In a landmark effort in 1969, the Michigan State Board of Education created the Michigan Education Assessment Program (MEAP) to assess students' knowledge, skills, and attitudes. Since then, the MEAP has tested all 4th, 7th, and 10th graders each fall in mathematics, reading, and science. We use tests based on essential skills written by curriculum specialists and classroom teachers. Since the development of our first criterion-referenced tests in 1971, test development has generally been the work of similar individuals, with the assistance of a test development contractor and the staff of the assessment program. We periodically revise the essential skills in each subject area to reflect current thinking about student outcomes and instruction. The MEAP collects this information so that teachers can provide appropriate instruction, school districts can review and improve educational programs, and the state can monitor student achievement.

Revising the Reading Test
In the early 1980s, reading teachers, specialists, and researchers began to contend that the prevailing skills-based approach to instruction and assessment was not appropriate. Teachers were viewing skills as things that could be taught, learned, and used independently, rather than teaching them in an integrated manner. The Michigan Department of Education, in cooperation with the Michigan Reading Association (MRA), responded to this misperception by developing a different conceptual approach to reading. Not surprisingly, this redefinition of reading created the need for a different approach to assessment. From this redefinition, a revised set of objectives was developed.
DIRECTIONS

There are three parts to this reading test and Topic Familiarity is the first part. You will be tested on how well you know certain topics or ideas. Be sure you understand all the directions before you begin. You will have as much time as you need to complete the 24 questions in this test booklet.

Begin marking your answers on the answer sheet in the area labeled Topic Familiarity. Use only a No. 2 pencil to mark your answers. If you change an answer, be sure to erase the first mark completely. Mark only one answer for each question.

Now look at the Sample Items below.

Sample Item 1. Does brave help to tell about a hero?
A Yes
B No

Since a hero is usually thought of as brave, the correct answer is A. You would have filled in circle A for Sample Item 1.

Sample Item 2. Is a bird finding twigs for a nest an example of gathering?
A Yes
B No

Collecting or finding twigs to build a nest is the same as gathering; therefore, the correct answer is A. You should have filled in circle A for Sample Item 2 on your answer sheet.

Sample Item 3. Heroes try to cause danger. Is this correct?
A Yes
B No

Heroes get involved with danger, but they do not try to cause danger; therefore, the correct answer is B. You should have filled in circle B on your answer sheet for Sample Item 3.

Remember, mark only one answer for each numbered question. Make a dark mark that fills the circle. If you change your answer, erase your first answer completely. Use the No. 2 pencil, NOT a pen.

When you are done answering the Topic Familiarity questions, close your test booklet and put your pencil down so your teacher will know you have finished.

FORM T12A

Fig. 1. Directions Page from Booklet A

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A Reading Test Development Coordinating Committee subsequently developed an MEAP Blueprint in order to specify how each test element would be assessed. The four components of the test are Constructing Meaning, Knowledge About Reading, Attitudes and Self-Perceptions, and Topic Familiarity. Once the committee had determined these components, they selected reading passages and began to write test items. The reading passages were of two types: (1) narratives (from children's magazines and literature) and (2) informational (from textbooks). The committee chose materials of 500-2,000 words—substantially longer than the norm for reading tests. Readability and appropriateness of each selection were based on how well the text was structured, literary merit, use of adjunct aids, and so forth.

Initial item writing was slow because the Coordinating Committee was unsure what to measure. During the winter of 1985, the committee met with Taffy Raphael of Michigan State University.
The committee wrote items that ask about the students’ interest in the reading selection and the amount of effort they put into reading the text and answering the items.
pleted, the committee could write items for the Constructing Meaning component. They wrote three types of items: Intersentence (the answers to these questions can be found in two or three contiguous sentences in the text); Text-Level (a paragraph or more is needed in order to construct meaning); and Beyond Text (the reader must apply some of his or her own experiences and knowledge for information found in the text in order to answer the test questions).

Next, the committee wrote items for the Knowledge About Reading component. These items correspond to the Knowledge About Reading factors included in the revised objectives: Knowledge About Text, including text type, text location, and text structure (macrostructure and microstructure); Text Features, including adjunct aids such as graphs, diagrams, literary devices, and linguistic devices; and Knowledge About Strategy Uses (that is, what strategy would I use to read this material for a specified purpose?).

The third component of the MEAP test is Attitudes and Self-Perceptions. Because attitudes and self-perceptions vary with the type and purpose of the reading selection, these items had to be specific to the reading selections used in the test. The committee wrote items that ask about the students' interest in the reading selection, their ability to understand the reading selection and answer the corresponding test items, and the amount of effort they put into reading the text and answering the items.

The fourth component of the test model, Topic Familiarity, was the most challenging to measure (see fig. 1). We decided that superordinate concepts or ideas contained within each reading selection could be used to arrive at a student's prior knowledge. Item writers identified superordinate concepts for each reading selection and defined the concept as used in the reading selection. They wrote three types of Topic Familiarity questions; these items ask the student to identify (1) characteristics or attributes of the concepts, (2) examples of each concept, and (3) relations among concepts.

The formal tests for 1989 include items measuring Topic Familiarity, Constructing Meaning, Knowledge About Reading, and Attitudes and Self-Perceptions.
The Constructing Meaning section is viewed as the primary outcome measure, while the other sections are provided for explanatory purposes.

An Evolving Process
Once we had constructed the Blue-Print, we were able to complete a lengthy item writing process. First, each item writer was trained in mapping and writing each type of test item. Then several different groups of item writers worked on different grade levels and types of test items. Next, technical editing of the items was conducted by the MEAP test development contractor, BETA, Inc. Finally, there were three rounds of statewide trials and conceptual reviews.

Unlike other test development projects where everything is well defined in advance, item construction was an evolving process that required rewrites and re-edits as new understandings led to revised wordings of items. Item refinement continued through all steps of test development.

In Addition to the Test
At the same time that the MEAP staff and the MRA were developing the formal MEAP assessment, they were also concerned about improving the informal assessments teachers make in their classrooms. Since formal assessments such as MEAP occur only periodically, teachers must be able to make reliable judgments of students' progress throughout their instruction. The informal assessment project is designed to meet this need.

We have gathered a variety of informal assessment techniques for use in grades 4-6, as well as explanations on their use and record-keeping forms. These are now being piloted. Materials for grades K-3, 7-9, and 10-12 are being developed. In all cases, the materials will suggest how teachers can make valid judgments of students' abilities in Topic Familiarity, Constructing Meaning, Knowledge About Reading, and Attitudes and Self-Perceptions. Our intent is to parallel the formal MEAP assessment with informal assessment materials and to make these materials available to all classroom teachers.

Proposed Assessment for 1989
The formal tests for 1989 were piloted in 1988 in grades 4, 7, and 10. Each test includes two selections (one narrative and one informational), plus test items measuring Topic Familiarity, Constructing Meaning, Knowledge About Reading, and Attitudes and Self-Perceptions. At each grade the test is divided into two booklets: Booklet A contains 24 Topic Familiarity test items (12 for each reading selection), while Booklet B contains the two reading selections and 92 test items (20 Constructing Meaning, 14 Knowledge About Reading, and 12 Attitudes and Self-Perceptions items for each reading selection). Booklet A will be administered to all students before Booklet B.

Figure 1 shows the directions page from Booklet A. This page shows an example of each type of Topic Familiarity item.

Figure 2 shows the directions pages for Booklet B.

Reporting the Test Results
The MEAP will prepare several reports of results for local educators, including statements about each selection and each component of the test. The Constructing Meaning section is viewed as the primary outcome measure of this test, while the other sections are provided for explanatory purposes.

Figure 3 shows an example of a proposed Individual Student Report. MEAP has also developed a proposed Classroom Listing Report that summar-
izes data from various Individual Student Reports and a proposed School Summary (the same form is used to report district- and state-level results). Other report forms, such as a Parent Report, will be designed and used in 1989.

**Preparation for Implementation**

Much preparation for the 1989 assessment has been taking place. The MDE Reading Specialist, Elaine Weber, and her Curriculum Review Committee have held several statewide conferences and one national conference to train trainers to disseminate information on the redefinition of reading to local districts.

Both MRA and the Michigan School Public Relations Association (MSPRA) will be working this year to develop materials to help local districts discuss the changes in definition and MEAP assessment with various groups (teachers, administrators, parents, school boards, and the news media). Finally, the districts participating in the 1988 pilot test are working collaboratively with MRA and MDE so that they can take the lead in using assessment to review and improve their reading instruction program.

This monumental task is well begun because so many people believe, as MDE does, that the revised MEAP Reading Test will help local districts as they align their assessments to an updated definition of what good readers do. More work lies ahead, but those of us involved in this major redefinition of reading and revised reading assessment can at last see the light at the end of the tunnel.

1. See Valencia et al. (p. 57 of this issue).
2. The MEAP Blueprint, available from the Michigan Department of Education, contains a sample of each type of passage and each type of test item for each section of the test.

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