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ABSTRACT

This monograph was developed to provide elementary classroom teachers with suggestions for diagnosing several aspects of children's reading abilities and attitudes. The techniques described adhere to diagnostic guidelines set forth in the first part of the monograph and should be useful in regular classroom situations. The remainder of the monograph is organized around the types of questions that teachers typically have about their students as readers: (1) Where should this child be placed for reading instruction? (2) What are this child's strengths and weaknesses as a beginning reader, in terms of general reading ability, and as a content area reader? and (3) What are this child's perceptions of the reading process and attitudes about and interests in reading? A diagnostic strategy or technique that may be helpful in answering each question is provided in the monograph. Eight figures of data and varied information are included; 24 references, and appendixes containing titles and grade level designations for basal reading series, a written language evaluation form, analysis of miscues, and holistic reading assessment forms are attached. (RS)

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Reading Placement and Diagnosis: A Guide for Elementary Teachers

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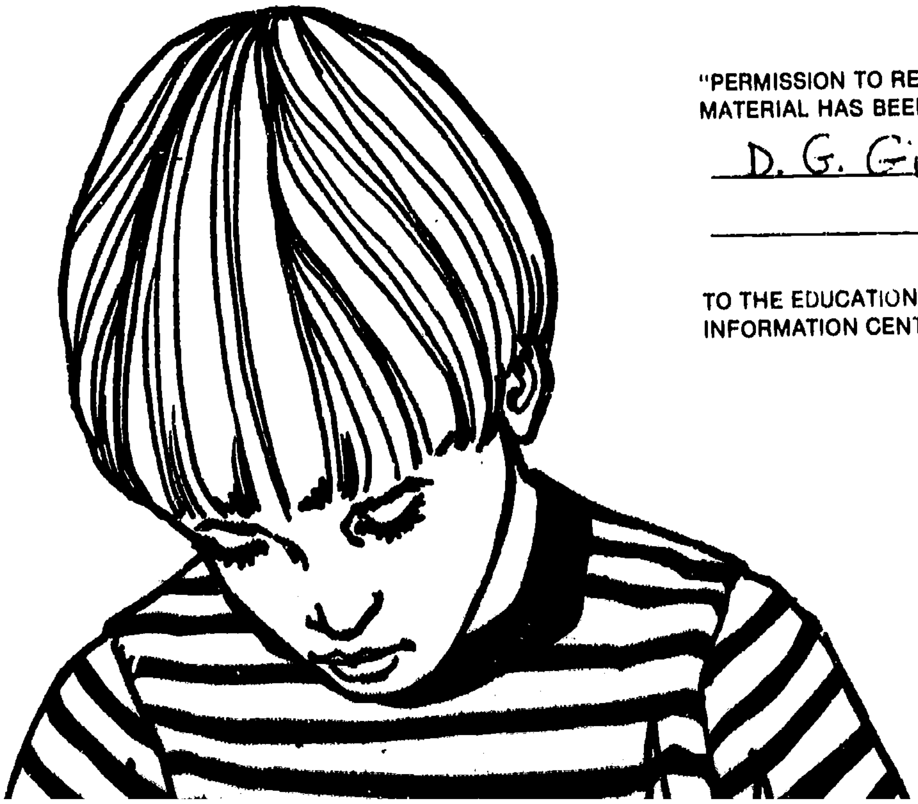

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Reading Placement and Diagnosis: A Guide for Elementary Teachers

Walter W. Naumer, Jr., Chairman
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Introduction

In any school building within any district, the overall goal of elementary reading programs is to help children become competent and avid readers, those who *can* read and those who *will* read. Elementary school teachers develop their classroom reading programs to facilitate growth toward this goal. For the most part, this effort is successful. Most children make admirable progress in reading during each of their elementary school years. They learn to read for a variety of purposes, and they view reading as a pleasurable, satisfying activity.

Not all children are so fortunate, however. Each year, every teacher works with some readers whose abilities, attitudes, and/or interests are not developing with ease. Helping these students become competent, avid readers is a major challenge facing teachers. Understanding these children as readers is the first step toward meeting this challenge. In other words, part of each classroom teacher's responsibility is to find out what strategies nonproductive readers are using and then to use this information for planning instruction that facilitates growth in reading.

Asking questions about children with reading difficulties comes naturally for most teachers. Does this child enjoy and value reading? Why? Does this child understand what the reading process is all about? Does this child read for meaning? Does this child have a workable strategy for identifying unknown words? Are classroom materials appropriate for this child? Finding answers to these questions involves diagnosis, a process that has been called "a kind of detective work, requiring insight, imagination, and judgment" (Gillet and Temple, 1982, p. v). This monograph was developed to provide elementary classroom teachers with some guidelines and strategies for learning about young readers and for unraveling the mystery of reading difficulties.

Diagnostic Guidelines

Like all good detective work, reading diagnosis involves observing what the reader does and making inferences about what these actions mean in terms of the reader's processes, abilities, and attitudes. The diagnostic procedure, then, basically involves seeking answers to three questions: What do I see? What does this mean? What can I do about it? Although the specifics of the diagnostic situation will almost certainly vary across classrooms, several principles or guidelines apply to any reading diagnosis.

Diagnosis should be a continuous process that involves more than simply testing or measuring at a single point in time. In order to fully understand children as readers, teachers need to determine the patterns of reading behavior that children exhibit. During any day in any classroom, children are involved in a tremendous variety of reading activities. They may read textbooks, trade books, reference material, workbooks or any practice material, and magazines or newspapers, for example. These materials may be read for a variety of reasons as well: for enjoyment, for learning, for answering their own questions, for answering the teacher's oral or written questions or for completing assignments. Finally, the contexts in which children read also vary. Children may read by themselves, in informal or formal peer situations, or as part of an instructional group. Drawing conclusions based on one reading situation, then, ignores the complexity and diversity of classroom reading demands.

Effective diagnostic plans should acknowledge the diversity of classroom reading activities. One way to accomplish this is to view diagnosis as the process of forming *hypotheses* about young readers. Teachers can involve children in reading situations designed to uncover their attitudes and abilities and can form hypotheses based on the results. These hypotheses can then be confirmed, modified, or rejected by observing children in other classroom reading situations. In short, no diagnostic measure can provide answers to all the questions teachers have about children as readers. However, diagnostic procedures such as those described in this monograph can be valuable instructional tools. The hypotheses generated through diagnosis can help teachers determine what to look for as they observe children at work in the classroom. Diagnostic hypotheses can provide teachers with a framework for making sense of what they see.

Diagnosis is best accomplished informally. Classrooms are dynamic, interactive environments where children engage in a variety of reading activities. In order to help those with reading difficulties, teachers need a realistic, accurate view of how children operate within the instructional setting. It is for this reason that standardized test results rarely provide useful diagnostic information (Gillet and Temple, 1982; *Becoming a Nation of Readers,* 1985). At their best, standardized tests can provide information about a child's performance in a controlled, timed situation relative to other children's performances in similar situations. Such information may be interesting, but it generally provides little instructional guidance for teachers. A child who scores in the 15th percentile on a standardized reading test may indeed have reading difficulties. (Most often, teachers already know this before the test is even administered.) In order to help that child, however, the teacher needs to know how the child approaches typical reading tasks on a daily basis. In other words, knowing that a child has difficulty is not enough. Teachers also need to know how children operate in classroom reading situations in order to develop hypotheses about possible barriers to reading progress.

Informal diagnosis procedures, on the other hand, can be developed to mirror the instructional setting as closely as possible. Effective diagnostic tools should be flexible, practical, and designed to provide information about how children accomplish *real* reading tasks. Informal diagnostic procedures can be administered as part of classroom instruction or in a simulation of the instructional setting. In either case, they provide teachers with the opportunity to observe children's reading behaviors in everyday situations.

Diagnosis should focus on the whole reader. Classroom diagnosis is ordinarily initiated because of a teacher's concerns about a young reader. Given such a starting point, there is a tendency to focus on finding areas of weaknesses during diagnosis. Knowledge about areas of difficulty is important, but it is equally important to learn about the child's areas of strength or competence as a reader. A diagnostic procedure that yields hypotheses about the reader's strengths and weaknesses is more balanced and realistic than one focusing solely on weaknesses. Furthermore, the reader's strengths can be used as the basis for remediating his/her weaknesses. In other words, by planning diagnosis to uncover what the reader *can* do, as well as what he/she cannot do, diagnosis can provide information about the whole reader that will be useful for helping the reader overcome reading difficulties.

The child's perceptions of the reading process and his/her role as a reader should also be considered as diagnosis is planned. Children use their perceptions of the reading process to guide their actions while reading and to evaluate the success of their efforts. Children who believe that reading only involves saying all the words on the page, for example, may ignore the author's meaning while reading. Furthermore, they will probably feel successful when they've done what they thought they were supposed to be doing, i.e., when they've said the words, whether or not they've comprehended. Of course, helping such children grow as readers must involve helping them readjust their perceptions of the process. The child's perceptions of reading and his/her role as a reader, then, are issues that must be considered during diagnosis.

Finally, the child's attitudes toward reading and interests in reading should be considered. As a general rule, those who enjoy reading choose to read often and have many opportunities to grow as readers as a result. The opposite may also be true: children who dislike reading may avoid reading activities and thus have fewer opportunities to use their abilities. This awareness of attitudes about reading is useful diagnostically and has clear implications for instruction. Reading interests should also be explored so that teachers can plan remedial instruction using materials the child will enjoy reading.

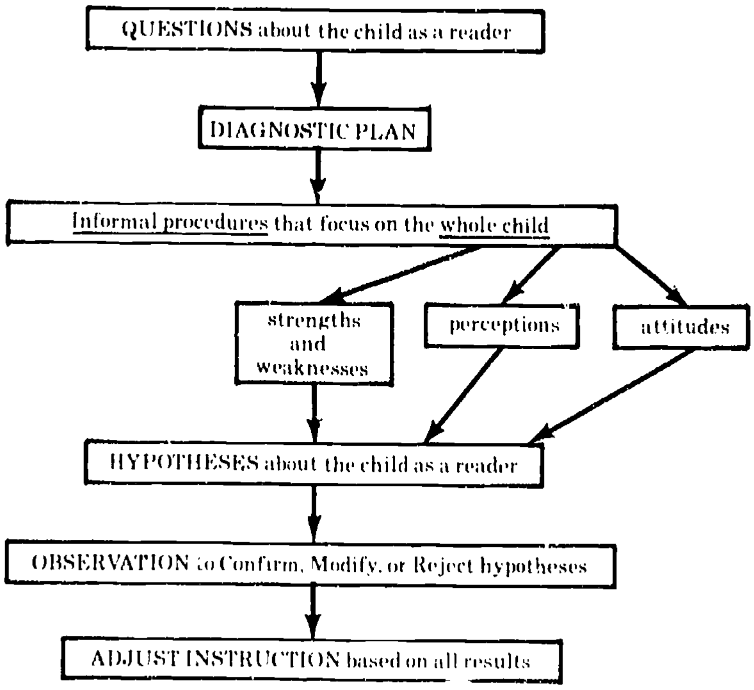
Diagnosis should result in instructional changes. The diagnostic process begins because a teacher has questions about a child's progress in reading. Diagnostic procedures provide the teacher with an opportunity to examine the child's reading behavior carefully. This examination results in hypotheses about the child's reading ability and attitudes, which are then confirmed, modified, or rejected through observation in the classroom.

As questions about ability and attitudes are answered, a picture of the child as a reader emerges. This description has little worth, however, unless it is used for making instructional decisions. As Gillet and Temple (1982, p. 11) point out, "Diagnosis that results in labeling, rather than concrete direction for instruction, is merely an academic exercise as well as a waste of time and resources." Teachers who are not willing to adjust instruction based on diagnostic results should not bother with diagnosis in the first place. Teachers who are willing to base instruction on student needs, on the other hand, may find the information provided in this monograph helpful.

In summary, the diagnostic procedure involves asking and answering three general questions: What do I *see* this child doing in reading? What do these behaviors *mean* in terms of the child's reading abilities and attitudes? What can I *do* in order to help this child grow toward becoming a competent and avid reader? The overall procedure is displayed graphically in Figure 1. Although remedial suggestions that address the final, critical question are beyond the scope of this monograph, the procedures described here may provide a basis for finding answers to the first two questions.

Figure 1

The Diagnostic Procedure


QUESTIONS about the child as a reader
DIAGNOSTIC PLAN
Informal procedures that focus on the whole child
strengths and weaknesses
perceptions
attitudes
HYPOTHESES about the child as a reader
OBSERVATION to Confirm, Modify, or Reject hypotheses
ADJUST INSTRUCTION based on all results

Purpose and Scope of This Monograph

This monograph was developed to provide elementary classroom teachers with suggestions for diagnosing several aspects of children's reading abilities and attitudes. The techniques described adhere to the diagnostic guidelines set forth above. In addition, each should be useful in regular classroom situations. These diagnostic techniques may be helpful for asking and answering questions about children as readers.

The remainder of this monograph is organized around the types of questions that teachers typically have about their students as readers:

- Where should this child be placed for reading instruction?
- What are this child's strengths and weaknesses as a reader?
  - —As a beginning reader?
  - —In terms of general reading ability?
  - —As a content area reader?
- What are this child's perceptions of the reading process and attitudes about/interests in reading?

A diagnostic strategy or technique that may be helpful in answering each question is provided. Finally, the appendices contain additional resources that may be of assistance.

Where Should This Child Be Placed for Reading Instruction?

Instruction in appropriate materials is an important consideration for teachers who wish to help their students grow as readers. Few first graders would benefit from using adult-level materials for reading instruction; the materials would be so difficult that children would most certainly fail and grow to hate reading. Likewise, few sixth graders would grow as readers using simple books like *Hop on Pop*, as they would have little opportunity to stretch their thinking or apply their word identification skills. These are certainly extreme examples, but they illustrate an important point: teachers should be concerned about finding children's instructional levels where they will be challenged to grow as readers, but not overly frustrated.

Current estimates indicate that basal readers are part of the reading program in the overwhelming majority of elementary classrooms (*Becoming a Nation of Readers*, 1985). Practically speaking, then, finding children's instructional levels ordinarily means determining the most appropriate book in the basal series for each child. Teachers are usually concerned about placement at the beginning of the school year, when they are becoming acquainted with a new group of children and preparing to begin instruction. Because the beginning of the school year is such a busy time, many teachers are tempted to place children based solely on the recommendation of last year's teachers or at the spot in the basal program where children "left off" the year before.

Such placement practices assume that children's reading abilities have not changed over the summer and that previous placements were accurate. These assumptions may be appropriate from some children, but they are likely to be inappropriate for others. Because the placement question is generally asked early in the school year, teachers often have no way of judging the appropriateness of the assumptions. A procedure that quickly confirms children's placement can solve this problem. Such a procedure is described below.

This placement procedure is designed to provide teachers with a quick check on all students' reading abilities as well as a chance to learn which children may be overplaced or underplaced. The procedure is an efficient way to gather some information about children. Because it is a rough screening device, however, results should be viewed as hypotheses about children's placement and *should be confirmed through observation* in the classroom. In other words, teachers should use the results to make placement changes that appear to be warranted, but they should observe children's success in basal readers carefully. The steps in the procedure are presented below.

1. **Determine the recommended level.** Get placement recommendations from each child's previous teacher or ask children where they were reading (title and unit) the previous spring.
2. **Prepare a packet of reading selections for each child.** This packet should consist of short selections and comprehension questions from the child's recommended level, from one level above the recommended level, and from one level below the recommended level. Each child's packet, then, would consist of three selections with accompanying questions.

   Most basal reading series include placement tests that contain selections and questions from the various books in the series. This would be a good source for the reading selections. If placement tests are not available, teachers can construct them. (See pages 9 to 10 for guidance in this procedure.)
3. **Administer the selections.** Ask children to read the selections silently and answer the accompanying questions. This can be accomplished in a whole-group situation.
4. **Score the selections.** Students who score in the 70-80 percent range at their recommended levels are probably properly placed. Those who score extremely well or who experience great difficulty may need further testing to determine appropriate placement. Appendix A contains a summary chart that may be useful for recording and summarizing children's scores.

A sample summary chart, from a fictitious third grade classroom, is provided in Figure 2.

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Figure 2

Sample Group Placement Summary

Name	Recommended Level (R.L.)*	+/-** R.L.	Scores			Notes
			-1 R.L.	R.L.	+1 R.L.	
Katie	2-2	2-1—3-1	90	80	60	O.K.
Michael	3-1	2-2—3-2	100	100	100	give 4 & 5
Gary	3-1	2-2—3-2	70	50	40	give 2-2 and 2-1 oral and 2-1 silent
Heather	3-1	2-2—3-2	100	70	50	O.K.
Joseph	4	3—5	100	90	80	O.K. Enrichment?

*Expressed by grade level—2-1 is second grade, first semester book, etc.
**This is the range of levels included in the each child's packet of reading selections.

Based on this group placement procedure, it appears that Katie, Heather, and Joseph may be properly placed, as scores at their recommended levels are acceptable. Michael and Gary, on the other hand, may not be appropriately placed. Michael's perfect scores on all three selections suggest that he may not be adequately challenged at the 3-1 level. Therefore, his teacher has decided to test him further by having him read and respond to the fourth and fifth grade selections.

Gary's scores indicate that he may be overplaced at the 3-1 level. Regardless of his placement during second grade, his teacher fears that the 3-1 reader may be too difficult for him to use as a source of reading instruction. Therefore, the teacher decides to test him further by administering the 2-1 selection silently and other selections at both the 2-1 and 2-2 levels orally. This extra screening should allow the teacher to determine Gary's instructional level more accurately.

At any time during the school year, students from different schools or different districts may join the class. The placement procedure described here may be modified to provide placement information for new children. The first step in such a case would be to consult the child's records (or ask the child) for the series and title of the book used in the previous classroom. The teacher could then consult Appendix B in this monograph, which is a chart that provides grade levels for all titles in most basal reading series. Using this chart, the teacher could determine the grade level of the book used for instruction in the child's previous school. By using the equivalent level from the class basal series as the recommended level, the teacher could then prepare a packet of reading selections for the child and the placement procedure would continue as described.

In summary, the group placement procedure can be a useful technique for answering the question, "Where should this child be placed for reading instruction?" In essence, it is a quick screening device to double-check previous placement recommendations. The procedure relies on silent reading for two reasons, one theoretical and one practical. First, reading is the process of comprehending the author's message. Children's comprehension abilities, therefore, ought to be the major determiner in any placement decision. Second, relying on silent reading makes group administration possible and reduces administration time, which makes the procedure easy to manage instructionally.

The results of this placement procedure should be viewed as hypotheses about children's instructional levels. The procedure allows teachers to make educated guesses about appropriate reading material for children, but results may be inaccurate in some cases. In other cases, factors aside from reading ability (e.g., motivation) may influence children's classroom performance. For these reasons, children must be observed carefully as they begin work in their basal readers. Teachers must change children's placement if observations in instructional settings conflict with placement procedure results. Children will grow as readers if they are adequately challenged but not overly frustrated. *Flexible* groupings based on observations and diagnostic placement results can nurture this growth.

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What Are This Child's Strengths and Weaknesses as a Reader?

Asking questions about a child's reading ability is certainly important. In fact, concerns about reading progress ordinarily prompt the teacher's decision to look closely at the child as a reader. Finding answers, however, is more complicated than asking questions. Poor readers read poorly in many different ways. The key to effective diagnosis is to explore the important aspects of the child's reading ability as thoroughly as possible. The teacher can then form hypotheses about barriers that may be interfering with the child's growth as a reader.

When implemented in accordance with the guidelines described previously, the diagnostic procedures that follow can provide important information about the child as a reader. Before undertaking classroom diagnosis, however, teachers should think carefully about their own views of reading. One way to accomplish this might be to describe or characterize an effective or competent reader at a given grade level. For example, a teacher might ask, "how does a competent _____ grader read? How does he/she approach the reading task? What characteristics describe him/her?" Answers to these questions provide an essential frame of reference for diagnosing the strengths and weaknesses of problem readers. Working from a conception of competence at a given grade level makes it possible to uncover where and how things may "go wrong" for a child with reading difficulties.

Several key theoretical concepts about the reading process underlie the diagnostic procedures described below. One is that reading is a natural, developmental process that begins with (and before) early literacy experiences and grows increasingly sophisticated throughout (and beyond) the elementary school years. Another is that reading is a communication process that is inextricably interwoven with other means of communication such as speaking, listening, and writing.

A final, critical concept is that reading is an active search for meaning. Comprehension is the ultimate goal of reading, and skill in word identification is only a means to the end of understanding the written message. This concept has diagnostic significance in at least two ways. First, strengths and weaknesses in word identification should be viewed in perspective. Excellent decoders who cannot (or do not) comprehend are not reading. Second, diagnostic procedures must be based on *actual reading situations*. Valid answers to questions about any aspect of a child's reading ability can only come from real reading situations. A child's ability to decode nonsense words or to pronounce lists of words provides little useful information about reading ability.

These key concepts about the reading process apply to all readers at all grade levels. However, different procedures are needed at different grade levels in order to answer the question, "What is this child's reading ability?" Accordingly, three sets of diagnostic suggestions are provided below: one for answering questions about beginning readers, a second for answering questions about general reading ability, and a third for answering questions about content-area reading ability.

What Are This Child's Abilities as a Beginning Reader?

In literate societies, most children begin to read between the ages of five and nine (Gillet and Temple, 1982). Some enter school as readers, most begin to read during their first grade year, and some do not begin to read successfully until second or even third grade. The concept of reading as a developmental process is a particularly important one for primary grade teachers. It is as unrealistic to expect all children to begin reading at the same time as it is to expect all children to begin walking or talking at the same time. Some children who appear to have reading problems during their early school years, then, may really have no problems at all. Like Leo the tiger in the children's book, they may merely be "late bloomers."

Though reading generally begins between the ages of 5 and 9, its precursors begin at birth. Children see writing everywhere in their environments. As they try to understand print and to use it, they internalize important understandings about the functions and forms of written language. Children arrive at school already knowing a great deal about written language. In fact, recent research (e.g., Clay, 1975, 1980; Harste, Woodward, and Burke, 1984) has demonstrated that young children know much more about print than most adults realize.

Research about emerging literacy has also provided descriptions of prereading or early reading competencies. Informal diagnosis based upon these competencies can be used to answer questions about young children who are experiencing difficulty with reading. The procedures described below are designed to explore four of these competencies: the child's sense of story, the child's concepts of written language, the child's ability to match speech and print, and the child's ability to recognize written words.

What is the child's sense of story? As young children listen to stories told or read to them, they learn to understand how narratives are organized. Children can use this knowledge to make predictions during reading and to understand and remember what they've read. Teachers can form hypotheses about children's sense of story by analyzing stories that children themselves have dictated.

To obtain the dictation, the teacher should ask the child to "tell me a story." The child's account should be recorded verbatim. After the child has completed the story, the teacher should read it aloud to him/her and then ask if the child wishes to make any changes. Requested changes should be made. Finally, the child is asked to provide a title for the story. (See Stauffer, 1980, for a more complete description of dictation procedures.) Figure 3 contains a story dictated by a five-year-old boy.

Figure 3

The Day I Went to the Circus
by Matthew

> *Once upon a time, there was a boy who said, "Maybe I should go to the circus sometime with my family. And we should see all the clowns, but we should have a good time with some balloons and some lollipops and some gum. And we should sit down in the seats and eat hot dogs for lunch. And we should go to the store and buy us some food and toys. And then we should go home. And then at home, we should read our comic books and play with our toys. Then, last but least, we should throw a party at midnight!"*

The End

Teachers can analyze children's dictated stories by asking the following questions:

- Does the story have characters?
- Is the setting clear?
- Does the story sequence make sense?
- Does the story "tell a story"?

Matthew's teacher analyzed his story by asking these questions and concluded that he has a well-developed sense of story. Matthew's story has characters (Matthew, his family); he's explained clearly both where his characters are and what they are doing. Note that he even begins ("once upon a time") and ends ("the end") his story like many other stories. In short, his story "tells a story."

What are the child's concepts of written language? As children learn to read and write, they begin to think about written language itself. They learn that print, rather than pictures, carries meaning. They develop understanding of "word," "sentence," "line," and many of the other terms we use to talk about written language. They learn that a line of print runs from left to right and that lines on a page run from top to bottom. They learn that the beginning of a written word is at the left and the end at the right. Finally, in order to make sense of instruction, children must understand terms like "same," "different," "first," "last," "top," "bottom," and so forth, in relation to print.

Certainly, such knowledge is an important foundation for reading growth. Young children who experience difficulty in reading may be stymied by these concepts about print and may not understand the language of instruction (Clay, 1975, 1980). Knowledge of children's concepts about written language, then, can be useful diagnostic information.

One way to explore a child's concepts about written language is to involve the child in a series of tasks with a dictated story. Letter recognition can also be informally assessed. The teacher should prepare for the session as follows: 1) print three or four nouns or verbs from the story on index cards; 2) print two sentences from the story on separate strips of paper; and 3) have available a supply of separate letters made from wood, felt, cardboard, etc. Thus prepared, the teacher can ask the student to perform the following tasks (adapted from Agnew, 1982).

Task 1: Ask the child to point to any word in the story, then to circle the word. Ask the child to repeat the task with three or four other words. Note that the child does not have to read the words in order to complete this task.

Task 2: Ask the child to match a word card with the same word from the story. If the word occurs more than once in the story, ask the child to find it again. Repeat the task with the other word cards. Again, note that the words do not have to be read, just matched.

Task 3: Ask the child to match a sentence with its counterpart from the story. Repeat the task with the other sentence. The child does not have to read the sentence.

Task 4: Show the child a word card and provide the letters necessary to spell the word. Ask the child to make the word using the letters. Repeat the task with two or three other words.

Task 5: Ask the child to point to the place in the story that corresponds to the following:

a. beginning of the story,
b. end of the story,
c. beginning and end of a word (repeat several times),
d. same word in the story and on the sentence strip (repeat with several others),
e. different word in the story and on the sentence strip (repeat with several other words),
f. first word in the story,
g. last word in the story,
h. first and last letters in a word (repeat several times),
i. line in the story (repeat several times),
j. top of the page,
k. bottom of the page,
l. letter (repeat several times),
m. word (repeat several times).

Task 6: Ask the child to point to any letter he/she can name from the story. When the child can name no more, ask about remaining letters that appear in story.

The results of this informal diagnostic procedure provide information about several important aspects of the child's concepts of written language:

- understanding of "word": word boundaries, word matching, word building;
- ability to match sentences;
- ability to understand instructional terms: beginning, end, same, different, first, last, line, top, bottom;
- ability to recognize letters.

Appendix C contains an evaluation form that may be useful for recording results of this procedure.

What is the child's ability to match speech and print? Oral language is produced as a steady stream of speech. Speakers pause to breathe or occasionally for emphasis, but generally one word follows another quite rapidly. When listening to someone talking, it is generally impossible to hear the boundaries between words. Written language differs considerably from oral language in this respect. On the printed page, each word is a bound configuration, a group of letters clustered together with space on either side (Gillet and Temple, 1982). Early in their development as readers, young children must learn to understand this important difference between oral and written language. They must develop the ability to match speech to print, to realize that words in their heads correspond to sets of marks on pages. Teachers who are concerned about young children's progress in reading should explore this important ability.

One way to explore children's understanding of the speech-to-print match is to examine their unaided writing. Such examination can also provide insights into a child's sound-symbol understandings. Consider these samples from a first grade classroom, for example (Temple, Nathan, and Burris, 1982):

Sample 1
MBEWWMLNT
("My baby was with me last night.")

Sample 2
He had a blue clth. It trd in to a brd.
("He had a blue cloth. It turned into a bird.")

Both or these young writers show evidence of sound-symbol understanding. Both know that letters represent sounds. The first child, however, has apparently not yet discovered that written words are bound by spaces. The second child's unaided writing demonstrates understanding of this important principle. (See Clay, 1975; Henderson and Beers, 1980; or Temple, Nathan, and Burris, 1982 for more thorough discussions of unaided writing development.)

A teacher can also use a child's dictated story to explore his/her ability to match speech to print by using the voice-pointing procedure (Morris, 1979). Steps in the procedure are as follows:

1. Select two or three sentences from the beginning of the child's dictated story. From these sentences, select words from the beginning, middle, and end of lines. Try to select words of varying length, as well. From Matthew's story in Figure 3, for example, the teacher might select the first two sentences: "Once upon a time, there was a boy who said, 'Maybe I should go to the circus sometime with my family. And we should see all the clowns, but we should have a good time with some balloons and some lollipops and some gum.'" Words chosen from this selection might include "once," "boy," "should," "go," "sometimes," "family," and "lollipops."

2. Recite the sentences aloud until the child has memorized them. The child may look at the story during this time, but the teacher should not point to individual words.

3. Model the voice-pointing procedure by reading the sentences to the child, pointing to each word as it is read.

4. Ask the child to do the same. Observe how accurately the child is able to match spoken and printed words.

5. Ask the child to find the words selected in Step 1. Unless the child can already recognize these words in print, he/she will probably have to recite the sentences in order to find the words. Keep track of how successful the child is in this search.

Research with this procedure (Morris, 1979) has shown that children's responses to the voice-pointing procedure generally fall into three groups: 1) those who show little or no ability to match speech and print; 2) those who show some ability (These children may be able to point to words fairly accurately as they recite and may be able to find some words [Step 5]. Their performance is unstable, however, and they may have particular difficulty with locating multisyllabic words.); and 3) those children who are easily able to match speech to print, both in terms of reciting lines and in terms of locating individual words. Children in this latter group are ordinarily ready to profit from reading instruction.

What is the child's ability to recognize written words? The child's ability to recognize some familiar words instantaneously (by sight) is a final beginning reading competency that teachers may wish to explore. Young readers can attend to meaning more easily and read more smoothly if they quickly recognize many of the words they encounter in print, rather than having to decode frequently. A final procedure based on the child's dictated story may be used to examine ability to recognize written words. Steps in the procedure are as follows:

1. Ask the child to read his/her story aloud. Make note of the words the child identifies quickly and

accurately. After the child has finished reading, return to these words. Mask the context by placing an index card on either side of each word, and ask the child to say each word.

2. Ask the child to read the story again, this time underlining all the words he/she knows. Repeat this procedure several hours later and again the next day. Then mask the context of each triple-underlined word and ask the child to identify it.

This procedure provides some information about both the child's sight vocabulary (Step 1) and the child's ability to learn new sight words when reading them in the familiar context of his/her own dictated story. It is unlikely that this procedure will allow the teacher to determine the entire range of the child's sight vocabulary. Nonetheless, some indication of sight vocabulary and the ability to learn new words in a supportive context can be useful in forming hypotheses about young readers' strengths and weaknesses.

Each of these diagnostic procedures is based upon a single piece of written material, the child's dictated story. It is important that dictation serve as the basis of these informal procedures for several reasons. Using a dictated story to explore the child's strengths and weaknesses ensures that the child will understand the meaning of the material. Second, since the story is recorded verbatim, it will contain vocabulary with which the child is familiar and be written in the child's own spoken language patterns. Finally, since the child is experiencing difficulty in reading, it is important for the diagnosis to be conducted in as supportive an environment as possible. Working with a dictated story provides such a supportive atmosphere.

All these diagnostic procedures should help teachers answer questions about young readers' sense of story, concepts of written language, ability to match speech to print, and recognition of written words. These suggestions differ considerably from traditional reading readiness notions. They are based instead upon insights from recent research about preschool and primary children's conceptions of reading, writing, and the relationships between spoken language and written language. Viewing both progress and the process from this perspective can help teachers help children grow as readers. Figure 4 contains a checklist that may be helpful for summarizing diagnostic results.

Figure 4

CHECKLIST FOR BEGINNING READING BEHAVIOR

EXPECTS THE MESSAGE TO HAVE MEANING

ATTENDS TO VISUAL CUES

_____ spatial cues (left to right, top to bottom)
_____ concept of word
_____ concept of letter
_____ voice-print match
_____ some word recognition within context

USES INTUITIVE KNOWLEDGE OF LANGUAGE

_____ invents story to go with pictures
_____ begins to use "book talk"
_____ begins to use picture cues as guide
_____ uses memory and pictures (not necessarily exact words)

BEGINS INTEGRATION OF VISUAL
AND LANGUAGE CUES

_____ begins to read sentences
_____ can search for cues
_____ develops self-correction based on meaning

and

_____ understands the language of instruction

Adapted from: Genishi, C. & Dyson, A. H. 1984. *Language assessment in the early years.* Norwood, N.J.: Ablex, p. 213.

What Are This Child's General Reading Abilities?

Questions about the reading ability of children who can read, but are experiencing difficulty, generally center upon two major issues: comprehension and word recognition. As with other diagnostic issues, answers to these important questions about reading ability should be sought in natural reading situations. In other words, children should read real text—the kinds they might encounter at school or at home. In fact, teachers should try to create testing situations that parallel teaching situations as much as possible.

Teachers can develop hypotheses about children's comprehension and word recognition abilities by relying upon informal reading inventory (IRI) procedures. IRIs are sets of text selections which students can read orally or silently. Comprehension questions accompany the passages. Analyzing IRI results can help a teacher learn more about a child's strengths and weaknesses in comprehension and word recognition. Procedures for developing, administering, and interpreting IRIs are explained below.

Preparing for diagnosis. The first step in IRI preparation is to identify the passages that children will read. Many basal series contain IRIs or placement tests based on passages drawn from books in the series. These passages might work well for the purposes described here. Commercially available IRIs (e.g., Johns, 1985; Woods and Moe, 1985) are another source for passages. A final possibility is for teachers to select passages from typical reading material—basal readers, content-area texts, children's trade books, stories or articles from children's magazines, and so forth. Whatever their source, passages should be fairly long and should maintain "continuity of meaning" (Goodman and Burke, 1972). For fiction, this means that the passage should be a short story or an entire episode from a longer story, an excerpt that makes sense when read apart from the rest of the story. A nonfiction selection should also make sense by itself so that passage content does not depend too heavily on preceding or succeeding information.

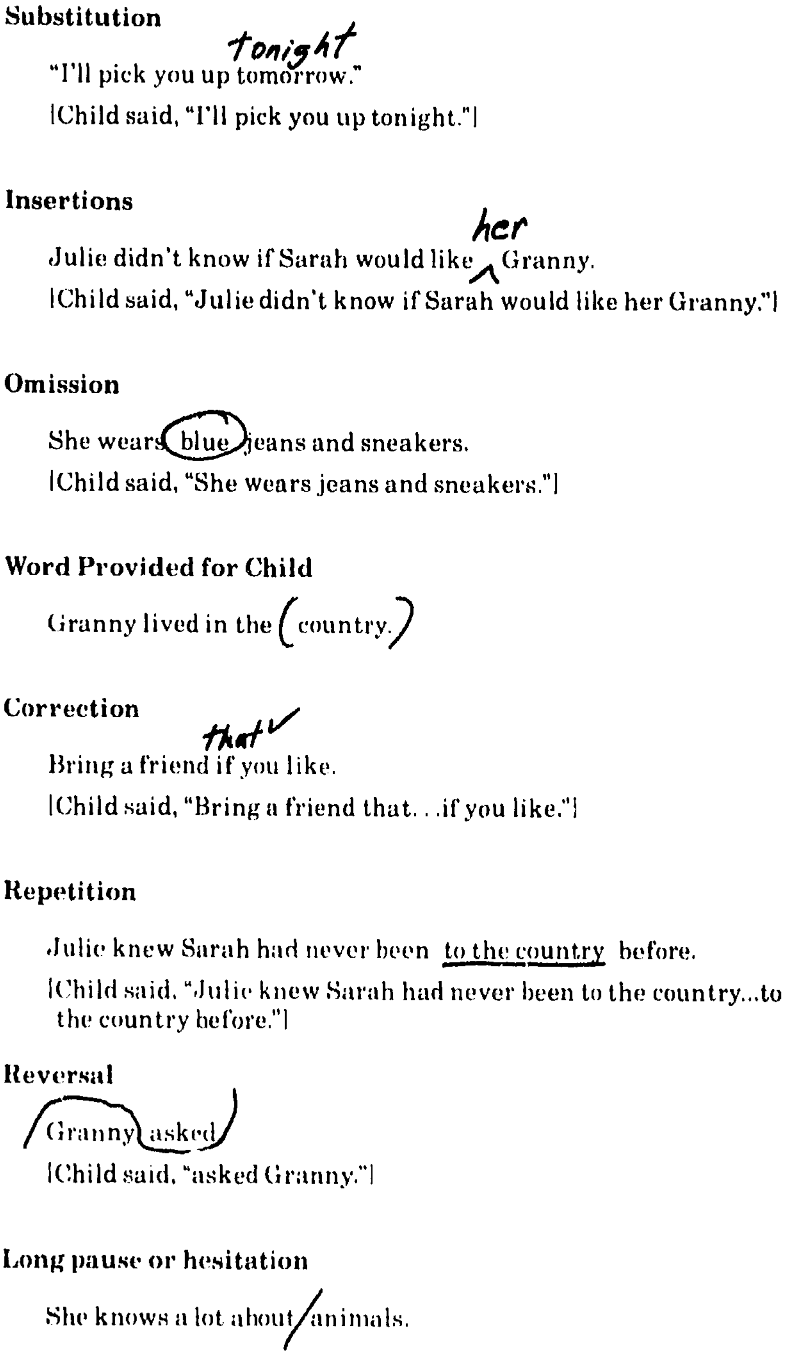
A good set of IRI passages should probably include both fiction and nonfiction. Passages of varying difficulty levels should also be included. These should range from selections that will be easily understood by the poorest reader in the classroom to selections written at or perhaps above grade level.

It is important that children's word recognition abilities be examined as they read meaningful text, rather than lists of words or nonsense words. Good readers use language cues as well as sound-symbol information to recognize words while reading. No language cues are available when reading isolated words or nonsense words, of course, so these are artificial situations. As a matter of fact, *since comprehension is not involved in such tasks, they are not really reading tasks at all.* Furthermore, research about children's word recognition abilities in isolation and in context reveals that "word identification errors elicited on tests in isolation do not constitute a solid basis for predicting errors in connected text. Thus, analyses of such errors have little utility for designing instruction which is to result in improved reading of connected text" (Allington and McGill-Franzen, 1980, p. 799).

In order to examine the reader's word recognition strategies, the teacher needs a system for recording oral miscues, or deviations from the words in the text. Basal placement tests and commercially available IRIs generally include suggestions for recording miscues. Another system that may prove helpful is provided in Figure 5. Any recording system may be used, of course, but teachers should learn the system before working with children. The teacher's task while the child reads aloud is to record each miscue that the child makes since these miscues will be used to develop hypotheses about the child's word recognition abilities.

Figure 5

Coding System*



Substitution

tonight
"I'll pick you up tomorrow."
[Child said, "I'll pick you up tonight."]

Insertions

her
Julie didn't know if Sarah would like ^ Granny.
[Child said, "Julie didn't know if Sarah would like her Granny."]

Omission

She wears blue jeans and sneakers.
[Child said, "She wears jeans and sneakers."]

Word Provided for Child

Granny lived in the (country.)

Correction

that✓
Bring a friend if you like.
[Child said, "Bring a friend that. . .if you like."]

Repetition

Julie knew Sarah had never been to the country before.
[Child said, "Julie knew Sarah had never been to the country...to the country before."]

Reversal

/Granny asked/
[Child said, "asked Granny."]

Long pause or hesitation

She knows a lot about/animals.

*Adapted from Gillet & Temple, 1986, pp. 124-125.

Some means of assessing comprehension must also be developed before the IRI is administered. Teachers have three choices in this regard: to rely upon comprehension questions, to ask the child for an unaided oral retelling, or to use both question response and retelling as means of assessing the child's understanding. Combining retelling with question response may provide the teacher with more information about the child's comprehension abilities than relying upon either measure alone. Because most questions offer at least some information about the passage (e.g., a character's name or some part of an event), they can sometimes prompt passage recall. Passage dependency is another problem associated with comprehension questions (Tuinman, 1971). Some comprehension questions can be answered successfully without even reading the passage by relying upon prior knowledge alone. The extent to which such responses indicate passage understanding is, of course, questionable. On the other hand, some children are unaccustomed to unaided retellings so task unfamiliarity may bias results. Furthermore, retellings are difficult to evaluate. It can be hard to differentiate between an "excellent" retelling and a "very good" one, for example.

Teachers can minimize the weaknesses inherent in each of these assessment procedures by relying upon both. After the child has read a selection, the teacher can invite retelling by saying, "What was this passage all about?" or "Tell me everything you remember about the passage you just read." Further response can be invited as well: "O.K., what else?" or "Good, tell me more" or "Fine, what else do you remember?" Prompts such as these encourage the child to provide a complete retelling, but do not provide clues to passage content.

When the child's retelling is complete, the teacher can ask some (or all, depending upon the completeness of the retelling) of the comprehension questions developed for the passage. If passages from a basal placement test or commercially available IRI are used, the teacher should evaluate comprehension questions carefully before administering the test. Inadequate or inappropriate questions should be revised or replaced. If passages are drawn from other sources, the teacher should develop several comprehension questions before administering the IRI. The following guidelines may prove useful for question evaluation and generation:

- State questions clearly and simply. Feel free to change questions if they appear to be too easy or too difficult for children (McKenna, 1983).
- Ask questions in order. Questions that refer to the beginnings of passages should be asked before questions that refer to later information. Questions asked out of sequence may be unnecessarily confusing for children.
- Focus questions on important information. The child's ability to work with significant details, those that support major generalizations, is more important than his or her ability to remember trivial or insignificant information. Inference questions that ask the child to make generalizations or draw conclusions based on information in the selection should also be included, as should questions involving evaluations or judgments. The number and content of questions may vary according to the passage, but questions should focus on information that is important to understanding the author's message.
- "Fieldtest" questions in order to determine their passage dependency (McKenna, 1983). A question is passage-dependent if it is unlikely that a child can answer it appropriately unless he/she has read the passage. Teachers can determine the passage dependence of comprehension questions by asking a group of children to answer the questions without having read the passages. The children who fieldtest the questions might be the better readers in the class, whom the teacher will not be diagnosing, or children from another classroom. If fieldtesting indicates that questions are not passage-dependent, they should be revised or replaced.

Deciding whether children can refer to the passages while they answer the comprehension questions is a final issue related to comprehension assessment. In most instructional situations, children can refer to their texts as they discuss what they've read. Both recall and comprehension are probably being assessed when the passage is not available for "look backs" (Gillet and Temple, 1986). The question is an important one that teachers may resolve by analyzing typical instruction in their classrooms. If children typically use their texts during discussions about reading, it may be advisable to allow some reinspection during comprehension assessment. If not, the teacher should probably not allow children to look back as they answer comprehension questions. In either event, retellings should probably be completed without benefit of the passage.

In summary, preparing to use IRIs with children involves selecting passages, developing and learning a miscue coding system, and deciding upon comprehension assessment techniques. Attention to each of these issues before the test is administered will ensure a more successful diagnostic situation for both student and teacher.

Administering the IRI. IRIs should be individually administered so the teacher may need to schedule a time for diagnosis beforehand. Ideally, the diagnosis should not be interrupted although it can be completed in segments, if necessary. The teacher should also gather necessary materials before the session begins: copies of passages and comprehension questions, tape recorder (if desired), pencils, etc. If the child will read orally, two copies of each passage will be needed, one for the child to read and one for the teacher to record miscues.

Diagnosis of primary grade children should include comprehension in both oral and silent reading. In the intermediate grades, the teacher may wish to emphasize silent reading comprehension ability since this mode of reading is used most often in instructional situations. The oral passages should also be used with intermediate children if the teacher has questions about word recognition ability.

The child should understand the tasks he/she will be asked to perform before the diagnosis begins. The teacher should explain that the child will be reading several passages aloud and/or silently and that the child will be asked to retell and answer questions about the passages. The teacher might also explain that the passages will become more difficult as the diagnosis proceeds, but that the child should continue to put forth his/her best effort. Knowledge of the overall diagnostic situation and understanding of the post-reading tasks should put the child at ease. This, in turn, will probably increase the validity of the results.

Oral and/or silent reading should begin at a level that is comfortable for the child. If oral reading is being assessed, the teacher should record the child's miscues as he/she reads. Many teachers tape record children's oral reading performance so that they can listen to the tape later and ensure the accuracy of their scoring. Figure 6 contains an IRI passage that a teacher selected from a basal reader. Also included are the miscues that Elizabeth, a fourth grader, made while reading the passage aloud.

After each passage has been read, the child should be asked to retell it, using the prompts provided in the previous section. As the child retells, the teacher should make written notes that summarize the retelling. Tape recording the retellings may prove useful.

After retelling, the teacher may ask the child some or all of the comprehension questions developed for the passage. If recall is being assessed, the child should not refer to the passage while answering the questions. (See previous section for a discussion of recall and reinspection.) The decision about which and how many comprehension questions to ask should probably be based on the quality of the child's retelling. If the retelling is complete and demonstrates excellent understanding of the passage, the teacher may need to ask only a question or two, perhaps those involving inferences or evaluations. On the other hand, children whose retellings are brief or out of sequence might be asked more questions. As with many other issues related to IRIs, the decision about comprehension questions is best made on a case-by-case basis. It does seem unnecessary to ask children questions about information they've already provided in their retellings, however.

Figure 6

GRANNY*

Julie ran to the phone. It was Granny. "How about coming to see me?" Granny asked. ①

"When?" asked Julie.

tonight ② that ✓ ③

"I'll pick you up tomorrow," said Granny. "It will be for overnight and the next day. Bring a friend if you like."

④

Bringing a friend would make a trip to Granny's lots of fun. And so Julie asked Sarah. Granny lived in the country. ⑤

⑥

Julie knew Sarah had never been to the country before.

grandma ⑦ walking to ⑧ ⑨

"What's your grandmother like?" Sarah asked Julie. They were waiting at Julie's house for Granny the next afternoon.

⑩ ⑪ likes ⑫

"She wears blue jeans and sneakers," said Julie. "And she lives in the woods. She knows a lot about animals." ⑬

"She doesn't sound like other grandmothers," said Sarah.

her ⑭

"She isn't," said Julie. Julie didn't know if Sarah would like Granny. Maybe she should have asked another friend.

---

*Adapted from *The Way of the World*, Holt, Rinehart, and Winston, 1980, pp. 204-205.

Figure 7

Sample Questions for "Granny"

1. Why did Julie ask Sarah to go with her to Granny's house?
2. What did Julie tell Sarah about Granny?
3. What did Sarah mean when she said that Granny didn't sound like other grandmothers?
4. Why did Julie think that Sarah might not like Granny?

Elizabeth's Retelling

T: What was this story all about?

E. Julie's grandmother called her up on the phone and asked her to spend the night. And said she could bring a friend and Julie thought that would be fun. So she asked her best friend Sarah. And then Sarah asked what Granny was like, and Julie said Granny wears jeans and sneakers. And she knows about animals.

T: Good. What else?

E. And Julie said she lives in the country.

T: O.K., what else?

E. That's it.

Responses to Comprehensive Questions

3. Maybe that most grandmas don't wear jeans and sneakers.
4. I don't know. (T: what do you *think?*) Maybe because she was different? I bet they'll have fun, though.

Figure 7 provides information about our fourth grader's comprehension of the passage "Granny." Included are the sample questions that Elizabeth's teacher developed beforehand and Elizabeth's retelling of the story. Note that the teacher prompted Elizabeth's recall. Based on her retelling, Elizabeth's teacher decided to ask her only the third and fourth comprehension questions, and her responses are also provided in Figure 7. Again, note that the teacher probed after Elizabeth's initial "I don't know" response for question #4. The probe did not provide any additional information about the passage, but it did make it clear to Elizabeth that her opinions were sought. Elizabeth responded to her teacher's prompting by providing an answer for the question.

Procedures for assessing silent reading ability are similar to those just outlined, except that the teacher does not record miscues. Some teachers prefer to alternate oral and silent passages at a given level before proceeding to more difficult material. Others prefer to assess oral reading separately and then to assess silent reading. Either procedure is acceptable; teachers may want to experiment with both in order to determine which yields more useful information about their students.

During both oral and silent reading, the teacher should make note of other reading-related patterns of student behavior such as the following:

- Is oral reading fluent or word-by-word?
- Are intonation and phrasing appropriate?
- Are passages read too quickly or too slowly?
- Does the child whisper while reading silently?

Issues such as these can have diagnostic significance. A dramatic change in silent reading rate or a change from fluent to word-by-word oral reading, for example, can indicate that the material is too difficult for the child. Noting such behaviors as phrasing difficulties (e.g., frequently ignoring or altering punctuation) can also provide clues about reading difficulties. In short, the teacher should attempt to record both qualitative and quantitative information about the child's reading performance. Doing so yields a richer profile of the child as a reader.

The diagnosis should continue, with increasingly more difficult passages, until the child can no longer work effectively with the material. Signs of frustration differ among children, but generally involve one or more of the following:

- unacceptable comprehension, as evidenced by weak retelling and poor response to comprehension questions. The traditional criterion for frustration in comprehension is 50% or lower (Betts, 1957). Thus, if the teacher believes that the child understood only half (or less) of the author's message, comprehension is probably unacceptable and the diagnosis should stop.
- numerous significant miscues (i.e., miscues that change the meaning of the passage) in oral reading. The traditional criterion for frustration in word recognition is 90% or lower (Betts, 1957). Thus, if the child makes approximately 10 or more significant miscues for every 100 words in the passage, the diagnosis should stop.
- behavior that indicates frustration. Some children show frustration qualitatively by fidgeting; reading aloud in a halting, word-by-word manner; taking an excessively long time to read; or even refusing to continue. Of course, teachers should be sensitive to these signs of frustration, as well as those indicating poor comprehension or word recognition performance.

The decision to stop diagnosis can be based on any of these factors, alone or in combination. On-the-spot scoring can be challenging, however, especially in regard to word recognition. If uncertain about whether to stop testing, the teacher might ask the child to read one more passage. This may be particularly advisable if the child has read few passages since larger samples of reading behavior allow stronger hypotheses about strengths and weaknesses. Working with material that is obviously too difficult is inappropriate, however. It is unnecessarily frustrating for the child and provides no useful information for the teacher since the reading process has "broken down."

Interpreting results. Results from an IRI can be used to form hypotheses about the child's strengths and weaknesses in both comprehension and word recognition. To evaluate comprehension performance, the teacher should examine the child's retellings and responses to comprehension questions. The child's oral reading miscues can also be analyzed to hypothesize about his/her overall strategy for attacking unknown words. The goal of both analyses should be to determine *patterns* of behavior that characterize the child as a reader. An isolated instance of a particular behavior probably has no diagnostic significance, but repeated behaviors in oral or silent reading warrant careful consideration. The guidelines offered below can assist teachers in the interpretation of the child's performance.

Excellent retellings need not be verbatim reports of what the child has read. Rote memorization is seldom, if ever, an instructional goal in reading. Analyzing retellings does involve making judgments about the extent to which the child understood the passage. In doing so, however, teachers should recognize that retellings typically change as reading material becomes more difficult for the student. They may become shorter or more disorganized, for example. Since this is the case, analysis should be limited to passages that were not overwhelmingly difficult for the child. The following questions should be considered as teachers analyze children's retellings.

- Did the child retell freely or was a great deal of prompting necessary? Teachers should examine the child's response to the initial invitation to retell in order to answer this question.
- Was the passage retold in sequence or was information recalled in a disorganized, haphazard manner? Good fiction retellings recreate the story in essentially the same way as it was written—with the beginning at the beginning, and so forth. Sequence can be important for nonfiction passages as well. Overall chronology might be examined in a child's retelling of a time-order selection, for example. In other nonfiction passages, maintaining the author's sequence may not be as important. In analyzing a retelling for a passage that describes three kinds of desert animals, for example, noting whether characteristics are associated with the proper animal may be more important than noting whether the child recalled the sequence in which the animals were described.
- How complete was the child's retelling? Was he/she able to recall main ideas and significant details? For fiction passages, the teacher might examine whether the retelling includes characters, setting, and important events of the story. For nonfiction passages, inclusion of major aspects/issues addressed in the passage, as well as the factual information that explains or supports them should be evaluated. Teachers need open minds when evaluating this aspect of children's retellings, however. Comprehension is idiosyncratic to a certain degree so the teacher's notions about important information may not always correspond to children's notions.

Elizabeth's teacher analyzed her retelling of "Granny" (see Figure 7) according to these criteria and decided that the retelling was quite good. Elizabeth's response to the invitation to retell ("What was this story all about?") was fluent and complete. Elizabeth retold the story in sequence although she did not include information from the last two paragraphs in her retelling. In addition, Elizabeth's retelling included the characters and several of the major events of the story. In all, the teacher determined that Elizabeth's retelling demonstrated good understanding of the story.

ERIC

Patterns of strengths and weaknesses in responses to comprehension questions should also be determined. To accomplish this, the teacher needs to score the child's responses and then classify responses by type of question. The goal of this analysis is to determine if the child is consistently successful or has repeated difficulty with a particular type of question (e.g., literal, inferential, evaluative). In regard to nonliteral questions, the teacher might also note the ease with which children offer responses. Consistent "I don't know" responses to evaluative questions, for example, might indicate a reluctance to venture one's own opinion about material read.

If oral reading is included as part of the IRI, the teacher can examine differences between oral reading comprehension and silent reading comprehension. During the early primary years, most children are more proficient oral readers than silent readers. This is due, at least in part, to the oral-reading emphasis in most primary-level classroom reading programs. Beyond the primary years, good readers gradually shift toward silent reading proficiency. It is quite common for a fourth or fifth grader to be a better silent reader than oral reader. "Most experts agree that oral reading is somewhat more difficult than silent, except perhaps for the very beginning reader. For everyone who already knows how to read, oral reading is a two-step process (getting meaning plus proper pronunciation with expression) while silent reading omits the pronunciation step" (Gillet and Temple, 1986, p. 139). Teachers should keep these general guidelines in mind as they examine differences in children's oral and silent comprehension.

Evaluating a child's comprehension ability, then, involves determining the child's success with the various tasks and the ease with which tasks are attempted. Both of these issues can be influenced by the child's previous educational experiences, however. Children who are rarely asked to retell or to offer opinions about reading material may have difficulty with these tasks during an IRI. Apparent weaknesses in such cases may simply reflect lack of understanding of, or practice with, the tasks. Even so, results have clear instructional implications.

The results of comprehension analysis can be used to formulate hypotheses about the child's strengths and weaknesses in this critical aspect of reading. Weaknesses deserve instructional emphasis, of course, but it is equally important to determine the child's comprehension strengths. A strength in remembering details can provide a firm foundation for instruction in determining main ideas, for example. IRI results should be used to plan instruction that eliminates comprehension weaknesses and fosters continued growth in areas of strength.

If the IRI includes oral reading, teachers can examine children's *miscues* (deviations from the text) in order to form hypotheses about strengths and weaknesses in word recognition. Teachers' beliefs about the reading process influence their evaluations of children's word recognition strategies. Are all miscues of equal importance or are some qualitatively different from others? Is a substitution or insertion that maintains the meaning of the passage as important as one that alters the meaning? Those who believe that the goal of reading is to construct meaning generally agree that some oral reading miscues are more important than others. Significant miscues change the meaning of the passage and warrant careful examination. Insignificant miscues, those that do not change the meaning or sense of the passage, can be safely ignored.

Analysis of Elizabeth's oral reading (See Figure 6; note that all her miscues have been numbered.) may clarify this distinction. All together, Elizabeth made 14 miscues while reading "Granny." Quantitatively, this might be considered a poor oral reading performance. Upon closer examination, however, it becomes clear that many of Elizabeth's miscues were insignificant; that is, they did not significantly alter the meaning of the passage. By asking the question, "Has the meaning been changed?", her teacher determined that the following miscues were insignificant.

Miscue #1:	Elizabeth said "asked Granny" rather than "Granny asked."
Miscue #3:	Elizabeth initially said "that " for "if," but she corrected her mistake. This correction is actually a positive sign, since the meaning would have been changed had she not corrected ("Bring a friend that you like"..."Bring a friend if you like").
Miscue #4:	Elizabeth omitted the words "lots of." This miscue probably alters the meaning slightly, but only purists would find this a significant change.
Miscue #6:	Elizabeth repeated the words "to the country."
Miscue #7:	Elizabeth said "grandma" for "grandmother."
Miscue #10:	Elizabeth omitted the word "blue." Most of the time we use "jeans" and "blue jeans" synonymously.
Miscue #13:	Elizabeth hesitated before saying the word "animals."
Miscue #14:	Elizabeth added the word "her."

Thus, eight of Elizabeth's 14 miscues did not significantly change the meaning of the passage. This view of her oral reading performance is different than a simple quantitative one and, in fact, shows her performance to be stronger.

The first step in analyzing the child's word recognition abilities, then, is to separate significant miscues from insignificant ones. The significant, meaning-changing miscues should be analyzed further in order to determine which language cues the child seems to rely upon in order to recognize words (Goodman and Burke, 1972). Proficient readers use what they know about language to help them recognize words as they read. Three kinds of language knowledge are used simultaneously and interactively during fluent reading:

- Semantic knowledge. Good readers know that their reading must make sense, that they're trying to construct meaning as they read. While reading material of ordinary difficulty, good readers do not make non-word substitutions. Good readers are more likely to correct their meaning—changing miscues—than are poor readers; good readers are sensitive to misunderstandings and seek to regain meaning (Wixson, 1979). In short, good readers understand the need to make sense from what they read, and their oral reading behavior demonstrates this quest for meaning.
- Syntactic knowledge. Speakers of a language have an intuitive sense of the grammar of the language. They know how words go together to form sentences, and they use this information when communicating. For example, what kind of word can go in this blank: the big _____ ball? Only an adjective can fill the blank, as all speakers of English know, even if they cannot define "adjective." Readers use syntactic knowledge to construct meaning; they know that what they read must sound like real language.
- Graphophonic knowledge. The third source of information used when reading is knowledge of how printed symbols relate to spoken sounds. Consider the following sentence: The tulips _____ exceptionally pretty this year. Using semantic and syntactic information, the reader can limit the number of words that could fill this blank: "are," "aren't," "were," "weren't," "seem," "seemed," and so forth. All these choices make semantic and syntactic sense, but without letter cues (and knowledge of the sounds represented by the letters), an exact replacement cannot be chosen. Readers use their knowledge of the way words look and sound to recognize words while reading.

In order to determine a child's strengths and weaknesses in word recognition, the teacher should analyze significant miscues with these three sources of language information in mind. The ideal, of course, is a reader who is equally proficient in using all three in an integrated way—using graphophonic knowledge to confirm predictions based on semantic and syntactic knowledge, for example. Conversely, over-reliance on any one source of information to the exclusion of others is cause for concern.

The teacher can evaluate the child's use of semantic information by looking for evidence of the search for meaning. For example, does the child substitute real words or nonsense words? Does the child recognize when meaning has been changed by correcting (or attempting to correct) his/her own miscues? Is the child more likely to correct significant miscues than insignificant ones (Wixson, 1979)? Answers to questions such as these can provide information about the reader's use of semantic information.

Significant miscues can also be analyzed for evidence that the reader uses syntactic information. In the case of substitutions, syntactic similarity can be determined by asking: Is the miscue the same part of speech as the text word? It is possible for a substitution to change the meaning, yet be the same part of speech as the text word (e.g., "I'll pick you up tonight" for "I'll pick you up tomorrow"). In the case of omissions and insertions, syntactic similarity can be determined by reading the child's rendering and asking: Is this still a sentence of English? Answers to these questions can help teachers examine the reader's use of syntax.

Finally, the child's use of graphophonic information can be assessed by comparing the appearance and sound of the child's significant miscues to the appearance and sound of the words in the text. For more specific information, the teacher might want to compare miscues and text words in the beginning portions, medial portions, and ending portions of words. Looking at the miscues in this way provides information about the reader's use of graphophonic information.

It may be convenient to chart the reader's significant miscues, particularly for determining use of syntactic and graphophonic information. Elizabeth's teacher charted her significant miscues; the chart is displayed in Figure 8. (Appendix D contains a similar chart that teachers may use to summarize their students' significant miscues.) Analysis of Figure 8 reveals that Elizabeth seems to use syntactic information quite successfully. Only one of her significant miscues was syntactically unacceptable: miscue #5, where the teacher pronounced "country" for her. Graphophonically, Elizabeth does well with beginning letters and sounds and fairly well with ending letters and sounds. None of her miscues was graphophonically similar to the medial portion of the text word.

Elizabeth's oral reading performance also provides some evidence that she uses semantic information. None of her miscues is a nonsense word. In fact, all but one of her significant miscues make sense, but not the sense intended by the passage. Though there are really too few samples here to warrant firm hypotheses, it appears that Elizabeth uses all three sources of language knowledge while reading.

Figure 8

Analysis of Elizabeth's Significant Miscues*

MISCUE	TEXT	Graphophonic Similarity			Syntactic Similarity
		B	M	E	
tonight	tomorrow	x			x
—	country	—	—	—	
walking	waiting	x		x	x
to	at				x
likes	lives	x		x	x
—	in	—	—	—	x
TOTALS		3/4(75%)	0/4(0%)	2/4(50%)	5/6 (83%)

*Adapted from Johns, 1985.

In all, IRI procedures can be very useful for formulating hypotheses about a child's strengths and weaknesses in comprehension and word recognition. IRI procedures do not segment the reading process; in addition, the diagnostic situation parallels questioning procedures used in many classrooms. Finally, because miscues are analyzed qualitatively, a meaning-based notion of reading is maintained. In short, the IRI is a very useful diagnostic tool.

What Are This Child's Abilities as a Content-Area Reader?

Reading is the primary tool for learning in content areas. Of course, other instructional tools are used: teachers and students conduct demonstrations and experiments, have discussions, watch audio-visual presentations, and so forth. Particularly beyond the primary years, however, textbooks are a major source of information in science, social studies, and other content areas. Thus, determining children's strengths and weaknesses as content-area readers is a legitimate diagnostic concern for the classroom teacher.

Content textbooks differ from typical basal reading materials in some significant ways. First, the content itself is organized differently. Units in basal readers may be organized thematically, but the content of the selections is seldom interdependent. Children may read a variety of basal selections about friends, for example, but rarely will understanding the content of one selection be dependent upon understanding of previous selections. Such is not the case in many content-area texts. Instead, concepts addressed early in the book form the foundation for subsequent information. In many content areas, this hierarchial organization extends beyond the grade level—what's learned about social studies studies in third grade is the basis for fourth grade learning, and so forth. Children who have difficulty learning content concepts, then, may find that the difficulty is compounded later in the year and in subsequent years.

Text structure differences may also contribute to content-area reading difficulties. Most basal selections are fiction and structured as stories, with characters, a setting, and a series of events. Content texts, on the other hand, are generally expository prose and may be structured in a number of ways, singly or in combination (Gillet and Temple, 1986; Vacca and Vacca, 1986):

- **Explanation**—text that is organized to describe or explain. Comprehending explanatory material usually involves understanding main ideas and supporting details. This type of writing is encountered in every content area.
- **Comparison and contrast**—text that is organized to show likenesses and differences between or among ideas, events, or concepts. To understand this pattern, children must understand points of similarity and difference, as well as their significance. Social studies and science texts are frequently written in this pattern.

- **Taxonomy**—text that is organized by classifying, listing, and defining different related objects or ideas (e.g., types of animals). Taxonomies are special instances of comparison and contrast patterns. In order to learn from taxonomic text, children must understand the attributes of the objects or ideas, their differences from one another, and their common characteristics, or what makes them a "family."
- **Chronology**—text that is organized according to a sequence of events or concepts, ordinarily in temporal order. To learn from chronological text, children must understand the events or concepts, the time or order in which they occurred, and sometimes the significance of the time or order. Chronological structures are frequently encountered in social studies material, but may also be found in science, e.g., life stages of a plant or animal.
- **Directions**—text that is organized to explain steps in a procedure. Directions are special instances of chronological patterns. Simpler directions may stipulate a series of tasks to be performed in some order; more complicated directions may include alternatives or contingencies dependent upon some other factors. In either event, the reader must understand each of the tasks, how to perform them, and the sequence in which they must be executed. Math, science, and health materials frequently employ this pattern.
- **Cause and effect (or problem and solution)**—text that is organized to show how events or concepts happen because of other events or concepts. Understanding this pattern requires knowledge of causes, effects, and the relationship between them. This pattern is frequently found in content subjects such as social studies, science, and health.

Thus, proficient content-area readers must be able to understand and work with a variety of text patterns. That is, they must understand the author's ideas *and* the structures or patterns that the author uses to tie ideas together (Vacca and Vacca, 1986).

Technical vocabulary or concept load is a final important factor that influences content-area reading proficiency. Because words are labels for concepts, understanding technical vocabulary is a critical component of content-area learning. Some technical vocabulary is infrequently used outside a particular content area—"enzyme," "quadrilateral," or "metaphor," for example. Other terms have specialized meanings depending upon the particular content area—"court" in p.e. or social studies, "line" in math or drama, "hemisphere" in math or social studies, and so forth. In other words, the vocabulary demands that face content-area readers are complex, and understanding the vocabularly of a content area is essential to learning.

All children must adjust to these differences when reading content-area material. The child with reading difficulties may be at a particular disadvantage, however. Most reading curricula include provisions for children's ability levels; teachers try to match children and books so that children are challenged, but not overly frustrated by the material. Few content-area curricula are similarly organized. Instead, teachers frequently have only one basic text for all children in the class so poor readers must try to learn from text that may be well beyond their instructional levels.

Teachers can assist students with content-area reading, of course, but knowing the nature of student difficulties makes instruction more productive. Because content reading differs from "general" reading, IRI results may not provide enough useful information. Because the text patterns and vocabularly in particular content areas differ from one another, children's abilities in each of the major content areas should probably be examined. A diagnostic procedure called the content-area reading inventory (Vacca and Vacca, 1986), the group instructional inventory (Gillet and Temple, 1986), or the group reading inventory (Shepherd, 1978) can be used to answer questions about children's abilities as content-area readers. The procedure involves determining the reading demands associated with a particular content-area textbook, developing and administering an inventory based on these skills and abilities, and using children's performance on the inventory to form hypotheses about their abilities as readers in that content area. Procedures for developing, administering, and interpreting such inventories are explained below.

Developing a content reading inventory. Most content reading inventories are designed to assess four sets of skills: use of locational aids, interpretation of graphic information, vocabulary knowledge in the content area, and comprehension in the content area.

- **Locational aids.** Learning from text is facilitated if children can use locational aids such as the table of contents, index, glossary, and appendices. A content reading inventory might include several questions designed to determine whether children can use these aids independently. For determining use of the table of contents, questions such as the following might be asked: On what page does Chapter ____ begin? How many chapters are included in Unit ___? Questions such as "Where in the book is ____ discussed?" assess ability to use the index. "What does ____ mean?" is a question that requires use of the glossary. Teachers might include 2 or 3 questions related to each of the text's important locational aids in the content reading inventory. If inventories are developed for several content areas, it is probably unnecessary to duplicate some of these questions. Children who can use the table of contents in their science books, for example, can probably also do so in their social studies books.
- **Graphic aids.** Content area texts frequently employ maps, charts, diagrams, graphs, and so forth to support and extend written material. In such cases, questions designed to examine chil-

dren's abilities to interpret graphic aids should be included as part of the content reading inventory. First, the teacher should select 3 or 4 graphics that can be understood independently of the surrounding text. That is, children should not have to read the text in order to interpret the graphic. Questions involving interpretation of these graphics can then be developed.

- **Vocabulary knowledge.** Both prior knowledge of technical terms and the ability to develop concepts through reading can be examined in a content reading inventory. To do so, the teacher should select a reading passage, perhaps 2 or 3 pages long, that contains technical terms presented in an "enlightening context—sufficient semantic and syntactic information clues to reveal meaning" (Vacca and Vacca, 1986, p. 92). If understanding the passage is not too dependent upon previous or following information, this same passage can be used to examine children's comprehension abilities.
- **Comprehension.** The teacher should select a 2- or 3-page excerpt from the text that is fairly representative of the overall difficulty and text patterns used by the author. In addition, the excerpt should be understandable apart from its surrounding context. Several comprehension questions can be developed from this excerpt. To determine the kinds of questions to ask, teachers should consider their instructional goals for students: What generalizations should students be able to make? What inferences are necessary to make these generalizations? Which details are important? Teachers should read the excerpt with questions like these in mind and develop 6-8 questions that tap important comprehension abilities. The issue of whether to ask objective questions (and if so, what kinds) or questions that require written responses should be resolved as well. Considering typical instructional tasks in the content area might help with this decision. (See pages 9 to 10 for additional guidance about developing questions.)

Administering the inventory. Content reading inventories are ordinarily given as group tests, often at the beginning of the year, so that results can be used to the best advantage. Before administering the inventory, the teacher should explain its purpose to children. Children should understand that the inventory is not a test in the traditional sense, but rather a means to determine what kind of content-area instruction will best suit their needs. Of course, they should be encouraged to do their best work.

Children will need to use their texts to complete questions about locational aids and graphics. In addition, they'll need to read the text selection(s) for the vocabulary and comprehension sections. As with informal reading inventories, the teacher will need to decide beforehand about whether to allow use of the text for completion of the rest of the inventory. And as with IRIs, this decision is probably best made through reference to typical instructional procedures. If recall is typically demanded during content lessons, children should probably not use their texts to answer comprehension questions. If reference to the text is encouraged during content discussions, children should use their texts to answer all questions on the content reading inventory.

Children should complete the sections related to locational and graphic aids first. At this point, the teacher should write the chosen vocabulary words on the chalkboard and ask children to define them as best they can. Children should then read the text selection and answer the comprehension questions. Finally, children should go back to the vocabulary terms and modify their initial definitions based on the information they learned from the passage.

Interpreting results of the inventory. When examining children's vocabulary abilities, teachers will want to evaluate both initial attempts at defining terms and the revisions made after the passage was read. Other items should be scored with reference to the teacher's expectations for students. What constitutes satisfactory understanding may differ by grade level and among teachers at a given grade level. Each teacher, then, will need to determine the desired quality of response for items on the inventory.

There are no firm scoring guidelines or percentage cutoffs for content reading inventories. Instead, teacher judgment is the major factor in interpreting results, as is true with all of the diagnostic procedures described in this monograph. Results can be used to formulate hypotheses about individual children's likelihood of success with a particular text, however. Those who do very well on the inventory will probably find the text a useful learning tool. Those who experience difficulty will probably need a great deal of instructional assistance in order to learn from the text successfully.

Because the inventory is designed to reflect typical instructional tasks, results can also be used to plan content instruction for individuals, groups of children, or even the entire class. Results might indicate that some children have difficulty interpreting graphs, for example. These children might become a temporary special needs group so that they can learn this important content skill. Another possibility might be to arrange peer tutoring sessions, pairing children who are able to work with graphics with those who seem to have difficulty.

Results might also indicate an area of possible weakness for most (or all) of the class. Knowing beforehand that children seem to have difficulty using the text to learn new technical terms, for example, allows the teacher to plan instruction that supplements and extends the text's treatment of important concepts. In order to use inventory results to the best advantage, the teacher might prepare a chart that summarizes children's performances, perhaps using check marks to indicate possible areas of weakness for children. Doing so allows the teacher to determine individual, group, and class needs at a glance.

Content reading inventories generally contain only a few questions related to a particular learning skill. Children may work with four or five vocabulary words in the inventory, but the text may contain several hundred. For this reason, hypotheses about children's strengths and weaknesses should be considered tentative and must be confirmed or modified through classroom observations.

The ability to learn through reading is important to academic success. As with all other academic abilities, children's strengths, weaknesses, and needs vary. Diagnostic procedures like the content reading inventory can help determine what these strengths, weaknesses, and needs may be. This, in turn, can help teachers facilitate children's growth as content-area readers.

What Are the Child's Perceptions of, Attitudes about, and Interests in Reading?

The diagnostic procedures described thus far relate to various aspects of children's abilities as readers. However, other factors also contribute to readers' successes and difficulties. The child's perceptions of the reading process and of his/her own role as a reader are important, for example, as are the child's attitudes about typical reading activities. Reading interests might also be ascertained to help the teacher plan instruction and suggest independent reading that the child will find interesting. Classroom procedures for exploring these important affective factors are described below.

Perceptions of the Process

Reading is a complex process, and what readers do is determined, at least in part, by what they think they should be doing. Children who believe that "saying the words" is the purpose of reading probably approach reading tasks differently than children who believe "getting the message" is the goal. Likewise, children whose notions of reading emphasize "getting the facts" may be reluctant to generalize or apply what they've read since these processes are not perceived as part of the reader's role. Children with mistaken notions of reading may do what they think they're supposed to do, yet still experience difficulty. Mistaken notions of the process may impede teachers' efforts to help children overcome their difficulties as well. A procedure for determining perceptions of the process and the role of a reader should be a part of every teacher's diagnostic repertoire.

What are readers supposed to do? What do good readers do? What is the purpose or goal of reading? Children's answers to questions such as these can provide insights into their perceptions of the process. The questions are too abstract to be useful for talking with elementary children, however. Teachers can adapt questions such as these to develop an informal, individual interview. Such an interview can be used to explore notions of the process and of the goal or purpose of classroom and independent reading activities. The child's awareness of various reading strategies can also be explored (Wixson et al., 1984).

Questions such as the following can be useful for exploring the child's notions of the reading process.

- Do you know someone who can't read? (Probe for a younger sibling, cousin, neighborhood child, etc.) How would you explain reading to that child? What would you tell him/her that readers do? How would you explain what reading is? What would you say about *why* people read?
- Who's the best reader you know? (Probe for a peer, rather than an adult.) What does this person do that makes him/her such a good reader?
- Who's the best reader you know in *(content area)*? What does he/she do that makes him/her such a good *(content area)* reader?
- Why do you suppose we spend so much time reading in school? Why is reading so important?

The teacher may also wish to explore the child's perceptions about the purposes or goals of classroom or independent reading activities. If so, the following questions might be used (some adapted from Wixson et al., 1984).

- Do you ever read at home? Why do you read when you don't have to? Why is reading something you choose to do? (If child responds, "because I like to read," probe for a more goal-oriented response.)
- Why do we read the *(content area)* book? What's the most important reason for reading the *(content area)* book?
- Why do we read stories during reading group time? What's the reason for reading them? Why do you suppose we talk about them? What good are practice activities like _____? Why do you do those?

Awareness of reading strategies is a third aspect of perceptions that the teacher may wish to explore. In evaluating responses to these questions, the teacher should differentiate between strategy awareness and strategy use. A child might mention context as an important decoding strategy, for example, yet show no real indication of actually using context while reading. The reverse may also be true – the child may not mention context as a decoding strategy, yet show evidence of its use when reading. Nonetheless, the child's awareness of his/her options as a reader is an important aspect of overall perceptions. The questions that follow might be useful for exploring reading strategies (some adapted from Burke, 1980 and Wixson et al., 1984).

- What do you do when you come to a word that you don't know in your reading? How do you try to figure it out? What do you do if that doesn't work?
- Do you ever find that you don't understand something that you've read? What do you do to try to figure it out? What do you do if that doesn't work?
- If someone asked you what he/she could do to become a better reader, what would you say? What kind of advice would you give this person?
- If someone asked you how to read the *(content area)* book more successfully, what would you say? What kind of advice would you give?
- What do you do when you want to remember something that you've read? Why?
- What do you do to get ready for a test in *(content area)?* Why?

The informal interview about perceptions might consist of several questions such as those provided above. Interpretation of results is easier and probably more valid if the teacher has several related responses to evaluate. The interview should be administered individually with the teacher asking the questions and the child providing spoken responses. Such a procedure allows the teacher to seek clarification, should it be needed. Before interviewing the child, the teacher should explain the task. Specifically, the child should understand that the interview is not a test and that it will not be graded. The child should also understand that there are no right or wrong answers to the questions, but that the teacher is interested in knowing what the child thinks.

Attitudes about Reading

Because children with reading difficulties associate reading with failure, they may develop negative attitudes toward reading. They may view reading as a chore or a waste of time. They may choose not to read so that they won't experience frustration and failure. Knowing about these attitudes is important for teachers who want to help children overcome their difficulties. If negative attitudes can be altered, the child may be more willing to read independently and to work on improving his/her reading ability.

Some children have what might be called "mixed" attitudes about reading. They may enjoy independent reading, for example, but dislike organized classroom reading activities. Some published attitude scales differentiate "attitudes about reading" even further, to include such aspects as reading at the library, free reading at home, free reading in the classroom, and so forth. In most instances, however, hypotheses about the child's attitudes about independent reading and organized reading in the classroom will probably provide the teacher with enough diagnostic information.

Careful observation may be the most efficient and valid means for learning about a child's attitudes about reading. The classroom teacher is in an excellent position to conduct such observations, since he/she works with the child daily. In order to be effective, however, observations should be collected in a variety of situations—during instructional sessions, during content-area reading time, during independent reading time, etc. In addition, observations should take place over time. A single instance of a particular behavior may mean nothing, but repeated behaviors *over time* may reveal attitudinal patterns worthy of the teacher's attention. The observer should also avoid presuppositions about the child and should strive for objectivity while observing. In other words, the teacher should attempt to observe the child's actions objectively, rather than interpreting behavior immediately. Finally, many teachers keep dated, anecdotal records of their observations. These records provide a safeguard against forgetting and facilitate hypothesis generation after observations are complete.

Observations are most effective when they are conducted objectively, over time, and in a variety of situations. To focus on the child's attitudes about independent reading, the teacher might observe with these questions in mind:

- How does the child react to independent reading?
- Is he/she able to concentrate when reading independently?
- Does he/she seem to enjoy independent reading?
- Does he/she choose to read during free time?
- Does he/she look for books in the classroom or school library?
- Does he/she use books as resources to solve problems?

To form hypotheses about a child's attitudes about organized reading in the classroom, the teacher should probably observe the child's behavior in instructional groups (perhaps story discussion and skills instruction), when reading content-area texts, and when completing practice activities such as workbook pages. Questions such as the following might frame these observations:

- Is the child a willing participant in these organized reading activities?
- Is he/she actively involved in the task?
- Does he/she freely interact with peers and the teacher?
- Does he/she seem able to concentrate?
- How does the child react: when asked to read orally, when asked to read silently?

If the child feels comfortable discussing his/her feelings, informal discussion can be another way to learn about a child's attitudes about reading. Discussions can also serve to confirm hypotheses generated through observation. By talking with children and watching them carefully, teachers can learn a great deal about their attitudes toward reading and reading-related activities. This information, in turn, can provide a valuable foundation for helping children grow as readers.

Interests in Reading

Determining children's interests in reading is not, strictly speaking, a diagnostic issue. It is important nonetheless. Knowledge about reading interests can be used to recommend appealing independent reading material, for example. Children can be encouraged to use books and other printed material to learn more about their special interests. Finally, it is sometimes possible (and often advisable) to fashion instruction around students' interests.

One way to determine children's reading interests is simply to talk with them about hobbies, favorite leisure-time activities, and general areas of interest. Knowing the child's favorite books for reading or listening is also helpful. The teacher can observe the child's reaction to books read aloud to the class as well.

Another way to determine interests is to prepare a list of topics and then ask children to rank them by preference. Such a list might include topics like animals, real people, mysteries, sports, make-believe, humor, and so forth. After children have indicated broad areas of interest, the teacher might seek more specific information. A child who is interested in animals, for example, might be particularly interested in prehistoric animals, underwater animals, jungle animals, or many other groups. Furthermore, the child might like to read stories with animal characters or prefer nonfiction accounts. Absolute specificity is unnecessary, of course, but it's often helpful to probe a bit beyond a broad, general category.

Affective factors, such as perceptions of the reading process, concept of self as a reader, and attitudes and interest in reading, are certainly worthy of diagnostic attention. In some instances, one of these factors might be part of the cause of a child's difficulties. A mistaken notion of what reading is or of what readers are supposed to do, for example, can certainly influence achievement. In other cases, the child's affective stance may be the result of reading difficulties. A child who seldom experiences success as a reader may develop negative attitudes about reading and grow to hate it. In either event, information about a child's perceptions, attitudes, and interests adds an important dimension to the diagnostic profile. To grow as readers, children must understand both the process and their own role in it. Growth is facilitated by positive attitudes and feelings of success.

Summary

Diagnosis involves asking questions and looking for answers. The diagnostic procedures described in this monograph can help teachers answer some questions about children as readers. Results of the procedures yield hypotheses which can then be confirmed through classroom observation. The next step is to modify instruction to help children overcome their reading difficulties. Overall, the diagnostic process involves asking and answering three general questions: What do I see? What does this mean? What can I do about it?

The diagnostic procedures used in any situation depend upon the nature of the teacher's questions. All diagnoses, however, should adhere to four general principles or guidelines. Since classroom reading demands are diverse and complex, diagnosis should be a continuous process that involves more than simply testing or measuring at a single point in time. In addition, diagnosis is best accomplished informally so that the diagnostic situation mirrors the instructional situation as much as possible. Furthermore, diagnosis should focus on the child's strengths, as well as weaknesses, and on affective factors that may influence the child's growth as a reader. Finally, diagnosis should result in instructional change. Teachers can learn about children's reading needs through diagnosis, but this information is useful only if it leads to instructional modifications designed to foster reading growth.

All children benefit from reading materials that challenge them to grow as readers but are not overly frustrating. A quick screening procedure designed to provide information about children's instructional levels was presented. The procedure involves double-checking children's silent reading comprehension abilities at several levels in the basal series and then testing further, should results indicate the need to do so. The procedure is also useful for placing children who join the classroom during the school year.

Several diagnostic procedures for evaluating beginning reading ability were also presented. Using a story that the child has dictated, the teacher can explore the child's sense of story, concepts about written language, ability to match speech to print, and recognition of written words. These procedures are based on insights from recent research about preschool and primary children's conceptions about reading, writing, and the relationship between speech and print.

Informal reading inventory procedures were recommended for determining the child's general reading abilities. Procedures for developing, administering, and interpreting results from an IRI were described. Teachers can use IRI results to formulate hypotheses about children's strengths and weaknesses in comprehension and word recognition.

The content reading inventory, a diagnostic procedure designed to explore children's competencies with particular content texts was also described. Content reading inventories typically include examinations of ability to use locational aids, to interpret graphic information, to learn new vocabulary in context, and to understand a passage from the text itself. Knowledge about these aspects of children's study skills can help teachers plan effective content-area instruction.

Finally, several procedures for determining students' perceptions of, attitudes about, and interests in reading were described. Attention to these affective aspects of reading adds an important dimension to the profile of the child as reader that emerges during the diagnosis.

Teachers may find these diagnostic procedures, alone or in combination useful for learning more about the children in their classrooms. Appendix E contains a holistic reading assessment, developed by Dr. Jane L. Davidson of Northern Illinois University, that provides a way to summarize information about a particular student. Teachers should be able to address each of the aspects on the assessment by referring to diagnostic results and observational information. Working with such a summary form allows teachers to view all diagnostic information about a child in a meaningful way.

Helping children overcome reading difficulties is a challenging aspect of every teacher's responsibilities. Success in this endeavor involves diagnosis and instructional adaptations based on diagnostic information. In the introduction of this monograph diagnosis was compared to detective work. The comparison seems an apt one. Both detectives and diagnosticians are problem solvers who pose questions and search for answers. Both realize the importance of exploring and observing whole situations. Both make informed interpretations of behaviors and attitudes. As a result of their efforts, both are able to solve mysteries.

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Appendix A

Group Placement Summary Form

Name	Recommended Level (R.L.)	+/- R.L.	Scores			Notes
			-1 R.L.	R.L.	+1 R.L.	

ERIC Full Text Provided by ERIC

Appendix B

Titles and Grade Level Designations for Basal Reading Series*

Grade Level	Title	Series Level
ECONOMY CO.		
K	Sunrise Signs	A
R	First Light	B
PP^1	Rainbow Morning	C
PP^2	Early Tide	D
PP^3	Sea Castles	E
P	Quiet Treasures	F
1	Sunshine Day	G
2^1	Crystal Forest	H
2^2	Spring Light	I
3^1	New Leaves	J
3^2	Bright Wonders	K
4	Silver Rain	L
5	Uncharted Waters	M
6	Copper Sky	N
7	Crimson Hills	O
8	Harvest Moon	P
GINN AND CO.		
R	One Potatoe, Two	1
PP^1	Little Dog Laughed	2
PP^2	Fish and Not Fish	3
PP^3	Inside My Hat	4
P	Birds Fly, Bears Don't	5
1	Across the Fence	6
2^1	Glad to Meet You	7
2^2	Give Me a Clue	8
3^1	Mystery Sneaker	9
3^2	Ten Times Round	10
4	Barefoot Island	11
5	Ride the Sunrise	12
6	Flights of Color	13
7	A Road to Travel	14
8	The World Ahead	15
HARCOURT, BRACE, JOVANOVICH		
K	Look, Listen, and Learn	R
R	Sounds, Symbols and Sense	R
PP^1	Sun Up	1
PP^2	Happy Morning	2
PP^3	Magic Afternoon	3
P	Sun and Shadow	4
1	Together We Go	5
2^1	World of Surprises	6
2^2	People and Places	7
3^1	Widening Circles	8
3^2	Ring Around the World	9
4	New Frontiers	10
5	Blazing Trails	11
6	Golden Voyages	12
7	Talking Flight	13
8	Widening Pathways	14

Grade Level	Title	Series Level
HOLT, RINEHART AND WINSTON		
K	About Me	1
R	Hear, Say, See, Write	2
PP^1	Rhymes and Tales	3
PP^2	Books and Games	4
PP^3	Pets and People	5
PP^4	Can You Imagine?	6
P	A Place for Me	7
1	A Time for Friends	8
2^1	People Need People	9
2^2	The Way of the World	10
3^1	Never Give Up!	11
3^2	Special Happenings	12
4	Time to Wonder	13
5	Freedom's Ground	14
6	Riders on the Earth	15
7	To See Ourselves	16
8	Great Waves Breaking	17
HOUGHTON MIFFLIN		
R	Getting Ready to Read	A
PP^1	Bills	B
PP^2	Drums	C
PP^3	Trumpets	D
P	Parades	E
1	Carousels	F
2^1	Adventures	G
2^2	Discoveries	H
3^1	Caravans	I
3^2	Journeys	J
4	Flights	K
5	Explorations	L
6	Celebrations	M
7	Pageants	N
8	Triumphs	O
LAIDLAW BROTHERS		
R	Purple Popcorn	1
R	Dancing Ducks	2
PP^1	Runaway Monkey	3
PP^2	Ferocious Fish	4
P	Blue Tailed Horse	5
1	Toothless Dragon	6
2^1	Tricky Troll	7
2^2	Wide-Eyed Detectives	8
3^1	Whispering Ghosts	9
3^2	Thundering Giants	10
4	Reflections	11
5	Patterns	12
6	Voyages	13
7	Excursions	14
8	Encounters	15

Grade Level	Title	Series Level
LIPPINCOTT		
R	Opening Up	
PP	Starting Out	
P	Exploring	
1	Reading Higher	
2^1	Jumping Up	
2^2	Rolling Along	
3^1	Zooming Ahead	
3^2	Sailing Along	
4	Taking Off	
5	Soaring	
6	Flying High	
RIVERSIDE		
K	Warm Up	—
R	Get Set	1
PP^1	On Parade	2
PP^2	Spotlight	3
PP^3	Showtime	4
P	Dive In	5
1	Up Close	6
2^1	On Stage	7
2^2	Front Row	8
3^1	Blue Ribbon	9
3^2	Gold Medal	10

Grade Level	Title	Series Level
4	Star Show	11
5	Grand Tour	12
6	Previews	13
7	In Concert	14
8	On Exhibit	15
SCOTT FORESMAN		
K	Rise and Shine	—
R	Away We Go	1
PP^1	Taking Off	2A
PP^2	Going Up	2B
PP^3	On Your Own	2C
P	Hang on to Your Hats	3
1	Kick Up Your Heels	4
2^1	Rainbow Shower	5
2^2	Crystal Kingdom	6
3^1	Hidden Wonders	7
3^2	Golden Secrets	8
4	Sea Treasures	9
5	Sky Climbers	10
6	Star Flight	11
7	Sun Spray	12
8	Moon Canyon	13

*Titles from current series, as of spring 1986.

Appendix C

Concepts of Written Language
Evaluation Form

Name______________________________ Date____________________

	Always	Usually	Seldom
UNDERSTANDS CONCEPTS OF WORD			
• boundaries (1*, 5c, 5f, 5g, 5h, 5m)			
• matching (2, 5d, 5e)			
• word-building (4)			
MATCHES SENTENCES (3)			
UNDERSTANDS TERMS			
• beginning (5a, 5c)			
• end (5b, 5c)			
• same (5d)			
• different (5e)			
• first (5f, 5h)			
• last (5g, 5h)			
• line (5i)			
• top (5j)			
• bottom (5k)			
RECOGNIZES LETTERS			
• (4, 5m, and 6)			

NAMES LETTERS (circle those named)

A — a
B — b
C — c
D — d
E — e
F — f

G — g
H — h
I — i
J — j
K — k

L — l
M — m
N — n
O — o
P — p

Q — q
R — r
S — s
T — t
U — u

V — v
W — w
X — x
Y — y
Z — z

COMMENTS:

---

bers correspond to tasks.

Appendix D

Analysis of Significant Miscues*

NOTES:

1. Include only significant miscues—those that change the meaning of the text—on this chart.
2. To determine graphophonic similarity, ask: Does the miscue *look* and *sound* like the word from the text at the beginning (B), in the middle (M), at the end (E)? Indicate areas of similarity by marking X's in the appropriate boxes.
3. To determine syntactic similarity of substitutions ask: Is the miscue the *same part of speech* as the word in the text? For other significant miscues, read the child's rendering and ask: Is this still a sentence of English? If so, mark an X in the box.
4. If desired, determine percentages by dividing total number of miscues analyzed into number of X's in the particular column, e.g., if 7 of 12 miscues were syntactically similar, percentage would be 7-12 or 58%.

MISCUE	**TEXT**	**Graphophonic Similarity**			**Syntactic Similarity**
		B	**M**	**E**	

*Adapted from Johns, 1985.

Appendix E

Holistic Reading Assessment

Jane L. Davidson
Northern Illinois University

Evident — Not Evident

I. Generally Reads to Derive Meaning:________________________ / / / / /

II. Evidence of Reading for Meaning:

Sets purposes for reading________________________ / / / / /

____

Relates major aspect or main idea of passage________________________ / / / / /

____

Relates ideas in sequences________________________ / / / / /

____

If asked, relates other ideas (details)________________________ / / / / /

____

Interprets, predicts and/or makes inferences based on reading________________________ / / / / /

____

Supports interpretations, predictions and/or inferences with logical information__ / / / / /

____

Draws conclusions and supports them based on information from reading, etc.____ / / / / /

____

Evaluates ideas generated from reading and supports them with logical information________________________ / / / / /

____

Uses a functional strategy for word identification________________________ / / / / /

____

Beginning Reader

Understands the relationship between spoken language patterns and written language patterns / / / / /

Understands the concept of a word / / / / /

Uses cueing information interactively / / / / /

Semantic information / / / / /
Syntactic information / / / / /
Graphophonic information / / / / /

Evident — Not Evident

If not, describe system that is used____________________

____

____

Reader showing growth in reading maturity

Uses cueing information interactively / / / / /

- Semantic information / / / / /
- Syntactic information / / / / /
- Graphophonic information / / / / /

Uses dictionary / / / / /

If not, describe system that is used____________________

____

____

III. Vocabulary/Concept Development:

Responses indicate that words in text are a part of speaking vocabulary__________ / / / / /

____

Responses indicate the ability to go beyond the vocabulary and concepts in the text (responses show greater knowledge and/or sophistication)__________ / / / / /

____

Responses indicate familiarity with concept(s) in the text__________ / / / / /

____

If asked, definitions or appropriate synonyms can be provided for words in text_____ / / / / /

____

Responses indicate the ability to deal with abstract ideas related to the text_____ / / / / /

____

IV. Fluency:

Adjusts rate according to purposes set and complexity of text__________ / / / / /

____

Oral reading indicates fluency and flexibility (note: lack of evidence or fluency may *not* indicate a weakness)__________ / / / / /

____

Silent reading indicates fluency and flexibility__________ / / / / /

____

V. Assessment of Self-Esteem Related to Reading:

Appears to have a positive self-concept regarding ability to read__________ / / / / /

____

	Evident	Not Evident
Reading abilities are viewed positively in relation to reading ability of peers______	/ / /	/ /
______________________________		
Positively views capabilities of becoming a better reader______	/ / /	/ /
______________________________		

VI. Assessment of Values Related to Reading:

Indicates an interest in reading______	/ / /	/ /
______________________________		
Expresses interests in types of reading materials______	/ / /	/ /
______________________________		
Enjoys reading______	/ / /	/ /
______________________________		
Chooses to read when the opportunity to do so is present______	/ / /	/ /
______________________________		

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