claims, in his analysis, that redundancy enhances communication and is essential to it. This dimension of redundancy makes it important to readability: readable texts communicate to readers, whereas unreadable ones do not. Hsia discusses three major types of redundancy: redundancy within a communication channel, redundancy between two or more channels, and input-memory redundancy. Each type of redundancy facilitates communication, and by implication increases readability.

In within-channel redundancy, all of the information goes from the sender to the receiver through one mode or channel; in the case

of reading, readers use the visual channel. In this channel, the redundancy of the language of the text lies in its syntax, its semantics, and its pragmatics. These three aspects of language overlap with one another and provide a reader with more than one way of getting a given piece of information from the text.

Certain aspects of language-related redundancy have already been investigated. Psychologists (Garner, 1962), linguists (Cherry, 1966) and information theorists (Hsia, 1977) have, for example, conducted detailed studies of the syntactic redundancy of language. Syntactic redundancy is pretty obvious, fixed and easy to measure. A simple sentence illustrates syntactic redundancy: "The boys were eating their lunches." The information that the subject is plural is conveyed by the *-s* ending on the subject, the plural form of the verb, and by the plural form of the pronoun. Syntactic structure and markers provide several ways of getting the information that the subject is plural. This redundancy contributes to reading insofar as it is naturally present in the text and permits readers to get the text's message efficiently.

Unlike syntactic redundancy, semantic and pragmatic redundancy are quite difficult to define and to measure. The problem lies in the lack, until recently, of an adequate means of analyzing semantic aspects of text, especially larger units of discourse above the sentence. Pragmatics still presents a major challenge in this regard, but semantic analyses of the propositional content of texts make meaning far more accessible and measurable now (Lachman, et al, 1979). One such system of propositional analysis is that proposed by Walter Kintsch (1974). Kintsch recognizes the implications of his system of analysis for reading, and has recently begun to write articles addressed to those concerned with reading (Kintsch and Vipond, 1979; Kintsch, 1979). His work helps with readability because it has the potential to isolate and measure the semantic, and perhaps the pragmatic elements of within-channel redundancy, and may contribute to the measurement of input-memory redundancy as well.

Kintsch's psychological research in the area of memory deals with the way people store the meaning of a text and the way they recall it. He offers propositions as the elements which represent the meaning of language in the human brain. Propositions, he says, can be analyzed. Propositions are composed of word concepts, which are abstractions realized in language by words or phrases. Word concepts are written in capital letters in Kintsch's articles, to avoid confusing them with words. The first word concept in a proposition is a relation, and the others are called arguments. An ordered list of these propositions comprise a text base, a representation of the meaning of a whole unit of discourse such as a sentence. Kintsch's studies attempt to validate propositions as meaning units, to show how they are related to standard English prose, and how they affect the shape that meaning takes in human memory. Kintsch often asks his subjects to read a passage and write down what they recall from it, and this format suggests the applicability of his findings to reading and readability.

An example will help to clarify propositional analysis. In one study, Kintsch asked subjects to read the following sentence:

"Romulus, the legendary founder of Rome, took the women of the Sabine by force" (Kintsch and Keenan, 1973). This sentence was constructed from the following ordered list of propositions:

1. TOOK, ROMULUS, WOMEN, BY FORCE
2. FOUND, ROMULUS, ROME
3. LEGENDARY, ROMULUS
4. SABINE, WOMEN

This ordered list of propositions, or text base, provides an abstract representation of the meaning of the sentence. Analyses of longer units of discourse, such as a paragraph or whole essay, can be conducted using this system of analysis, which has been worked out in some detail (Turner and Greene, 1977).

Kintsch's research using propositional analysis suggests several interesting properties of readability. Some of his studies have suggested, for instance, that certain types of propositions make a text easier to read than others, and that certain types of propositions are more likely to be recalled than others. For example, in the Romulus sentence, readers are more likely to recall the first proposition, which is the superordinate proposition in the list, than they are to recall the others, which are subordinate. There are specific and technical definitions for super- and subordinate propositions which need not concern us here.

The key virtue of propositional analysis for redundancy and readability is that it provides an objective system for analyzing the meaning of a text, and therefore, has the potential to give us a method of measuring semantic, and perhaps also pragmatic redundancy levels in a text. So, for instance, it might be possible to say that semantic redundancy is created when the same argument appears twice in a text base, either within a single proposition or in two successive propositions. Much work lies ahead, but an entire line of investigation is now available through the use of propositional analysis.

There are several reasons why this very promising work has not yet been done, and why we are not reporting such research instead of musing about it. First, the elements of propositional analysis are not yet fully understood. Scholars in memory theory (Anderson, 1976; Clark and Clark, 1977) and in artificial intelligence (Lachman, et al, 1979) have criticized Kintsch's research methodology and his conclusion about meaning and memory drawn from the studies he has done. Second, one incurs considerable difficulty with the system when one attempts to apply propositional analysis in a practical situation. Furthermore, other systems of propositional analysis are similarly complex and difficult to use in research without benefit of special training (Fredericksen, 1975 and 1979). Thus, findings by Kintsch need to be replicated, and additional work must be done to make the system of propositional analysis more accessible for readability research. Even Kintsch's sharpest critics agree, however, that propositional analysis studies are quite suggestive of a relationship between meaning and propositions, and this consensus supports propositional elements as key components in readability.

Additional insights concerning readability derive from a second type of redundancy called between channel redundancy by Hsia, which

occurs when the same information is conveyed by two different channels, such as auditory and visual. Redundancy between channels is created, for example, when readers look at a printed text while it is being read aloud to them. Hsia points out that where the information in the two channels is the same, communication is enhanced, and where it is completely different, there is not redundancy at all, and communication is lost.

Between channel redundancy is important chiefly in beginning reading, where it is often the case that readers are looking at a printed text while it is being read to them. In fact, Frank Smith (1978) points out that children learn to read in just this maximum redundancy situation: when beginning readers are read to—that is, when they are looking at a printed text and hearing it at the same time—they are actually learning to read. Fluent readers probably make only limited use of between channel redundancy, except when they are forced to, as is the case in a TV commercial, or in the special case of a very difficult text. Many college students have reported that they "read to themselves" when they don't understand what they are reading. The use of the dual channel creates additional redundancy, and as Hsia has claimed, increases communication and comprehension (Munsell, 1981).

H.J.Hsia's third type of redundancy is most interesting and most relevant both to certain aspects of propositional analysis and to readability. The third type of redundancy, called input-memory redundancy, Hsia defines as: "...the redundancy between the information being processed and the information within the memory system, which may conveniently be termed input-memory redundancy (IMR).... IMR is neither the redundancy among various kinds of information stored in the memory, nor the redundancy between memory and external information, which is infinite; IMR is simply the redundancy between input and memory... ..High IMR, it may be intuitively known, decreases the difficulty and increasing the comprehensibility of a communication (Hsia, 1977, p. 73)." The more readers know about the material they are reading, the higher the IMR will be, and the easier the text will be. In a common sense way, the concept of input-memory redundancy accounts for the fact that it is easier to read a novel than philosophy or linguistics, because in a novel, the IMR is undoubtedly much higher.

IMR is important to readability because it captures a notion that psycholinguists have been talking about in an intuitive way for some time. Frank Smith (1978) and Kenneth and Yetta Goodman (1979) have pointed out that a critical factor in reading ability is what the reader brings to the text, or what is usually referred to as prior knowledge. Prior knowledge naturally enhances the readability of a text because it creates input-memory redundancy. Prior knowledge is the memory part of IMR. But it is clear that prior knowledge, or input-memory redundancy, is just as difficult to define and measure as semantic and pragmatic redundancy, if not more so.

The insights on input-memory redundancy rely heavily on common sense and intuition, rather than on good empirical measures. One way of measuring it that might come to the reader's mind is Cloze procedure (Taylor, 1953) which Hsia mentions. Cloze tests, because

they ask the readers to complete the input with what they have stored in memory, seem to measure input-memory redundancy. Interestingly, Cloze tests have been used as a measure of readability—not surprising if they do indeed measure input-memory redundancy (Klare, 1974). However, Cloze tests are a kind of litmus paper measure of the performance aspect of IMR, and there is much more to IMR than what can be seen in performance. A corollary to Kintsch's propositional analysis potentially provides a much more detailed analysis of IMR.

In his more recent research, Kintsch has been formulating a model of text comprehension and text production, seeking a comprehensive analysis of human language processing. Like others, studying language processing from a global perspective (Tuinman, 1980), Kintsch has formulated the notion of a schema which he defines as:

a representation of a situation or of an event; it is a prototype or norm and specifies the usual sequence of events that is to be expected. Just like other concepts, schemata are fuzzy and imprecise (Kintsch, p.78).

A schema plays an important role in comprehension because it provides an outline of reader expectations into which the meaning of the text can be put. The schema is filled in by the propositions, described above, which represent the meaning of the text. Kintsch gives an example of a schema to clarify the term: the schema for a child's birthday party implies presents and guests. If a person was reading a story about a birthday party for a child, that schema would presumably be brought to bear on the reading. The reader could fill in an outline of expectations with what is actually given in the text. The schema may seem to be more a property of the text, and hence, to belong to within-channel redundancy, but in fact, schemata are generally conceived of as being partly in the text and partly in the reader. In Hsia's terms, the schema resides partly in the input, and partly in the reader's memory. Where input and memory rely on the same schema, redundancy exists and readability increases.

Many other researchers in reading and psychology have been investigating the use of a schema in reading comprehension (Tuinman, 1980). One of the more interesting studies contrasts the schemata for fiction and non-fiction prose (Olson, et al, 1981), and begins to reveal their importance in readability. Olson and his colleagues found that readers rely heavily on their schemata for stories and essays as a base for comprehension, and that readers use a different schema for each of these genres. Thus, not only can the varying types of schemata that readers use be specified, but their function in comprehension is becoming clear:

The basic orientation of the reader of a story is prospective. The reader is looking ahead, trying to anticipate where the story is going. Except at the beginning, where an overall hypothesis is being developed, the story reader tends to relate each sentence to the general hypotheses and predictions that have been developed. In contrast to this, the reader of the essay appears to adopt a retrospective orientation. Each new element in the essay is related to earlier elements. There is little anticipation of what is coming up, except at the most general level. This

difference in orientation on the part of the reader is of course due to the basic difference in underlying structure of these two genres (Olson et al, 1981, p. 39).

Genre-related schemata, then, play an important role in reading comprehension; they are not only part of the essence of the text, per se, but also, they are quite specifically part of what readers have stored in their memory, and they contribute to input-memory redundancy and so facilitate comprehension.

Those factors that facilitate comprehension are the missing and elusive elements in readability, and the types of redundancy and propositional analysis are two of those factors. Redundancy and propositional analysis are elements bound to readability in locations suggested by Kintsch:

readability is not somehow a property of texts, but it is the result of the interaction between a particular text (with its text characteristics) and particular readers (with their information-processing characteristics) (Kintsch & Vipond, 1979, p. 43).

To get a picture of readability, then, both the text and the readers must be analyzed. The text can be analyzed, as suggested here, for within-channel redundancy. Semantic aspects of within-channel redundancy can be analyzed and measured in an objective fashion with the use of propositional analysis. The text can also be analyzed insofar as it provides the input part of input-memory redundancy. Input-memory redundancy addresses the readers and what they bring to the text in the form of schemata. Schemata create input-memory redundancy between the reader and the text, playing a clear role in facilitating comprehension, and so, are themselves important elements of readability. These various elements may have to be spun in the centrifuge and inspected many times before they are fully understood, but the potential for achieving a complete analysis of readability, thanks to Professors Hsia and Kintsch, is now quite strong.

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USING COLLEGE READING ASSIGNMENTS TO IMPROVE READING/THINKING SKILLS

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In recent years institutions of higher education have found the reading ability of many freshman students to be inadequate for college studies. Whether these students are traditional or nontraditional, once they are accepted, colleges have a responsibility to provide these students with some type of remedial or developmental instruction. (Ahrendt, 1975; Moore, 1976).

Many colleges have recognized this responsibility and have established programs specifically for the needs of their students (Power, 1976). Eighty percent of the respondents to Huslin's 1975 survey investigating college and university developmental reading programs indicated that their colleges offered some type of developmental reading program.

The work of Artley (1951) and McKinnon (1976) also demonstrates the need for development and continued refinement of critical reading and thinking skills at the college level. The survey showed that both teachers and students felt that benefit would be derived from instruction in critical reading (Follman, 1970). The work of Shtrogen (1976) also supports the need for development of critical reading skills at the college level.

Purpose of the study

The purpose of this study was to determine whether instruction in certain critical reading skills would improve the overall reading ability of college freshmen. The skills of recognizing assumptions, reasoning deductively, interpreting, drawing inferences, and evaluating arguments were the critical reading skills chosen for inclusion in this study. Besides the primary purpose cited, the procedures used in this study provided opportunities to investigate related questions. Therefore, the data were also analyzed to discover:

1. The effect of training in certain critical reading skills and certain notetaking techniques upon social science grades.
2. The effect of training in certain critical reading skills and in certain notetaking techniques upon growth in critical thinking abilities.

Study materials and design

The study consisted of three experimental groups and one control group. Group I was given study guides which required that students take notes on their social science readings. These guides were developed using the outlining techniques recommended in Seven Reading

Strategies and the PQRSST study method and summarizing techniques suggested by Stator (1977).

Outlining, study methods such as PQRSST, and summarizing have been recognized as high level study or integrative reading skills. They require attention, concentration, skillful reading and putting one's organizational skills into practice. These techniques have been found to improve comprehension skills at various levels. Dechant and Thomas and Robinson (1974) believe that outlining is an aide to retention of details and specifics, and suggests that it improves literal comprehension. Burmeister (174) contends that outlining and summarizing are tools which improve the student's translational skills. Further, Burmeister states that when the main idea is not explicitly stated and the student is asked through an outline or summary to determine the main idea, higher level reading and thinking skills are involved. Under these circumstances, Burmeister feels that the student is doing interpretive reading and is functioning at a higher cognitive level.

Central to the study guides for Groups II and III were questions based on Sanders' (1966) taxonomy of educational objectives. Stauffer (1969), Durrell and Chambers (1958), and Robinson (1961) stress the use of questioning in the development of critical readers. According to Sanders, teachers can lead students to all types of skills in thinking through careful use of questions, problems, and projects. The kinds of questions asked and kinds of activities ingaged in determine what thought processes are used (Burmeister, 1974).

Study guides for Group II consisted of a series of questions on each social science reading. These questions required answers usually no more than a few sentences or a paragraph in length. The questions in these study guides were designed to evoke a literal understanding and response to the materials read. Shepherd (1973), Stauffer (1959), and Wolf et al (1968) feel that critical reading is dependent upon solid literal and interpretive comprehension of the materials which have been read. These questions, then, were at the memory, translation, and interpretive levels of Sanders' (1966) taxonomy and were modeled closely to Sanders' questions.

The purpose of Group III's study guides was to improve the critical reading ability of the students through questions based on their social science readings. These study guides began with an explanation of the critical reading ability to be emphasized in that guide, and a brief summary of the reading assignment. The purpose of this summary was to act as an advance organizer. The summary also acted as an anchoring focus for material and helped relate it to existing cognitive structures. Ausubel (1969) recommends using advance organizers for improving learning, retention, and reading. Indeed, his research found that advance organizers aided college students in their studies. This summary was followed by two sets of questions. The first set consisted of literal level questions modeled after the first three levels of Sanders' taxonomy. The purpose of these questions was to ensure a firm grasp of the specifics and details of the reading assignment. The second set of questions were designed to lead students to read the assignment critically. Again, these questions followed Sanders, but were at the upper level of his hierarchy. Since the kinds of questions asked determined what thought processes are used (Burmeister, 1974; Sanders

1966), these questions were meant to take the student from literal to the analytical and evaluative levels of comprehension.

Group IV, the control group, received no special treatment. They were simply asked to complete all reading assignments as were all the other students.

The study was conducted over one semester at Boston University's College of Basic Studies, which offers a two-year postsecondary educational program designed specifically to serve low-achieving students with marginal pre-entrance credentials (Fogg and Smith, 1976)

After agreeing to participate in the study, the students signed a consent form and were randomly assigned to one of the four groups. Pretesting, using the Stanford Diagnostic Reading Test (SDRT), Blue Level, and the Watson-Glaser Critical Thinking Appraisal (WGCTA), was done during the first week of the study. Study guides were placed in the students' mail a week before the reading assignments were due. The completed guides were due just before the lecture on the reading assignment. Checked guides were returned to the students the day after they were collected. If a student neglected to turn in a guide, turned in an incomplete guide, or a guide which was done incorrectly, an appointment was requested by the researcher. Thus, problems were discussed and resolved. At no time was an answer key or a correct outline made available to the students.

An optional workshop was held for Group I students in which they became familiar with three different types of notetaking techniques (outlining, PQRS, and summarizing). The students were then given a handout which showed how to apply each of the techniques to a specific social science reading. The handout was discussed and the three notetaking techniques were reviewed.

Posttesting used alternate forms of SDRT and the WGCTA, and was conducted during the last week of this thirteen-week study. At this time the students were asked to complete an informal survey in order to determine the students' personal opinion of the effectiveness of the study.

Data analysis

Data were analyzed using analysis of covariance. The differences in pretest and posttest on the DRT (literal and inferential subtests and total score) and the WGCTA (inference, recognition of assumption, deduction, interpretation and evaluation subtests and total score) were compared to determine if there were any significant differences between the experimental and control groups. This analysis of covariance was followed by the Scheffé post-hoc multiple comparison to determine precisely which group(s) made significant gains. The .05 and .01 levels of significance were used for the testing of all research questions.

Results of the study

The study found that the treatment given Group I (notetaking), Group II (literal comprehension), and Group III (critical reading) all helped to improve the social science grades of freshmen at Boston University's College of Basic Studies significantly when compared to Group IV (control) which received no treatment. An analysis of

the data revealed the differences in social science grades between the experimental groups and the control group to be significant at the .05 level, but the treatment groups were not significantly different from each other. Therefore, all three treatments were equally effective in improving social science grades.

When the data were analyzed using analysis of covariance to determine if the treatment and control groups showed any growth in reading ability (literal, inferential, and overall) as measured by the SDRT, it was found that the overall and inferential reading scores improved significantly among the four groups at the .01 level. Literal comprehension scores improved significantly at the .05 level. The Scheffé post-hoc multiple comparison was used to determine which of the four groups improved more than the others. This analysis revealed that there were no significant differences among the four groups at the literal level. However, on the inferential subtest of the SDRT, Groups I (notetaking), II (literal comprehension), and III (critical reading) improved significantly greater at the .05 level than Group IV (control). On the total score of the SDRT, Group II did significantly better at the .05 level than Group IV.

To determine the effect of instruction in notetaking techniques, literal comprehension, and critical reading skills on the critical thinking skills of the college freshmen as measured by the total test score and the subtest scores of the WGCTA, an analysis of covariance was used on the pretest and posttest scores among the four groups involved in this study. The results of this analysis revealed that there were significant gains among the groups at the .01 level for the total critical thinking score, ability to infer and ability to evaluate arguments. Further, significant gains among the groups at the .05 level were found in the students' ability to reason deductively. However, no significant gains were seen in the students' ability to make assumptions or interpretations. The Scheffé post-hoc multiple comparison was used to determine specifically between which groups a significant difference existed. The results of this analysis revealed that there were significant gains among the groups at the .01 level for the total critical thinking score, ability to infer and ability to evaluate arguments. Further, significant gains among the groups at the .05 level were found in the students' ability to reason deductively. However, no significant gains were seen in the students' ability to make assumptions or interpretations. The Scheffé post-hoc multiple comparison was used to determine specifically between which groups a significant difference existed. The results of this analysis revealed that Groups II (literal comprehension) and III (critical reading) did significantly better at the .05 level on the evaluation of arguments subtest of the WGCTA than Group IV (control). On the overall critical thinking score, Group I (notetaking) did better than Group III (critical reading), and Groups II and III did significantly better at the .05 level than Group IV (control).

An informal survey of the participants' reactions to the study and materials in it found the participants to be positive about all aspect of the study. The majority felt that the study improved their social science grades and helped in their adjustment to the demands of college work. However, these students did not see the

relation between the study guides and attempts to improve their critical reading and thinking skills. The guides received high rating for organization and relevancy to class lectures and reading assignments.

Implications of the study

The following implications were drawn from the results of the study:

1. At the postsecondary level, academic progress in the content area, particularly in social science, can be enhanced through instruction in notetaking and outlining techniques, literal comprehension skills and critical reading skills.

2. It is doubtful that growth in inferential reading ability at the college level can be left to incidental learning alone. In this study the analysis of data revealed that growth in inferential reading ability occurred when college students were given instruction in notetaking and outlining skills, literal comprehension skills, and critical reading skills. Those students who received no instruction made no gains in inferential reading ability. Therefore, if teachers expect growth in this area, they should teach to improve the specific skill.

3. It is also doubtful that growth in overall reading ability at the college level can be left to incidental learning. In this study, analysis of the data revealed that growth in overall reading ability was enhanced by instruction in critical reading skills.

4. Growth in critical thinking skills generally, and in the ability to evaluate arguments particularly, is improved through instruction in literal comprehension skills and critical reading skills. When students at the college level are not given instruction intended to improve their critical thinking skills, then improvement is not seen. With treatment geared to promote growth, students do improve their critical thinking skills.

5. The informal survey conducted in this study implies that college students themselves realize the benefits of additional instruction in the areas of reading and thinking skills.

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ORGANIZING FOR DIAGNOSTIC INSTRUCTION IN A READING LAB

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The College of General Studies' Development Center, University of South Carolina, opened its doors for the first time in the fall of 1978. The Center was to provide diagnostic-prescriptive services to all freshmen who were enrolled in GSTD 121, "Effective Reading," as well as to all other General Studies students who wished to improve their reading skills.

There were close to six hundred students in the first semester's operation. The opportunity for a postsecondary reading specialist was unique. The Development Center had no materials, testing instruments, policies, or methods that had to be used or changed. The director started with nothing and "developed" the Development Center. Money, space, time, and cooperation were, of course, all limited; but the opportunity to create a sound, functional, and facilitative program was, nonetheless, real.

There were many decisions to make. One of these concerned the management system of the Developmental Center. With six-hundred students in need of testing, diagnoses, counseling, and prescription, and a support staff of five untrained graduate assistants, an accurate and efficient system was essential.

A review of related literature and research (Flippo, 1979) revealed support for a systems approach to reading diagnosis and prescription (Goldsmith, 1974), support for the matching of reading needs to materials (Kerstiens, 1972), and support for cataloging materials by skills (Eanet, Condon, and Manzo, 1975). The system developed was a card system designed by the director and printed by McBee System (a division of Kimball Systems) especially for the testing instruments and materials selected for the Center. (See illustration)

This system provided a functional method of managing the diagnostic/prescriptive function of the Developmental Center, counseling students, and prescribing, cataloging, and locating materials. Once the system was programmed by the director, it insured the students that materials would be appropriately matched to their levels without continuing intervention on the part of the director. The system also provided opportunity to add skill designations to the Developmental Center's curriculum so that at a later date, study, writing, and math skills could be cataloged and added to the diagnostic/prescriptive system.

The first eight skill designations on the card were from the

Illustration - Card System

TITLE _____											
AUTHOR/PUBLISHER _____											
10 GRADE COLLEGE 9 GRADE 8TH GRADE BELOW COMPREHENSION VOCABULARY FAST READING SCANNING & SKIMMING STRUCTURAL ANALYSIS PHONETIC ANALYSIS WORD PARTS WORD MEANING INFERENTIAL COMPREHENSION LITERAL COMPREHENSION A B C D E F G H I J DIFFICULTY LEVEL SUB SKILLS AND SUBJECT AREA											
PAGES _____ CHAPTER(S) _____ SECTION(S) _____ LEVEL(S) _____ COLOR _____ OTHER _____ A B C D E F G H I J TYPE OF MATERIAL ☐ AUDIO TAPE ☐ BOOKS ☐ KIT ☐ VIDEO TAPE ☐ OTHER _____											
WCHES & SYSTEMS, INC. 6622X											

subskill tests of the Stanford Diagnostic Reading Test, Blue Level, Forms A and B, which we used to diagnose reading skill needs; these skills are literal comprehension, inferential comprehension, word meaning, word parts, phonetic analysis, structural analysis, scanning and skimming, and fast reading. Ninth and tenth skill designations, from the vocabulary and comprehension subtests of the Nelson-Denny, Forms C and D, were included on the card.

There are three difficulty level designations used to select an appropriate difficulty level for each of the materials. The publishers' difficulty level designations were used after being checked with the Fry Readability Scale. We determined the students' grade level designations by their combined literal and inferential comprehension grade equivalencies from the Stanford. Most of the published materials we ordered could be designated, in their entirety, or by certain pages, chapters, sections, levels, or colors into one of the designated skills and into one of the difficulty levels. For example, Jamestown Publishers, one of the largest publishers of postsecondary reading materials, uses similar difficulty level designations. Although the skill designations are different, reading specialists can make those decisions by thoroughly going through each piece of the materials. The management system card was designed to indicate where the designated skill at the prescribed difficulty level can be located in the material. For one piece of reading material there might be many cards, each card indicating use of the material for a certain skill at a certain level.

When the students had been pretested, the graduate assistants made profile sheets of the skill areas using raw scores and stanines, and recorded the instructional grade levels indicated by the Stanford Diagnostic Reading Test, Blue Level. When a student arrived for counseling appointment, the graduate assistant explained the skill areas that showed need for remediation, and, with the student there, prescribed materials by putting the selection needle through the punched hole of the needed skill. When this happened, the cards with materials for that skill fell out. Next, those cards were collected, and the needle was put through the punched hole of the level of difficulty desired. Again, all the cards with materials for that skill at that desired difficulty level fell out. The grad assistant and the student then gathered the remaining cards and examined them to see if the subject area indicated was suitable to the student's interest and goals. Those materials suitable were checked on the student's prescription sheet and demonstrated to the student as part of his or her counseling.

Students were free to use any of the materials prescribed for them, and to allocate as much or as little time as desired to any particular material in their prescription. The rationale was that students would get the most out of the materials they chose to use as long as those materials had been prescribed to match a measured area of need. This would give students the best of both individualized models described by Aron (1978). Aron indicated that the individualized prescriptive model, based on behavioristic learning theory, is a model where students begin with materials at their reading level and follow a programmed prescription based on their skill needs. The individualized personalized model, based on cogni-

tive-field theory, is a model where students self-select materials and self-direct their activities and goals. Successful programs in reading have been developed using both models.

The diagnostic/prescriptive/cataloging/counseling system can be developed and implemented by reading and learning lab directors that serve the needs of students at all levels. Although this particular system was developed for use with college students, there is no reason it could not be used with adult basic education, with elementary, middle, or high school students. All that is necessary are the selection of an appropriate diagnostic instrument to identify specific skill needs and an approximate reading comprehension grade level, the classification of available materials into the skill designations of that diagnostic instrument, and the classification of the same materials by approximate readability levels.

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