EDUCATION

Parent Learns With Child

➤ SCIENCE EXPERIMENTING, with both parent and child participating, may help overcome illiteracy in underprivileged areas.

An experimental program which is designed to fill the gaps in education that schools in deprived areas either could not or have failed to provide, is underway at Howard University in Washington, D.C., under the direction of Dr. Joseph C. Paige.

Known as the Elementary Science Project, the program attempts to teach children and parents simultaneously. Children from kindergarten through sixth grade are given simple instructions for science experiments which they perform jointly with their parents either in groups at school or in individual homes.

Families are prepared for participation in the program by visits from coordinators and interviewers.

Dr. Paige told SCIENCE SERVICE that "a major view of the project is that these children and their parents are merely temporarily handicapped by the absence of some significant factors in their environment," and that "a major goal of the program is to reduce the time of this disadvantage, especially in the science area."

During the period March 1 through Sept. 30, materials were tested on a group of children and parents from a low socio-economic area and evaluated.

A further testing of materials and expansion of the project will continue through the school year.

In addition to the center in Washington, centers for the project have been established in North Carolina and at the East River Children's Center of Mills College of Education in New York. A center is also planned for Jacksonville, Fla.

Materials for the program include science packets, kits and simple items adapted to the group.

SCIENCE SERVICE cooperated by supplying THINGS of science experimental kits. Special adaptations of units on sound, color, taste, space materials, metals and magnetic force, among others, are being used in the tests.

Modifications of materials developed by Science Materials Center, Inc., New York City, Ward's Natural Science Establishment, Rochester, N.Y., and some of the new experimental science programs were also used.

Because of the short attention span of children, the science experiments designed are short and simple, but still hold the interest of the performers.

A new activity of the Elementary Science Project, Dr. Paige said, is to provide science participation experiences for children, aged 7 to 14, in cooperation with the Commissioners' Youth Council of the District of Columbia.

The home experiences are supplemented with Saturday sessions held in the department of physics on the Howard University campus. Graduate assistants, university tutors and volunteers from the physical science program and the natural science honors program serve as tutors and group leaders.

Dr. Paige stated that activities are mostly performed using THINGS of science in this program which was initiated early this month.

Project leaders hope that from the experimental program, guidelines for determining the effectiveness of science as a medium or vehicle for the promotion of literacy in general may evolve.

The project is supported by a grant from the Cooperative Research Branch, U.S. Office of Education.

Dr. Paige said that the project, now established as a non-profit organization, has met with overwhelming success and promise. The present plan would extend the life of the program through 1971.

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Elementary Science Project

OUTDOOR CLASSROOM—Dr. Joseph C. Paige explains some elementary principles of sound using a THINGS of science experimental kit to children and their parents in one of the North Carolina groups of the Elementary Science Project.

TECHNOLOGY

Computer Can Read Almost Illegible Writing

➤ A GIANT COMPUTER is "learning" to read handwriting and hand printing ranging in legibility from the efforts of grade-school children to the fast scribbles of college professors.

The success of this computer program, reported to the National Electronics Conference in Chicago, brings closer the time when computers can tackle without human supervision such jobs as the scrutiny of income tax returns, the processing of bank checks and statements, even the appraisal of weather maps for forecasting.

These and many other vital tasks could be handled by computers with high reading skills and the ability to learn from what they read.

To develop such ability in a machine means that it must first of all be programmed (instructed by tape or punch cards) to recognize various kinds of visual patterns—a problem on which engineers and computer scientists have been working for the past eight years.

Recognition of machine-printed letters is relatively easy; investigators in the field have already developed such computer programs for research projects, although not for common commercial use. But to get the computer to recognize and act on a wider variety of visual patterns, none precisely alike and none completely predictable, as in handwriting, weather maps or targets in space, requires a system of far greater complexity.

Today's development, reported by Prof. King-sun Fu and graduate student C. H. Chen, of the School of Electrical Engineering, Purdue University, Lafayette, Ind., takes a long step in that direction. The Purdue computer learns from each new handwritten or hand-printed sample it "sees," changing its programmed instructions so it can recognize still more varieties of the same letters.

The researchers accomplished this by applying a sequential decision procedure, not previously used in practical problems of pattern recognition.

The computer makes a series of decisions in sequence, totaling a fraction of a second. The result of each calculation governs the next move. As the final step the computer prints out the letter it recognizes.

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