The purpose of this learning module is to instruct reading teachers in the technique of diagnostic-prescriptive teaching, an individualized mastery plan in which learning strategies are implemented on the basis of each student's particular needs. Activities, including reading assignments, observations, and active participation, are suggested in order to facilitate teachers' formulation of behavioral reading goals for their students. Step-by-step explanations of testing procedures, goal-setting, instruction, and retesting are provided. (KS)
TEACHER CORPS CYCLE X PROJECT
UNIVERSITY OF HARTFORD
WEST HARTFORD, CONNECTICUT

DR. PERRY A. ZIRKEL, DIRECTOR

MODULAR SEQUENCE:
DIAGNOSTIC-PRESCRIPTIVE
TEACHING OF READING

TTP 4.1  DIAGNOSTIC-PRESCRIPTIVE
APPROACH

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RATIONALE

In education today there are strong movements toward individualizing instruction, toward teacher accountability, and toward a system management approach to instruction. Each of these three movements is reflected in the field of reading in the diagnostic-prescriptive teaching approach. This approach requires a different thinking process for most teachers. In order for a teacher to be competent in the diagnostic-prescriptive method, he/she must be 1) knowledgeable about the scope and sequence of reading skills, 2) skillful in classroom diagnosis and in interpretation of diagnostic data, 3) skillful in establishing behavioral objective based on diagnostic information, 4) competent in selecting and designing classroom instructional strategies built upon behavioral objectives and children's learning modalities, and 5) knowledgeable about classroom management systems.

This module, the first of the diagnostic-prescriptive cluster, will familiarize you with the diagnostic-prescriptive model.
PREREQUISITES

No specific prerequisites are needed for this module.
OBJECTIVES

After the completion of the readings and activities in this module, you will be able to:

1) define the term diagnostic-prescriptive teaching
2) diagram the diagnostic-prescriptive teaching model
3) write a brief description of each step in the model

You may be able to complete some of these objectives right now; this is good. You will not need to complete that part of the module. However, in order to check your knowledge and to identify your strengths and weaknesses, please complete the pre-assessment on the next page. Don't be discouraged if you don't know all the answers; you're not expected to!
PRE-ASSESSMENT

To evaluate your present knowledge, please complete the following items:

1) Define diagnostic-prescriptive teaching of reading.
2) Complete the following diagram and describe each step on the appropriate lines.

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Step 1:
Identify general goals of the school reading program, K-12

↓

Step 2:

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Step 3:

↓

Step 4:
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Step 1: ____________________

Step 2: ____________________

Step 3: ____________________

Step 4: ____________________
Directions: If you are confident of your knowledge on this pre-assessment, have your instructor score the test. Congratulations!

If you do not know the answers to this pre-assessment, continue on the next page; this module was designed especially for you!
INTRODUCTION

What is diagnostic-prescriptive teaching? How does it differ from typical classroom reading instruction with three groups and with sequenced basal lessons? Essentially a diagnostic-prescriptive teacher is teaching the same knowledge and skills as the teacher following a basal approach. However, the thinking process and the organizational schemes used with the diagnostic-prescriptive approach are different. The diagnostic-prescriptive teacher views each student in terms of how the student learns, what knowledge and skills he already possesses and what he needs yet to learn. Instruction is based on objectives and is planned around each student's needs. No specific basal, workbook or filmstrip is automatically assigned to groups of students. The diagnostic-prescriptive instructor constructs a "prescription" or "plan of learning" for each student's needs. This does not necessarily mean that each student has a unique prescription or that each student is working on his own at all times. Often a group of children demonstrate a similar need and can be given the same prescription and can be instructed as a group. At other times a student may be the only one in need of certain work; he at this point will receive individual instruction. Diagnostic-prescriptive teaching is individualized because each student is working on a particular skill that he needs at that particular
time; no child works on skills he already knows. In the diagnostic-prescriptive model, sometimes referred to as the "test-teach-test-reteach" plan, the teacher and the student know at all times what they are doing, why they are doing it, and how they will determine success. It provides an efficient method of organizing the teaching-learning process.
SUGGESTED LEA. STRATEGIES

The first activity, reading the article entitled Model of Diagnostic-Prescriptive Teaching, and the eighth activity, check your knowledge, are required. Other activities are your own choice. Your objective is to understand and be able to diagram the stages in the diagnostic-prescriptive teaching approach.
ACTIVITY 1

Read the Appendix of this module entitled "A Model of Diagnostic-Prescriptive Teaching." As you read each step in the process, construct in your mind an example of how you in your own classroom would carry out each step.

ACTIVITY 2

Read Chapter 3, pages 20-24, "The Concept of the Diagnostic Reading Teacher" in Guszak's Diagnostic Reading Instruction in the Elementary School. (This chapter describes the diagnostic-prescriptive teacher and the skills and knowledge needed at each step of the process. Excellent summary.)

ACTIVITY 3

Read Chapters 1, 2, and 3 in Harris and Smith's Reading Instruction through Diagnostic Teaching. (These chapters discuss diagnosis and individualized instruction.)
ACTIVITY 4

View the filmstrip Objective-Based Reading Instruction, Addison-Wesley Publishers. (This filmstrip focuses on behavioral and expressive objectives of reading programs and uses the Wisconsin Design for Reading Skill Development as a model.)

ACTIVITY 5

Observe a teacher using the diagnostic-prescriptive approach. Identify each step in the model as you observe. Your instructor can suggest teachers to visit.

ACTIVITY 6

Review commercially-published materials such as the Power Reading System by Winston Press and Croft Skillpacks which are designed as diagnostic-prescriptive teaching procedures. Read the manual of the material, review the objectives and tests, and study the instructional management system. Notice how the materials fit the model presented in this module. Your instructor can supply you with names of other suitable materials.
ACTIVITY 7

Select one behavioral objective relevant for your students and construct a diagnostic-prescriptive teaching sequence based on the model in this module.
ACTIVITY 8

Before you take the post-assessment, complete the following test to see if you have mastered the concept of diagnostic-prescriptive model.

Directions: Arrange the following statements in their proper diagnostic-prescriptive sequence.

1. Teacher outlines reading skills needed for his students and selects behavioral objectives for each skill.
2. School committee constructs behavioral objectives for the reading program at each level of instruction, K-12.
3. Student does tape which contains instruction and practice on a skill objective he has not mastered.
4. School reading committee develops philosophy of reading or general goal of reading for the elementary school.
5. Teacher retests students on specific skills just taught.
6. Teacher reteaches students who fail post-test and assigns new skill instruction materials to those students who passed post-test.
7. Teacher administers tests to determine each child's strengths and weaknesses.
8. Teacher selects or constructs tests to assess each skill objective.

ANSWERS

3, 2, 5, 1, 6, 7, 4

If you scored 100%, you are ready for the post-assessment.
If you missed any of these steps, review Appendix I and then take the post-assessment. Good Luck!
1) Define diagnostic-prescriptive teaching.

2) Diagram and describe each step in the model of diagnostic-prescriptive teaching.

Directions: Have your instructor score your post-assessment.


APPENDIX I
1. Identify general goal of the school's reading program, K-12.

2. Construct specific behavioral objectives of school reading program, K-12.

3. Teacher identifies the specific reading objectives relevant for his students.

4. Teacher selects or constructs tests to assess student strengths and weaknesses.

5. Teacher assesses students' strengths and weaknesses.

6. Teacher prescribes and carries out instruction for each student based on specific needs.

7. Teacher reassesses skills after instructional period.

8. If student passes steps 5, 6, 7 are repeated.

8. If student fails, steps 6 & 7 are repeated.

MODEL OF DIAGNOSTIC-PRESCRIPTIVE TEACHING

by

Sue A. Deffenbaugh
The model of the diagnostic-prescriptive teaching approach is based on the idea that no child should be "taught" something he already knows. The child's learning time is very valuable and should be focused on activities and instruction that will increase his knowledge and his skills. The model, therefore, attempts to guarantee that 1) as teachers we know what knowledge and skills a student needs in order to be a competent, successful reader, that 2) as teachers we know the student's strengths and weaknesses at all times and that 3) as teachers we are constantly providing instruction based on the individual student's needs, interests and learning styles.

The model consists of eight steps--three steps which are one-time activities and five steps which are constantly repeated throughout the student's educational career. Each stage of the model places unique demands upon the teacher and unique benefits for the student. The purpose of this paper is to explain and illustrate each step.

1. Identify general goal of the school's reading program.

The general goal of any school's reading program is usually very broad and is usually stated in terms of the end product. A typical general goal is "to create life-long readers who use reading as a leisure-time activity and as
a tool to gather information for everyday decision-making." Another goal might be "to provide the opportunity for each child to read to his maximum potential." In most cases these general goals are never actually measured. Since they are usually goals related to students' lives as adults or as citizens, they are almost impossible to assess. These goals do, however, provide a direction for the reading program. It is assumed that a program whose goal is "life-long readers" would be different from a program based upon "mastery of the reading process."

A teacher's role in constructing the school system's general goal is usually that of a consultant. He might be a member of the system-wide reading curriculum committee which formulates the general goals or as a teacher he might be asked to respond to a general goal statement that is being considered for adoption by the system. In any case the system's general goals should reflect the thinking of all the educators in a school system since it sets the tone for the reading instruction across the system.

2. Construct specific behavioral objectives for the school reading program, K-12

The general goals, although certainly necessary, do not provide the specificity needed by the classroom teacher for day-to-day planning. The second step, therefore, in
the diagnostic-prescriptive teaching model focuses on the behavioral objectives of the reading program. The general goals provide the guidelines for the construction of the behavioral objectives.

A typical procedure for constructing these behavioral objectives is through the committee structure; a representative group of teachers and reading specialists meet and decide what reading skills and habits are necessary in order to reach the general goal of the school system's reading program. The committee may generate a listing of reading skills that includes phonics skills, structural analysis skills, context usage skills, comprehension skills, study skills, evaluative and creative reading skills. Each of these broad categories has several subcategories; for example, "comprehension" is frequently subdivided into "reading for details," "reading for organizational patterns," and so on.

Once the significant reading skills have been identified, the committee then formulates specific behavioral objectives for each skill. For example, a behavioral objective for main idea as stated in the Wisconsin Design program is: "Given a paragraph in which the main idea is implicit but not stated, the child is able to synthesize and state an appropriate, literal main idea with minimum 80% accuracy."

Another behavioral objective may read "The student will demonstrate ability to use syllabication rules by correctly
dividing 20 nonsense words into syllables and pronouncing these with 90% accuracy." This type of behavioral objective provides the framework for daily instruction. The behavioral objectives of the school system's reading program are usually distributed to all teachers and are assumed to be used by the teachers in the assessing of student needs and in the planning of instructional strategies.

3. Teacher identifies the specific reading objectives relevant for his students.

In the third phase of the diagnostic-prescriptive teaching model the classroom teacher, utilizing his general knowledge of his students' competencies and his knowledge of the reading process and the learning-to-read sequence, selects those behavioral objectives that are relevant for his students. These objectives undoubtedly will include skills from each of the major categories of word attack, comprehension, vocabulary, study skills and creative reading. Additionally the objectives will undoubtedly span at least three instructional levels since in any classroom students' skills range at least from one instructional level below and one instructional level above the actual grade (or unit) level of the class. A classroom teacher may, therefore, be dealing with as many as 50 or 60 behavioral objectives over the academic year. A particular student may, on the other hand, be working on ten to twelve specific objectives over the year.
These objectives are the basis for diagnostic assessment and prescriptive instruction.

4. Teacher selects or constructs tests to assess student strengths and weaknesses

For each behavioral objective there should be a corresponding assessment instrument. Many school systems elect to purchase tests which are keyed to each objective. The Craft Word Attack and Comprehension Tests, Educational Development Corporation's Criterion-Referenced Testing in Reading and Random House's Criterion System are a few of the many commercially produced assessment systems on the market today. A typical "package" of one of these systems includes a survey test which locates the general areas of strengths and weaknesses and individual tests for each behavioral objective to be administered based on the weaknesses suggested on the survey test and/or on teacher judgment. The teacher can select those tests that parallel the skills and knowledge his particular students have learned or need to learn during the academic year.

A teacher does not need a commercially-produced testing packet, however, in order to identify the strengths and weaknesses of his students. He can construct his own informal reading inventories, use testing instruments such as the Botel Phonics Inventory or use materials provided by the basal reader company. Some school systems have constructed
their own sets of tests to be used by all teachers within the system. Since the major purpose of these tests is to find out whether a particular student has mastered a specific objective, the usual test standardization and norm-referencing are not necessary.

5. Teacher assesses student's strengths and weaknesses.

Having selected or constructed tests that correspond to the behavioral objectives chosen for his students, a teacher now administers the tests and analyzes the results. Both of these steps require management expertise on the part of the teacher. All students will not take all of the tests; some students may need three while other students may need twelve. The planning of how and when to administer the assessments needs much thought and usually a good deal of juggling time and students. The analysis of the results, in addition, requires some kind of charting or record keeping system. One common technique is to make a class chart with the skills listed across the top and the students' names down the side:

<table>
<thead>
<tr>
<th></th>
<th>Locating Facts</th>
<th>Main Idea</th>
<th>Sequence</th>
<th>Seeing Outcomes</th>
<th>Inferences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Jim</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>2. Sue</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. Jane</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
The symbols of "+" or "-" are often used to indicate mastery or non-mastery of a particular objective. In this sample it is very evident the skills each child needs to learn and the students who may be grouped for instruction in a specific skill.

6. Teacher prescribes and carries out instruction for each student based on specific needs.

On the basis of the analysis of the strengths and weaknesses of each student, the teacher 1) prescribes instruction, 2) groups students, and 3) conducts the actual teaching and guidance that is necessary for appropriate learning. The instruction prescribed depends not only upon the needed skill but also upon the individual student's interests, learning style and attention span, and upon the materials available to the teacher. Hopefully, the teacher will have available a selection of filmstrips, tapes, language masters, and games as well as printed material; for each behavioral objective there should ideally be several multi-media instructional materials as well as workbooks and dittos.

7. Teacher reassesses skills after instructional period.
When a student (or group of students) has mastered a skill, the teacher reassesses that particular skill to verify mastery. Again the teacher may use commercially-produced testing material or may use his own informal measures.

8. Pass ...
   or
   Fail ...

If a student passes the post test, he then moves to a new objective and the teacher begins with #5. If he fails the post test, the student is again given instruction related to that objective and given different practice material. The instruction should not be a mere repeat of procedures and practice materials that the child has already failed to learn with. The teacher must find new materials and new techniques which will meet the child's learning needs.

CONCLUSION

The model of diagnostic-prescriptive teaching, although time consuming, has many advantages for students and teachers. Instruction is specific, objectives are clear to both students and teacher, and techniques are tailored to individual needs. The model is a significant tool in education today.