

New Developments in Educational Technology

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Dallas, Texas

It has often been said that it takes about 40 years for innovations to occur in the field of education. It is, therefore, of interest that a report (*I*) of the President's Research Committee on Social Trends states:

Various methods of individual instruction have been adopted in recent years. . . . In lower schools differentiated curricula . . . have been arranged. Experiments have also been tried with minimum assignments for all members of a class and additional assignments for the abler pupils. Sometimes pupils have been classified according to ability, and instruction has been adapted by various devices to the different classes.

Individual teaching is sometimes carried a step farther. Each pupil is thought of as so distinctly different from all other pupils that he is allowed to exercise his initiative not only with regard to methods of study but with regard to the topics to be studied. Class organization and the coherent sequences which have characterized the traditional courses of instruction are sometimes abandoned and the individual is encouraged to discover and follow his personal intellectual or practical interests.

The report contains a foreword by the President—namely, Herbert Hoover. It is dated 11 October 1932.

It now appears that over the next few years major changes in the traditional education area are about to take place and, by 1972, 40 years after President Hoover's Research Committee's study, the devices and individualization of instruction referred to will be accepted procedures for many school systems.

Why these changes have been so long in coming is at least partly explained by past lack of continuous and harmonious communication between the academic, industrial, and governmental groups concerned with these problems. In order to encourage such communica-

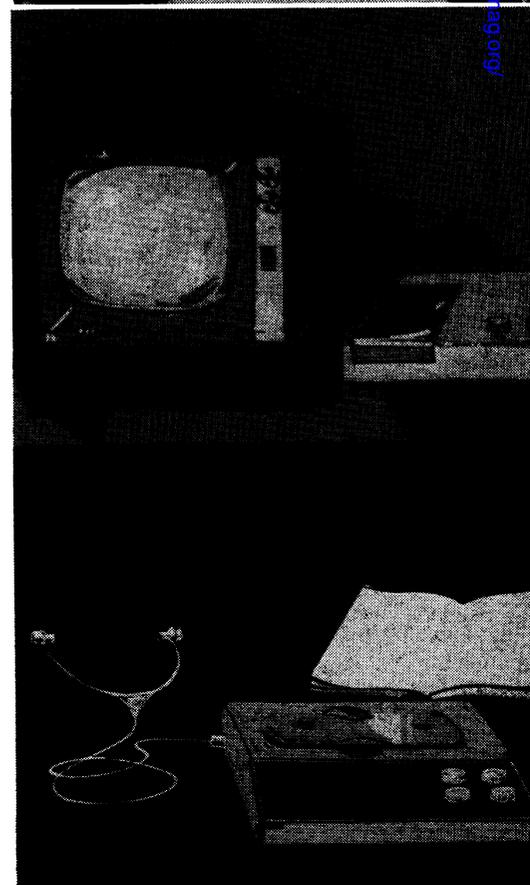
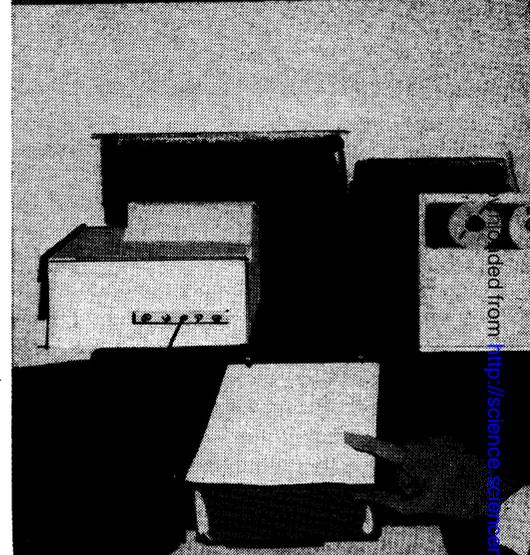
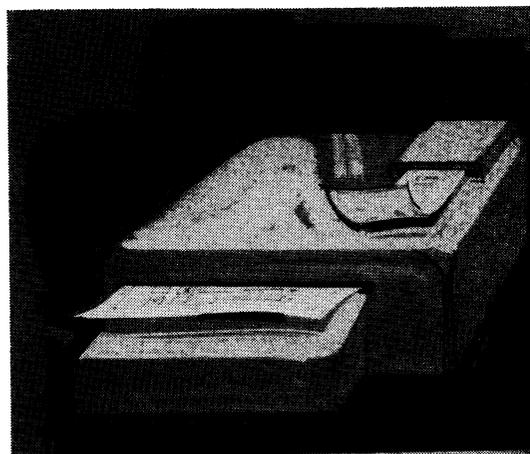
tion, a program called Project ARISTOTLE (Annual Review and Information Symposium on the Technology Of Training, Learning and Education) was formed in 1966. Its objective is to help provide a structure for continuing dialogue within the education-industry-government community, and to contribute to the advancement of the quality and efficiency of the nation's education and training.

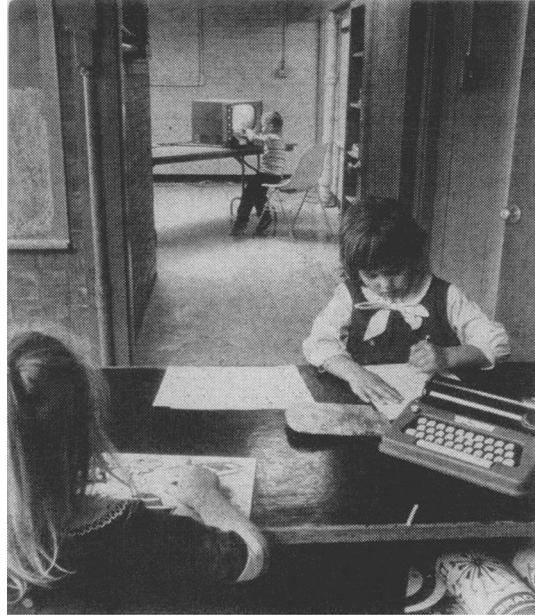
ARISTOTLE Task Group No. 5 reviews new developments. As part of the 1968 AAAS annual meeting in Dallas, Texas, three highlight areas will be reviewed, namely: Computers in Education, Communications and Multi-Media in Education, and Individualized Instruction.

It is apparent that progress in each of these areas directly affects the state of the art of each of the other areas. It is also apparent that the entire field of educational technology is now moving along at a much greater rate than fully realized by many who are peripherally associated with the educational research and development.

Fundamental to the ARISTOTLE "dialogue" is a belief in the need for high quality education for all. The challenge of the learning field is a very serious one with the fate and course of many lives hanging in the balance. How well each of us does his related job will directly affect the number of disadvantaged youngsters who make their way out of poverty ghettos. Each new development reviewed has its counterpart in richer and more productive lives.

It is increasingly apparent that no one sector of our community can solve the problems of modern society. The solution must be a cooperative, academic-socio-industrial one. The traditional





Experimental program in reading for pre-school children uses contingency management system. Child is rewarded for learning.

walls of separation between these sectors are gradually giving way. To an ever greater extent, the personnel and responsibilities of each area are now pervading the other two. While many of our present-day difficulties can be attributed to fallout from the industrial revolution of the past century, there is

considerable indication that the technology of the next century is a hope for realistic solutions. To many, "total systems technology" is the answer, and perhaps the only possible answer.

A theme connected with our emerging interdisciplinary field can be thought of as centering around an educational-industrial revolution for the student leading to a greater prosperity of knowledge and experience available to him. The total effect is a highly individualized one in which the computer power per student is greatly increasing; the number of individualized bits of information or communications bandwidth per student is rapidly expanding; the techniques for reaching the student by means of all of his sensory capacities, be they audio, visual, tactile, or directly interneural, are expanding. With these expansions are coming new teaching systems, trainers, simulators, a complete metamorphosis of the educational environment, and a new role for the teacher.

Speaking at the International Conference on the World Crisis in Education, President Lyndon Johnson posed the challenge of capturing 20th-century technology for the service of edu-

cation. He asked for new ideas on how to use television to speed the instruction of our children; how to use satellite communications to make the best scholars and teachers available to all universities; and how to make the best use of films and devices to aid those doing research everywhere. ". . . When it comes to education, every nation, including this one, is still a developing country."

It is thus fitting that the AAAS Annual Meeting this year include a full review of computer-assisted instruction (CAI), computer-managed instruction (CMI), new audio-visual media, and new total systems for the individualization of education. Panels have been assembled into "proponents" versus "critics" so as to allow for a full and objective discussion. In addition, workshop sessions will be held in each of the three major new development areas.

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Reference

1. *Recent Social Trends in the United States*, report of the President's Research Committee on Social Trends (McGraw-Hill, New York, 1933), pp. 356-7.

Speakers and Topics

26 December

Computers in Education

Chairman: Harvey J. Brudner (Project ARISTOTLE).

Proponents: Ed Adams (IBM), Robert J. Seidel (George Washington University), and M. Keith Myers (Project PLATO).

Critics: Hugh McDougall (New York City Board of Education), Charles Blaschke (Institute for Politics and Planning), and Bed Edelman (Western Electric).

Discussion Leader: James A. Turman (Associate Commissioner, U.S. Office of Education).

27 December (morning)

Communications and Multi-Media in Education

Chairman: Harvey J. Brudner.

Proponents: Richard C. Gearhart (Eastman Kodak Company), Walter LeBaron (System Development Cor-

poration), and John W. Wentworth (RCA).

Critics: Fred M. Hedding (Pennsylvania School Boards Association), Frank J. Blaisdell (Tracor, Inc.), and Donald T. Tosti (Westinghouse Learning Corporation).

27 December (afternoon)

Workshop-Computers in Education

Moderator: Harvey J. Brudner.

Panel: Ed Adams, Robert J. Seidel, M. Keith Myers, Hugh McDougall, Charles Blaschke, and Ben Edelman.

Workshop-Communications and Multi-Media in Education

Moderator: Howard B. Hitchens, Jr. (USAF Academy for Educational Development).

Panel: Richard C. Gearhart, Walter LeBaron, John W. Wentworth, Fred M. Hedding, Frank J. Blaisdell, and Donald T. Tosti.

Workshop-Individualized Instruction

Moderator: Willard J. Jacobson.

Panel: John C. Flanagan, Karel Montor, Joseph Lipson, Edward Maltzman, J. Myron Atkin, and Marvin W. Kirkman.

Guest Speaker

Patrick Suppes (Stanford University).

28 December

Individualized Instruction

Chairman: Willard J. Jacobson (Columbia University).

Proponents: John C. Flanagan (American Institutes for Research), Karel Montor (U.S. Naval Academy), and Joseph Lipson (Nova University).

Critics: Edward Maltzman (Sylvania Electric Products, Inc.), J. Myron Atkin (University of Illinois), and Marvin W. Kirkman (Texas Education Service Center).

Science

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