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ABSTRACT

This report describes the Michigan State Inner City Mathematics Project which is designed to deal with the problems in the inner-city schools. The project's objectives are to provide inservice training for teachers in inner-city schools; to train critic teachers, supervisors, and other personnel for inner-city schools in mathematics; to prepare undergraduate and graduate students to teach in inner-city schools; to establish a program which reaches inner-city students at an early age; and, to establish an undergraduate program which will provide mathematics and science teachers for inner-city students. (FL)

MSUIC-MP

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Colleges and universities have failed in many instances to provide the educational experience which equip teachers to operate efficiently and successfully in inner city schools. And, inner city schools have failed to provide the educational experiences for many college capable children which would have enabled them to attain the educational height commensurate with their abilities. There can be no doubt that higher educational opportunities for inner city children must be increased, and simultaneously we must improve the in-service and pre-service training of teachers to accomplish this goal. The Michigan State University Inner City Mathematics Project (MSUIC-MP) was designed to deal with the problems stated above. The project is a cooperative college school program in which the university and the public school are working together to solve these problems. The cooperating public school districts are Battle Creek, Ecorse, Grand Rapids, Inkster, Jackson, Lansing, Muskegon, Pontiac, and Saginaw. Beginning in January, 1970-- second year of the project, Muskegon Heights and the Northwestern High School area in Detroit will be included in the program.

The specific objectives of the project are as follows:

- 1) To help provide meaningful in-service training for teachers in inner-city schools.
- 2) To help train critic teachers, supervisors, and personnel for in-service training in inner-city schools in mathematics.

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- 3) To help prepare undergraduate and graduate students (without teaching experience) for effective teaching in inner-city schools.
- 4) To provide a program, which reaches inner-city students at an early age, that will enrich their educational experience so that attending an institution of higher education is an obtainable goal.
- 5) To help establish a significant undergraduate program which will provide well trained mathematics and science teachers for inner-city youngsters.

Participants

There are three types of participants in the project.

- 1) Teacher participants.
- 2) Secondary student participants.
- 3) Fellows.

The teacher participants are mathematics teachers in inner city schools of the cooperating districts. There are fifty-four teacher participants - grades 6 - 12. The teachers attend a sequential summer Institute at Michigan State University, and work with an in-service team during the academic year in their home schools. The Institute offers courses in mathematics, a seminar on laboratory methods in mathematics instruction, and a seminar in education covering topics such as: problems of inner city schools, motivation of inner city children, and the relevance of black history in working with inner city students. The teachers observe and assist in teaching classes in the Summer Institute for secondary student participants.

The secondary student participants attend a summer Institute at

Michigan State University, and work with teacher participants and the in-service team during the academic year. Students enrolled in grades 8 - 12 with a minimum age of 13 are eligible. All student participants in the Institute in 1969 and currently enrolled will be invited to attend the 1970 Institute.

In the summer of 1969, 130 students were invited to come to Michigan State University for six weeks. In 1970, this number will be increased to 165.

Each participant takes two classes in mathematics and one in science. There are special classes in mathematics and science that enhance and build on the mathematics and science curriculums of their schools. There are courses covering the topics normally studied in secondary schools (in such courses, we will either present the material from a different viewpoint or expand on prior work). There are also courses on topics not normally covered in secondary schools. The classes for the secondary student participant range over all branches of mathematics (including statistics and computer science) and science. The program includes individual study, small seminars, laboratory work with professors, field work, and term length research projects. The staff at Michigan State University, the teacher participants, undergraduate participants, and graduate participants work closely with the schools of the secondary student participants in arranging meaningful and rewarding classes.

Classes are offered at three time periods.

8:15 - 9:45 AM

10:00 - 11:30 AM

1:00 - 2:30 PM

All students have a class at each time period. Classes normally run about 45 or 50 minutes. The longer time period permits extended discussion in classes when the added time is pertinent or supervised study when desirable. Assistants are available to tutor students in the morning, afternoon, and early evening hours. During the summer of 1970, there will be approximately 24 classes for students, 16 mathematics and 8 science classes.

The secondary students live in the dormitories at Michigan State University. The total facilities of the university are available for organized recreation and other activities. The physical education department, music department, drama department, etc. organize various activities for these students in cooperation with the counseling staff of MSUIC-MP.

Student participants for two or more years with satisfactory progress are guaranteed admission to Michigan State.

The fellows are graduate students in mathematics education. These are teachers with experiences in inner city schools and some work as instructors in in-service programs. The fellow program encompasses two summers and an academic year. During the academic year, the fellows visit schools of secondary student participants and teacher participants to observe classes, present lectures, and assist teachers in various ways. These graduate students spend at least one day each week in cooperating district

schools. During the summer, they teach courses for student participants and conduct seminars for teacher participants. Currently there are three fellows, Mr. Gerald Burke from West Palm Beach, Florida, Mr. Sam Hannibal from Cincinnati, Ohio and Mr. Willie Williams from Cleveland, Ohio. Beginning with the summer of 1970, the project will have ten fellows.

Follow-up program

An important phase of the project is the follow-up program. This is a series of activities which extend the instruction on campus into the inner city classroom. These activities are conducted by an in-service team consisting of the director, associate director, fellows, other staff members at Michigan State University, visiting consultants, and at least one teacher participant from each district. The team presents demonstration lessons and in-service workshops for participating teachers. They observe teachers and hold conferences with teachers. The in-service teams perform any type of support service which the schools and teachers deem necessary and helpful to improve instruction.

The staff in the summer Institutes are all members of the mathematics and science departments at Michigan State University. In the summer of 1969 eighteen members of the mathematics department taught classes for secondary students; and the chemistry physics, and geology departments each offered one class.

There is an advisory board consisting of the director, associate director, the head counselors for student participants, and a representative from each of the cooperating districts. The advisory board helps to plan the programs of MSUIC-MP. The advice and wisdom of this board is a pertinent factor in all decisions--this is the nature of the cooperative venture.

There is an evaluation program which is developing a short and long term appraisal of the project. Specialist in evaluation at Michigan State University and consultants are working on the program.

Undergraduate and graduate students in mathematics education with an interest in urban education observe and work with participants and staff members of MSUIC-MP. In future years, we plan to include students at all levels in the project.

At this point, we have observed that

- 1) The summer program for inner-city school children has helped convince them that attending an institution of higher learning is a realistic objective in their life.

- 2) Teachers and students from inner-city schools working and living together in the university environment have gained a measure of mutual respect and understanding, which has raised the aspirations of both.

- 3) The contact with inner-city children and their teachers early in their pre-service training, in the inner-city schools and in the university setting, has helped undergraduate

and graduate students gain insights which are essential for quality teaching in inner-city schools.

4) College professors working with inner-city youngsters have gained insights which will help them to better prepare teachers and curriculum materials.

We think of MSUIC-MP as part of a needed massive attack on the problems of inner-city schools (which is needed immediately). This requires upgrading of current staff, increased motivation of students, more opportunities for students to continue their education, and well trained teachers (with a desire to teach in inner-city schools) to fill vacancies and new positions. We believe that this can best be accomplished by a well coordinated program which encompasses efforts in all of these categories. In addition, the cooperation between the university and inner-city schools, which the project demands, will be of great benefit to both in upgrading their programs.

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