

Detroit's Measurement-Driven Instruction

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Detroit's public schools have added a new dimension to student minimum competency testing—measurement-driven instruction. Its purpose is not primarily to keep low-performing students from receiving high school diplomas, but to improve instruction in basic skills and eventually in other areas.

Detroit's program stresses special features that are relevant to instruction as well as assessment:

— The program focuses on a manageable number of community-endorsed competencies in reading, writing, and mathematics.

— Student mastery of basic skills is assessed by criterion-referenced tests built specifically to measure the competencies.

— Instructional improvement hinges on communicating competency descriptions to Detroit's teachers, students, and citizens.

— Teachers receive extensive support materials and services to ensure their acceptance of the program.

— Educator and citizen involvement in the program contributes to a sense of local ownership.

Detroit contracted with a Los Angeles-based test development agency, IOX, to define competencies, prepare

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tests, and create inservice support materials, which were reviewed and approved by groups of local educators.

A pivotal component of the program is the set of competencies in which students are expected to become proficient. Too trivial, too taxing, or simply irrelevant competencies would have jeopardized the program's success, so a Competency Selection Committee, including teachers, administrators, parents, business leaders, representatives of civic organizations, and students, was appointed to determine the basic competencies in reading, writing, and mathematics. IOX reviewed the status of minimum competency testing nationwide and prepared as options a set of competency statements reflecting those used elsewhere. From the approximate 30 competencies provided by IOX, the committee recommended 12, four each in reading, writing, and mathematics:

- **Reading:** Identifying main ideas; Understanding official documents; Using common reference tools; and Comprehending directions.

- **Writing:** Employing appropriate mechanical ability; Choosing words effectively in written communication; Completing forms and applications; and Expressing ideas in paragraphs.

- **Mathematics:** Problem solving: single arithmetic operations; Problem solving: multiple arithmetic operations; Problem solving: formulas; and Using standard measuring devices.

These competencies were assessed by multiple-choice tests, with the exception of the paragraph-writing competency, for which students had to compose a paragraph themselves.

In order to create criterion-referenced tests to measure each of the competencies, IOX first developed test specifications—the “rules” for constructing 60 test items for each competency. All the items for a given competency had to be congruent with that competency's test specifications, which were reviewed, modified, and approved by committees of Detroit Teachers and subject matter specialists. All items judged even mildly incongruent with the specifications were rejected or revised. A team of IOX Black Americans reviewed the items to detect and eliminate any bias toward minority or economically disadvantaged youngsters. They also looked for any items that might be confusing to students because of Detroit's curriculum or cultural setting.

The items were given an elaborate field test (using Detroit tenth graders) to obtain empirical indexes of item quality and Rasch values. Rasch item calibration techniques will continue to be applied each year to ensure the proficiency tests represent an equally difficult challenge for students.

On the basis of the field test data, 30 “secure” items were identified for each competency (ten per competency) and the remaining items designated practice exercises.

Staff Support Efforts

The program stresses the importance of providing teachers with support services and materials and with clear descriptions of the competencies being sought. A program manual was distributed to basic skills teachers in the junior and senior high schools, to principals, and to other relevant staff members. The manual describes the nature of each competency in simple, easy-to-understand language. In addi-

The Detroit High School Proficiency Program emphasizes instruction as well as testing.

tion to these written descriptions, audiocassettes were distributed that, subject-by-subject, dissect the four competencies.

Another section of the program manual contains instructional suggestions for the competencies. These suggestions provide analyses of sub-skills: the enabling skills that successful learners need to attain en route to mastering a particular competency. Also included are possible instructional strategies and specific teaching tactics.

Another key feature of the support program is the practice exercises in each competency that give students ample "time-on-task." Teachers use the practice exercises in a variety of ways—for an entire class, for small groups, or as individual exercises. Finally, numerous inservice workshops promote teacher acceptance of the program and greater effectiveness in achieving its aims.

Throughout program development, the planners have communicated with relevant audiences regarding its growth. Special brochures were disseminated to secondary school students and their parents. Multiple copies of an orientation filmstrip-tape program, designed for parents and teachers, were supplied to all regional offices of the school system. The program's aims and progress were described at key meetings of teachers, administrators, citizens, and influential city agencies.

Citizens know the school system is committed to evaluating, on a continuing basis, the effectiveness of the program. Neither the program's procedures nor the competencies themselves are static. An implementation committee of school, regional, and central staff have made a number of adjustments, and a more formal evaluation plan is under way.

The proficiency tests were administered citywide for the first time in the spring of 1980 to all tenth- and eleventh-grade students. Different forms of the tests will be administered yearly. After 1981, students who have failed to pass all three tests—in reading, writing, and mathematics—will not receive an endorsed diploma from the Detroit Board of Education.

In the first year, 81 percent of the pupils passed the reading test, 55 percent passed the writing test, and 49 percent passed the mathematics test. Many of the students who failed one or more of the three skill areas came within a few percentage points of passing; with a little additional instruction they should be able to pass the full examination.

Among the 12 competencies tested, students found most difficult the writing skills of Expressing Ideas in Paragraphs and the mathematics competencies involving Multiple Arithmetic Operations and Formulas. The highest scores were shown Comprehending Directions, Completing Forms and Applications, and Using Reference Tools.

As might be expected, the test was called too difficult by some and too easy by others. In a few cases, reporters who challenged the examination's difficulty level were invited to take the examination themselves on the condition they print their own results or announce them on their TV or radio stations. None accepted.

Because only about half of Detroit's pupils showed mastery of rudimentary skills in writing and mathematics, some citizens were outraged, castigating the city schools. Others were more patient. One observer urged a wait-and-see attitude, arguing that "You can't judge a book by its preface."

Superintendent Arthur Jefferson

pointed out that the first year's test results were not surprising since instructional components of the Proficiency Program had been installed for only a few months. He said the students' high performance in reading undoubtedly reflected the Detroit schools' heavy emphasis on reading instruction in recent years.

Over 2,000 high school students enrolled during the summer of 1980 in free classes designed to help them master any competencies not yet passed. Similar remedial classes with credit are offered during the regular school year. In addition, specialists have examined the full range of curriculum from K-12 to strengthen the regular program. Each skill has been assigned to an eighth- or ninth-grade required English, mathematics, or social studies class. In these classes the skills are taught to all students, using specially designed materials, practice exercises, and activities designed by teams of teachers to ensure mastery.

During the summer of 1980, Detroit curriculum specialists devised new resource materials, particularly dealing with competencies on which students had not performed well. An implication of measurement-driven instruction is not only that instruction can be designed more effectively at the outset, but that sensible curricular repairs can be made on the basis of test results.

Educational leaders in the school district believe that soon no student will be able to escape learning these 12 competencies. Teachers are better able to teach fundamental skills because they understand the learning task better and can focus on needed subskills.

Although it is still too early to render a verdict on the success or failure of the program, preliminary signals are promising. ■

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