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ABSTRACT

This document provides brief descriptions of the 20 individual programs now in effect for Follow Through research and development. Follow Through is attempting to assess the effectiveness of a variety of innovative approaches to working with young children and their families in a number of cultural and environmental settings. These approaches represent the thinking of many of the country's most knowledgeable and creative innovators in the field of primary education and social practice. They reflect a broad spectrum of theoretical positions, from a highly structured instructional approach that stresses cognitive skills to a far less structured child-centered approach which emphasizes the development of the child's confidence and other behavioral characteristics. Two approaches are not directly concerned with classroom instruction: one trains parents to supplement their children's education at home; another emphasizes a more active role for parents in school decisionmaking. (Author/AJ)

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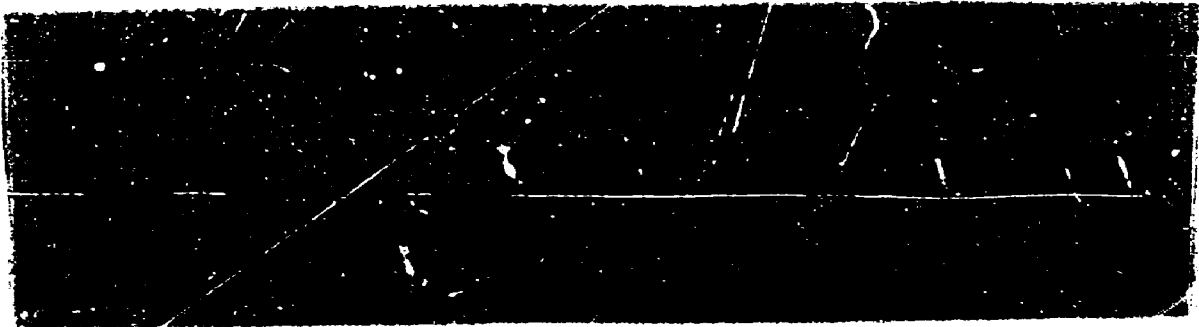
PROMISING APPROACHES TO EARLY CHILDHOOD EDUCATION

SCHOOL YEAR 1970-71

PS005042

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INTRODUCTION

Follow Through is a program designed for poor children in the early primary grades, building on the foundation provided by a full-year Head Start or similar preschool program. The program is being administered with a research and development emphasis in an effort to accumulate solid evidence about the effectiveness of various program approaches in improving opportunities for poor children in different sections of the country, in rural and urban settings, and in diverse population subgroups.

Follow Through provides not only special programs of instruction but also general health services including dental care, nutritious meals, and other physical and emotional supports that educators believe contribute much to the child's readiness to learn. As a service and social action program, it also recognizes the importance of parental interest and involvement in children's education and requires the active participation of parents in major decisionmaking and day-to-day operation of its local projects.

Like Head Start, Follow Through is funded under the Economic Opportunity Act. It is administered by the U.S. Office of Education under a delegation of authority from the Office of Economic Opportunity. For school year 1970-71, some 60,000 children from low-income families are enrolled in 160 projects in 50 States, the District of Columbia, and Puerto Rico.

Follow Through's research and development program is a unique attempt to unite educational theory and practice—to evaluate new approaches to early childhood education not in the controlled environment of the laboratory or demonstration school but in the pragmatic setting of the public school.

The heart of the research and development effort is a program of "planned variation" in which Follow Through has undertaken to assess the effectiveness of a variety of innovative approaches to working with young children and their families in a number of different cultural and environmental settings. Follow Through is using 20 promising approaches in school year 1970-71 developed by colleges, universities, regional education laboratories, and other research and development centers.

These approaches represent the thinking of many of the country's most knowledgeable and creative innovators in the field of primary education and social practice. They reflect a broad spectrum of theoretical positions, from a highly structured instructional approach that stresses cognitive skills to a far less structured child-centered approach which emphasizes not curriculum content so much as the development of the child's confidence and other behavioral characteristics. Two approaches are not directly concerned with classroom instruction: one trains parents, particularly in teacher-short rural areas, to supplement their children's education at home; the other emphasizes a more active role for parents in school decisionmaking about how and what their children learn.

With few exceptions, Follow Through communities are asked to select the approach (or two or more in combination) that most nearly meets the needs of local children. Once its approach is selected, the institutional developer serves as "program sponsor," providing intensive teacher training, curriculum materials, evaluation, and other services to help the community implement and evaluate the approach in the classroom.

All 20 sponsors and 160 local projects are participating in a national evaluation conducted by an independent research organization. Results of this evaluation and related research should enable Follow Through to contribute in a few years to the development of educational programs keyed to the needs and interests of far more children than it can reach directly.

Following are brief descriptions of the 20 program approaches, designed primarily to give the reader a general overview of each sponsor's theoretical position, learning objectives, and associated communities. More detailed presentations are available from individual sponsors.

APPROACHES BASED ON IPI AND PRIMARY EDUCATION PROJECT

Program Sponsors: Lauren Resnick and Warren Shepler, Learning Research and Development Center, University of Pittsburgh

The Learning Research and Development Center model is designed to provide an individualized program of education for each child. It does not require the child to work on skills and concepts that pretests show he already understands. Rather, it identifies each child's strengths and weaknesses and gives him a personal program of instruction based on what he needs to know by the time he is graduated from Follow Through.

The model includes IPI (Individually Prescribed Instruction) for children in grades 1-6 and PEP (Primary Education Project) for children in the preschool and primary years. These approaches are the result of the Center's research and development work in demonstration schools over a period of several years.

The goal is to insure that every child will emerge from the primary grades confident of his ability to learn and well-equipped with the skills and concepts that form the basis of later learning. The academic program stresses the learning of strong language development, classification and reasoning skills, and perceptual motor skills. There is also considerable emphasis on the development of independent work and social skills.

The individual learning program begins with a series of diagnostic tests to determine each child's strengths and weaknesses. Mathematics testing, for example, may show that one 1st-grader can already count from 1 to 100, while another has trouble getting up to 10. A single child may test high on ability to sound out new words, but have difficulty with comprehension. The teacher prepares a "prescription" for each child, based on these pretests, showing at what level he should begin to work toward various learning objectives.

The model requires two adults—one a certified teacher—in the classroom. Because an individualized system such as IPI and PEP calls for new roles and skills for teachers, the Center provides year-round workshops and other inservice education for teachers. Special emphasis is given to training supervisors from the Follow Through communities who then conduct local training programs for their own staff.

The IPI-PEP model is being used by Follow Through in school year 1970-71 in Montevideo, Minn.; Akron, Ohio; Lock Haven, Pa.; and Randolph County, W. Va.

BANK STREET COLLEGE OF EDUCATION APPROACH

Program Sponsor: Elizabeth Gilkeson, Bank Street College of Education

The ultimate objective of the Bank Street Approach is to enable each child in his initial years of schooling to build a positive image of himself as a learner.

Children, especially disadvantaged children with their frequently chaotic histories, need first to trust in the predictability of the school environment and to learn the effects of their own actions within it before they are able to persist at and profit by their work. The learning of specific skills, it is believed, cannot take place independently of healthy emotional development.

The teacher is regarded as highly important in the development process, since it is the teacher who helps the child become aware of his world, who sensitizes him to sights, sounds, feelings, ideas, and experiences. The teacher introduces activities and plans events, but teaching is in terms of how the individual child responds. The teacher teaches diagnostically and plans individualized followup.

The teaching team consists of people with a wide range of training, life experiences, and competencies working under the leadership of the teacher. In addition, the interdisciplinary staff contributes to the individualization of the program by supplementing the teacher's diagnostic skills and awareness of the child's out-of-school experiences.

The curriculum progresses from child-oriented content to social content. Planned activities are originally based on classroom themes (organizing chores, cooking, block-building, etc.) and later extend to community themes such as food marketing and traffic control. Academic skills are learned in the context of relevant classroom life.

Language, written and spoken, surrounds the children in the classroom, and they learn it as a useful, pleasurable tool. This approach helps children translate their classroom experiences into symbols they can read and write. A planned sequence of reading activities begins as the children develop prerequisite skills.

In school year 1970-71 the Bank Street College of Education Approach is being used in Follow Through projects in Huntsville, Ala.; Macon County, Ala.; Boulder, Colo.; New Haven, Conn.; Wilmington, Del.; Cambridge, Mass.; Fall River, Mass.; Elmira, N.Y.; New York (PS 243), N.Y.; Plattsburgh, N.Y.; Rochester, N.Y.; Philadelphia (Districts 2 and 5), Pa.; and Brattleboro, Vt.

BEHAVIOR ANALYSIS APPROACH

Program Sponsor: Donald Bushell, Jr., Support and Development Center for Follow Through, University of Kansas

Behavior Analysis consists of a wide array of systematic techniques capable of creating an educational environment to accelerate the social and academic development of young children. These techniques emphasize the precise use of positive reinforcement to attain clearly stated instructional objectives.

Classrooms following this approach are cooperatively directed by a team consisting of a lead teacher, aide, and two parent trainees. Parents of Follow Through children are employed in staggered periods of 6 weeks during which they learn the techniques of positive reinforcement as they tutor individuals and instruct small groups of children. New parents are trained by more experienced parents in the classroom and in preservice workshops arranged by the Parent Coordinator. Ten or 11 parents are hired as trainees in each classroom every year. Thus a substantial base of informed community support for program implementation is provided.

Behavior Analysis introduces reading, arithmetic, and handwriting at the kindergarten level and emphasizes the accelerated mastery of these skills during the early elementary grades. The augmented classroom staff allows for small-group instruction which uses programmed materials, enabling each child to progress at his own maximum rate. A high level of motivation is maintained with a token system which is used by all members of the teaching team to reinforce specific behaviors immediately.

Staff development begins just prior to each school year with workshop training in or near the local district. Videotape exchanges, training and curriculum manuals, extension courses, consultations, monthly workshops, individual student progress records, and planned exchanges with other communities using the approach are combined to provide a continuing inservice training program. These procedures are designed to bring teachers to professional competence as behavior analysts and to establish a parent organization which is skilled and interested in insuring the academic success of the children.

The Behavior Analysis Approach is being used by Follow Through in 1970-71 in Hopi reservation schools in Arizona; Mounds, Ill.; Waukegan, Ill.; Indianapolis, Ind.; Louisville, Ky.; Pittsfield, Mass.; Kansas City, Mo.; Portageville, Mo.; Northern Cheyenne Tribal Council schools in Montana; Trenton, N.J.; Bronx (PS 243), N.Y.; and Philadelphia (Districts 2 and 4), Pa.

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BEHAVIOR-ORIENTED PRESCRIPTIVE TEACHING APPROACH

Program Sponsor: Walter Hodges, Southwest Center for Early Childhood Personnel Development, State College of Arkansas

The Behavior-Oriented Prescriptive Teaching Approach is keyed to the learning needs of children whose poverty is compounded by their rural background—family isolation, poor transportation, limited community resources, lack of experience, and an almost universal inability on the part of parents to capitalize in the home on what their children learn at school.

The approach includes two components: intensive, individualized classroom instruction directed toward specific behavior objectives for children, and a parallel curriculum for parents that enables them to continue their children's education after school hours.

The instructional program for children is based on objectives developed for kindergarten and the primary grades. Teachers and classroom aides, who serve primarily as diagnosticians, identify each child's competence in four major skill areas: (1) sensory-perceptual-motor; (2) thinking and reasoning; (3) intrapersonal (confidence and attitudes toward learning); and (4) interpersonal (relationships with other children and with adults). Appropriate classroom activities based on the child's beginning level for each objective are prescribed. This approach builds on assessed strengths by providing tasks in which the child can succeed. He competes with himself rather than with others; he learns to strive toward his own goals and see improvement in his own performance.

The parallel program for parents assumes that there are not now, nor are there likely to be in the near future, enough professional teachers to meet the needs of all poor children. The program also assumes that teaching is an appropriate activity of parents who can become sophisticated users of teaching materials and enter into a constructive partnership with teachers. Educational materials keyed to the objectives stressed in the classroom, as well as instruction in their use, are provided for parents to work with their children.

The sponsor provides an educational consultant and parent involvement specialists for preservice training workshops for local Follow Through staff. These teams hold monthly inservice sessions to facilitate implementation of the model in participating schools. Basic program documents are available from the sponsor.

The Behavior-Oriented Prescriptive Teaching Approach has been adapted for use in Follow Through schools during 1970-71 in Daviess County, Ky., and Natchitoches Parish, La.

CALIFORNIA PROCESS MODEL

Program Sponsor: Ruth Love Holloway, Bureau of Program Development, California State Department of Education

The California Process Model uses a diagnostic-prescriptive approach, that is, it determines by a careful inventory of skills the learning needs of each child and develops a prescription or program of instruction to meet his individual needs. The approach is based on the premise, among others, that individualized instruction will eliminate, or at least modify, the educational deficits and patterns of behavior among poor children that tend to impede learning.

The program also includes diagnosis of teacher and parent needs and strengths in order to improve and utilize teaching skills. Strong emphasis is placed on more effective involvement of parents in the development, implementation, and evaluation phases of their children's education.

Within this framework, participating communities develop their own instructional program. Developmental teams—parents, teachers, administrators, community representatives, and students—serve as primary agents for curriculum development.

The State Department of Education assists the local developmental team in: (1) identifying or developing appropriate tests to diagnose pupil strengths and weaknesses; (2) providing systematic learning and behavioral objectives, based on diagnostic findings, to be attained by pupils as the school year progresses; (3) identifying teaching strategies that will help children reach these objectives; (4) planning and running inservice training programs for teachers and other staff; (5) helping schools mobilize parent and community support and resources; and (6) providing other services to strengthen the total program.

Feedback from the local Follow Through policy advisory committee (half the members of which must be parents), other parents, and the developmental team helps the State evaluate the success of each community in using the approach and in developing other facets of the Follow Through program, such as general health services and dental care.

The instructional programs developed by the six communities now participating will contribute to development of a second-generation model that can be adapted to the needs of other communities. Participating localities, all in California, in school year 1970-71 are Lamont, Los Angeles (city), Oakland, Ravenswood (E. Palo Alto), San Jose, and San Pasqual Valley (Winterhaven).

COGNITIVELY ORIENTED CURRICULUM MODEL

Program Sponsor: David Weikart, High/Scope Educational Research Foundation

Derived from the theories of Piaget and developed through 3 years of research with disadvantaged children, the Cognitively Oriented Curriculum provides teachers in the early elementary grades with a theoretical framework of cognitive goals combined with auxiliary commercial materials and a strategy for teaching.

Five cognitive areas have been derived from Piaget's research with young children: classification, number, causality, time, and space. These areas are presented in the curriculum as a carefully sequenced set of goals that enables the teacher to focus on the development in children of specific kinds of thought processes essential to all mental growth. Used in this curriculum component are such commercial materials as the AAAS science materials (Science: A Process Approach), the Nuffield and Cuisenaire mathematics materials, the Van Allen Language Experience in Reading, and the Miami Reading Series. Selected materials must provide for the creative involvement of the child in the learning process rather than offer him "success" by mastering a set of "right answers."

Children learn by doing, experimenting, exploring, and talking about what they are doing. To enhance these learning opportunities, the model may require a number of changes in traditional classroom and teaching arrangements: (1) Instruction is conducted with individuals and small groups rather than a total class. (2) Pupils are actively engaged with learning materials rather than passively listening to explanations. (3) Teachers are doing more asking and less telling. (4) Discussions are designed to encourage speculation and ideas rather than factual answers. (5) Self-direction rather than teacher dominance is developed. (6) Verbal interaction among children is encouraged.

In addition to the classroom program, a home-teaching program provides periodic visits by teachers to the children's homes. Home teaching is an opportunity for parents to learn how to become directly involved in the education of their children. In time, the teacher takes a less active role in the visits as parents begin to make plans and set goals for future visits.

The Cognitively Oriented Curriculum is being used in Follow Through classrooms in school year 1970-71 in Denver, Greeley, and Trinidad, Colo.; Okaloosa County, Fla.; Chicago, Ill.; LeFlore County, Miss.; Mountain Grove, Mo.; New York (PS 92), N.Y.; Seattle, Wash.; and Riverton, Wyo.

CULTURAL LINGUISTIC APPROACH

**Program Sponsor: Nancy Arnez, Center for Inner City Studies,
Northeastern Illinois State College**

By the time most minority-group children—Spanish-speaking, black, Indian, Southern white migrant, and others—enter the primary grades they have learned to think and speak quite well in their own language or dialect, but they have trouble translating these partially developed cognitive skills into "standard" English.

The Cultural Linguistic Approach is an oral language program that builds on the patterns of thought and the educational gains already achieved in a nonstandard English dialect or in another language. It uses a curriculum based on the child's own culture and on his oral capacity to increase his reading, writing, problem solving, conceptual, and other skills in English.

Objectives of the program are to encourage children in: (1) observation activities that teach them to use all their senses to discover information and select relevant facts; (2) classifying activities to put objects in useful groupings; (3) collection activities that show them how to arrange information in an orderly pattern or sequence; and (4) activities related to their culture that encourage the use of imagination and creativity.

The approach has a strong teacher training component. Emphasis is placed on giving teachers and other school staff the insights that lead to a better understanding of minority cultures and encourage more effective communication with children, parents, and their communities. Training sessions for parents and other community participants in the Follow Through program deal with such topics as how to reinforce the children's classroom learning at home and how to organize parent groups to work effectively with and for Follow Through in pooling community resources.

The sponsor holds 1-week summer workshops for teachers and school administrators prior to the model's introduction in the schools in the fall. Two-day workshops are held several times during the school year to introduce new teaching materials, stimulate creative inputs by the communities involved, and provide continuity as the approach is refined to meet local needs.

The Cultural Linguistic Approach is being used in school year 1970-71 in Follow Through projects in Chicago, Ill., and Topeka, Kans.

EDUCATION DEVELOPMENT CENTER APPROACH

Program Sponsor: Frank Watson, Education Development Center

The Education Development Center Approach is a strategy to help schools make drastic changes in the total educational environment for young children. It is not a project in compensatory education. The approach is based on the conviction that American schools generally—not just those in poverty areas—are failing to provide the broad humanistic education that a technological society requires. The EDC group believes that major long-term changes depend far more on the energy and vision of people in the school system than on the imported expertise of outsiders. The philosophy has its roots in part in ideas and practices evolved over many years in British primary schools.

The approach stresses the "open classroom," responsive to the individual needs of children as well as the particular talents and styles of individual teachers. Traditional academic skills are important, but children have the chance to pursue them in more flexible, self-directed ways so that their learning becomes a part of their life style outside as well as in the classroom. Pupil groupings are kept flexible, shifting with the needs and interests of the children.

The EDC model's advisory team recognizes that the teacher operating in the broad "open education" frame-work—where she has freedom to structure her program to fit the needs and interest of her own pupils and where the children take part in day-to-day planning of their own education—needs far more assistance than usually goes along with a curriculum or methods change. The advisory team provides continuing teacher support. It conducts orientation courses for both teachers and administrators, works with teachers in the classroom, provides appropriate books and materials, develops prototypes of new instructional equipment, conducts programs for parents, and assists school administrators with problems related to classroom change.

One EDC advisory team goal is to help develop a local advisory group made up of school supervisors, consulting teachers, and other qualified persons that can be available at all times to give teachers encouragement and support.

The Education Development Center Approach to Follow Through is being used in school year 1970-71 in projects in Laurel, Del.; Washington, D.C.; Chicago, Ill.; Dorchester, Mass.; Paterson, N.J.; Johnston County, N.C.; Lackawanna County, Pa.; Philadelphia (Districts 3 and 6), Pa.; Rosebud, Tex.; and Burlington, Vt.

FLORIDA PARENT EDUCATION MODEL

Program Sponsor: Ira Gordon, Florida Educational Research and Development Council, University of Florida

The Florida Parent Education Model recognizes that a child's pattern of achievement and motives for learning, as well as his personality, are formed in large measure by his early home environment. In addition to providing ways to improve classroom organization and teaching patterns, the Model is designed to train parents to supervise learning tasks in the home that will increase their child's intellectual, personal, and social competence.

Key elements in the program are: (1) training the mother of a Follow Through child as a combined parent-educator and teacher auxiliary, and (2) training teachers to work with the parent-educator.

The parent-educator visits parents, usually the mother, of each child to explain the learning tasks—how to supervise them, how to estimate the child's ability to complete them, and how these tasks discharged in the home can improve the child's classroom performance. In school, the parent-educator serves as a teacher auxiliary to conduct instructional activities, assist in the observation of individual pupils and general class behavior, and work with one child or small groups as needed.

A summer workshop begins the process of teaching a set of systematic observation procedures that enables the teacher or parent-educator to study one child, several, or the class at large, and to study his own teaching behavior and the general climate in school and home. These observations are central to the development of instructional materials by teachers and parent-educators for use in school and for parent-educators to take into the home.

The Model does not determine the school curriculum. Rather, it helps teachers analyze the curriculum so that specific cognitive tasks appropriate for home use can be developed. The consulting and monitoring system operated by the sponsor assists schools in implementing and evaluating the program.

During the 1970-71 school year the Florida Parent Education Model is operating in Follow Through projects in Jonesboro, Ark.; Duval County (Jacksonville), Fla.; Hillsborough County (Tampa), Fla.; Lawrenceburg, Ind.; Philadelphia (District 4), Pa.; Fairfield County, S.C.; Houston, Tex.; Richmond, Va.; Yakima, Wash.; and Lac du Flambeau, Wis.

HAMPTON INSTITUTE NONGRADED MODEL

Program Sponsor: Mary Christian, Hampton Institute

The Hampton Institute Nongraded Model is designed to place boys and girls in a classroom setting where they are free to forge ahead or to detour when necessary. Traditional grade designations are dropped and pupils are placed in multi-age groups. Each child advances in a subject at his own learning rate. Progress is not determined by age, years of school, or performance in competition with other children but by individual mastery of skills.

At the core of the nongraded approach is an intensive training program at Hampton Institute for teachers and others working with Follow Through children. A summer institute acquaints teachers and principals with the nongraded concept and the changes needed in the elementary school organization and curriculum.

Reading is the lifeline of the educational development of all children, yet it is the subject with which disadvantaged children have the most difficulty. The summer institute gives teachers the opportunity to learn the operational procedures for a nongraded reading program and how a personalized program can be developed for small groups or individual children.

The language arts program is integrated with the social science curriculum, so that pupils learn to read, write, and express themselves easily in conversation at the same time they are learning concepts in history, geography, and literature. For mathematics and science, the summer training program requires teachers to work in a laboratory environment to develop materials, construct equipment, and perform experiments that will enable them to individualize instruction on a nongraded basis in the classroom.

The sponsor also provides inservice training and consultant services to participating communities during the school year and evaluates the success of each project in implementing the Model. Actual classroom implementation is the responsibility of a full-time field coordinator selected by the community. The coordinator provides constant feedback to the sponsor via tapes, slides, and written summaries of activities and meetings.

The Hampton Institute Nongraded Model is being used in Follow Through classrooms in school year 1970-71 in Pulaski County, Ark. and Bradley County, Tenn.

HOME-SCHOOL PARTNERSHIP: A MOTIVATIONAL APPROACH

Program Sponsor: Edward Johnson, Southern University and A & M College

Home-School Partnership: A Motivational Approach recognizes the need to enlist parents as partners with their children and the schools in the learning process. The model's primary focus is not on the classroom instructional program but on the use of positive forces in the home environment that stimulate children to learn.

The Approach has three major programs: (1) parent aide; (2) adult education; and (3) cultural and extracurricular.

The parent aide program provides home teachers and parent interviewers—ideally parents of Follow Through children and neighborhood residents—who serve as links between the Follow Through staff and the home. As their title implies, home teachers help parents develop teaching skills that enable them to continue their children's education at home; home teachers also work as classroom aides. Parent interviewers, on the other hand, function as social service aides, visiting homes to check on the health, dental, and general welfare of the children and to determine the parents' views about the effectiveness of the total Follow Through endeavor.

The adult education program provides regularly scheduled classes to help parents upgrade their academic credentials and ability to compete in the labor market. Parents without a high school diploma are able to prepare for equivalency exams. Individualized training is offered to parents whose formal education ended at the grade 4-8 level, and special tutoring is provided for those who can neither read nor write.

The cultural and extracurricular program plans and encourages parents to share experiences with their children that broaden the horizons of both and tend to unite the family. Cultural activities may include concerts, exhibits, and similar events. Extracurricular activities can be classes in music, art, homemaking, and the like.

The sponsor is responsible for preservice and inservice training workshops for Follow Through and community people working with the program. The sponsor also provides consultant services throughout the school year and evaluates the community's success in implementing the program.

Home-School Partnership: A Motivational Approach is being used in school year 1970-71 in Follow Through projects in New York (PS 133), N.Y., and Davidson County (Nashville), Tenn.

INTERDEPENDENT LEARNER MODEL

**Program Sponsor: Lassar Gotkin, Institute for Developmental Studies,
New York University**

In the Interdependent Learner Model, learning occurs principally in structured small-group activities where pupils, while dependent on each other, become less and less dependent on the teacher. Children become actively involved in figuring things out on their own, in reaching early mastery of skills, and in monitoring their own learning behavior.

The game-like nature of the structured learning situations adds greatly to the children's sense of challenge and involvement, as learners and as teachers of other children. The sense of importance derived from teaching others, and the verbal transactions, intrinsic to the process, between pupils act as direct stimulants to language development.

Based on the sponsor's theory of Transactional Instructional Games (TIG), the Model has its roots in programmed instruction, cognitive developmental theories, and theories of group process. The structured activities at the core of the TIG curriculum serve as the vehicle for presenting a variety of instructional contents and can be used to accomplish many learning objectives. Children of different ability levels and ages can participate in these activities simultaneously, and each child assumes a role appropriate to his particular level.

The Model's reading program, through an emphasis on the child's early acquisition of phonic blending and decoding skills, equips him to analyze phonetically new words on his own and so become an independent reader. Through pantomime-language activities, children learn the importance of facial expression, and other nonverbal communications that accompany and give added meaning to the spoken word.

The music program also bridges these two forms of communication by having children dance and sing in connection with activities not usually associated with music. The mathematics program trains pupils to use language to solve conceptually oriented problems and to explain the problem solving process to others. Language-math-logic games include matrix board, triangle card deck, exchange game, and Cuisenaire rods.

The program sponsor is responsible for training school administrators, teachers, aides, and parents in the approach.

The Interdependent Learner Model is being used by Follow Through in school year 1970-71 in Atlanta, Ga., and New York (PS 76), N.Y.

LANGUAGE DEVELOPMENT— BILINGUAL EDUCATION APPROACH

Program Sponsor: Juan Lujan, Southwest Educational Development Laboratory

The Language Development-Bilingual Education Approach is designed primarily to meet the educational needs of poor children who suffer language deficits, particularly those children whose native language is not English. Its major goals are to enhance the child's image of himself as a successful learner and provide, through models that could be used by other school systems, an entree for him into the English-speaking world.

In its initial phases the program teaches Spanish-speaking children such subjects as mathematics, science, and social studies in their native language while they are learning English as a second language. The method is being adapted for use with French and other non-English-speaking children.

Basic to the program is the belief that learning a second language, in this case English, is easier if the child learns content materials in the native language first. Also basic is the belief that oral language development should precede reading instruction. The program teaches children to speak, read, and write with equal competence in both the native language and English. To do this, it uses curriculum materials designed specifically to be relevant to the children's native background and experience.

Included in the system are four components: (1) instructional materials; (2) staff development—that is, training of teachers and other staff to appreciate the children's cultural heritage and to overcome related educational handicaps; (3) parent-community involvement in the children's education; and (4) learning ecology, or the creation of a classroom and home environment that encourages children to learn.

The sponsor conducts an intensive orientation program for school administrators and supervisors to acquaint them with the model and its objectives, implementation requirements, available consultant services, teacher education program, evaluation procedures, and expected outcomes. For teachers, an extended 3-year training program is provided by local leadership with the assistance of the sponsor. Finally, the sponsor monitors the use of the model in participating communities and evaluates its effectiveness with children.

The Language Development-Bilingual Education Approach is being used in Follow Through schools in 1970-71 in Los Angeles (city), Calif.; Tulare, Calif.; St. Martin Parish, La.; Philadelphia (Districts 2 and 5), Pa.; and San Diego, Tex.

MATHEMAGENIC ACTIVITIES PROGRAM

Program Sponsor: Charles Smock, School of Education, University of Georgia

The Mathemagenic Activities Program (MAP) stimulates learning of a "scientific" type, that is, a coherent interpretation of reality. MAP has much in common with programs that emphasize learning by doing and rely on the individual child's initiative in deciding which instructional group—for example, reading or mathematics—he wants to join in any given class period. The approach differs from others in that it provides sequentially structured sets of curriculum materials and processes for children (ages 4-8) which incorporate problems slightly beyond their current level of understanding. Such problems present continual challenges to learning.

MAP is designed to help the child understand his physical surroundings (science) and social environment (social studies) through constructive actions and symbolic processes inherent in both language and mathematics. Art, music, and physical education are also considered mathemagenic activities of equal importance in that each can enhance the child's intellectual development and provide needed variation in instruction to broaden experience and increase personal satisfaction.

"Learning territories" are essential; they encourage teaching strategies that emphasize mathemagenic activities in group situations and also give each child self-directed learning opportunities. Teachers are encouraged to maintain a careful balance between structured and nonstructured learning activities, between group and individual work, and between the level of conceptual materials and the child's capability. The staff must be thoroughly acquainted with available curriculum materials, audiovisual materials, and other teaching aids. They must also be sensitive to the problem of appropriate engineering of the educational environment.

Summer workshops and inservice training give teachers the concepts and skills to implement the approach and to broaden their own decisionmaking role. The sponsor is responsible for teacher, aide, and community staff training; for coordination and monitoring of implementation procedures; and for evaluation of the ongoing program in cooperation with local evaluation efforts.

Follow Through communities using the Mathemagenic Activities Program in school year 1970-71 are Pickens County, Ga.; Gulfport, Miss.; Martins Ferry, Ohio; McCormick County, S.C.; and Lee County, Va.

NEW SCHOOL APPROACH

Program Sponsor: Vito Perrone, New School of Behavioral Studies in Education, University of North Dakota

In many ways the New School Approach is shaped by its elementary teacher preparation program and its career opportunities program involving Indian students who work as teacher aides in their local areas while enrolled in the University of North Dakota. The New School is an experimental college component of the University founded in 1968 to offer alternative ways of preparing teachers. It stresses self-directed learning, teaching internships, personalized instruction, and greater involvement by parents in schools.

In addition to oncampus study, students spend considerable time working as interns in elementary classrooms across the State. To support students in the field, clinic professors and other consultants regularly travel to the areas. Follow Through teachers, aides, and parents get similar support. Inservice and oncampus workshops and sessions are held, and faculty members travel to the communities on a regular basis.

The New School seeks to help teachers reappraise their beliefs about teaching, stressing a shift of emphasis from teaching to learning by involving children in the educational process to a greater degree than usual. The School dwells on certain basic beliefs about children—that they learn at different rates, that their learning styles differ, and that they bring to school a variety of interests and needs. It urges its future elementary teachers to recognize diversity in children by providing more open, less structured classrooms offering a variety of learning alternatives. For example, children are encouraged to develop their abilities and interests through activities found in learning centers situated around the classroom.

The centers are organized around a number of content and skill areas appropriate to age levels. A variety of curriculum materials, tools, and other stimuli are provided. Children are encouraged to work by themselves or in small groups; progress is at a rate appropriate to each child's capacities, interests, and stage of development. Teaching directed toward the entire class is limited. The teacher's primary role is one of observing, diagnosing, stimulating, and assisting. Because of the open nature of the setting, parental participation is natural.

The New School Approach is being used by Follow Through in 1970-71 in Great Falls, Mont.; Ft. Yates, N.Dak.; and Burlington-Edison, Wash.

PARENT IMPLEMENTATION APPROACH

Program Sponsor: Preston Wilcox, Afram Associates, Inc.

The Parent Implementation Approach provides an opportunity for parents and other community residents to assume a meaningful role in determining how schools can best prepare their own children to benefit from educational programs. Parental involvement is viewed as a necessity and not merely as a supplement to the educational process. The Approach thrusts parents and other local residents into roles of "significant people" in the educational process. Their constant presence as teacher aides, volunteers, and interested parents reinforces the investment of the child in his own learning, and accredits learning as a process which strengthens the family role in the educational process. An important gain derives from the confirmation of the existence of parental skills, long an unrecognized educational component.

Parents begin to become consciously aware of their abilities to contribute. Some other parental roles, paid and/or volunteer, are as "foster teachers," homework helpers to their own children, resources to the school and the teachers, community educators within their own milieu, and peer-learners with other parents. Teachers are helped to learn from parents how best to respond to their children. Parents learn from teachers how best to support an investment in the learning process by their own children.

The sponsor is less concerned with the specific classroom instructional program than with the parents' comprehension of it and its relevance to the lives of their children. (Some projects associated with Afram use another sponsor's instructional approach.) A prime concern of the sponsor is to enable parents to involve themselves in meeting the traditional extraschool needs of their children as an extension of what takes place in the classroom. Corollary to this is the sponsor's effort to enable teachers and school staff to appreciate the importance of parent involvement; such involvement will be perceived as an integral part of the instructional program.

Resource teachers drawn from the community provide parent and student access to the informal channels of influence and decision-making, a built-in advocacy system, and a means to understand the classroom process.

Follow Through schools using parent implementation approaches in school year 1970-71 are in Pulaski County, Ark.; Washington, D.C.; East St. Louis, Ill.; Roxbury, Mass.; Dorchester, Mass.; Flint, Mich.; Atlantic City, N.J.; and New York, N.Y.

RESPONSIVE ENVIRONMENT APPROACH

Program Sponsor: Glen Nimnicht, Far West Laboratory for Educational Research and Development

The Responsive Environment Approach is based on three premises:
(1) Children learn at different rates. (2) They learn in different ways. (3) They learn best when they are interested in what they are doing.

The program insures an individualized approach. The child is free to explore his environment and set his own learning pace. The learning situation is arranged so that he is likely to make a series of interconnected discoveries about his physical environment and social world. In this way the program helps children develop a positive self-image and enlarges their intellectual horizons.

According to the Approach, problem solving is the essence of learning and is best mastered in an environment that poses problems and encourages discovery of their solution. Emphasis is on learning how to learn rather than on specific facts.

The Model stipulates that, since the child can choose his own activities and set his own pace, he should know immediately the consequences of his decisions and acts. The program therefore incorporates self-correcting toys, games, and equipment, including wood-inlay puzzles, depth cylinders, lotto, and matrix games. While not truly self-correcting, equipment such as tape recorders, cameras, and language masters do provide immediate feedback. Of course, the teacher, the assistants, and the other children are the best sources of feedback and standards.

The Model intends that children find learning to be its own reward, and master a skill because they enjoy learning and doing it, not because of reward or punishment.

Parents are involved through a series of meetings where the program is explained and demonstrated. They also serve as teaching assistants and volunteers for other school activities. Parents likewise serve as home instructors for educational games provided by the sponsor.

Follow Through projects using the Responsive Environment Approach in school year 1970-71 are located in Berkeley, Calif.; Fresno, Calif.; Owensboro, Ky.; Jefferson Parish, La.; Duluth, Minn.; St. Louis, Mo.; Washoe County, Nev.; Lebanon, N.H.; Buffalo, N.Y.; Goldsboro, N.C.; Cleveland, Ohio; Sumter, S.C.; Salt Lake City, Utah; Tacoma, Wash.; and Marshfield and Pittsfield (Wood County), Wis.

RESPONSIVE ENVIRONMENTS CORPORATION MODEL

Program Sponsor: Ruthe Farmer, Responsive Environments Corporation

The Responsive Environments Corporation Model focuses on the development of intellectual skills and patterns of behavior that will enable children from low-income families to participate successfully in society. The program uses nongraded classes, specially designed learning materials, and educational technology to achieve these objectives. The Model prototype is the Children's Center, a nongraded nursery and elementary school in Tenafly, N.J.

Children in the REC Follow Through classroom are encouraged to take the initiative, make choices, work independently, set goals for themselves, and carry projects through to completion. There is a deliberate balance between structured and nonstructured activities, with emphasis on individual work rather than group instruction. Self-service work areas, stocked with instructional materials selected to encourage such cognitive skills as measuring and classifying, encourage the child to learn on his own.

A major function of the teacher is to assess and respond to each child's individual needs. Careful observation of the child guides the teacher in selecting and organizing appropriate materials and activities.

The technology component is housed in a language arts center adjacent to Follow Through classrooms. Two "talking typewriters" and four "talking pages" are used to strengthen readiness skills and provide systematic phonic-linguistic reading instruction which stresses the rapid development of code-cracking skills. The "talking typewriter," a computer-based, multisensory learning system, involves children in learning by seeing, listening, typing, and recording and listening to replays of their voices. The "talking page" is a desktop learning system which calls for many types of responses by the child, such as answering questions, imitating sounds, coloring tracing shapes, and discriminating among letters and words with similar sounds. Pretests and frequent progress tests assure that a child progresses as rapidly as he can.

The Model includes summer training workshops for teachers and frequent onsite consultation by REC staff.

The Responsive Environments Corporation Model is being used in Follow Through classes in school year 1970-71 in Kansas City, Mo.

SYSTEMATIC USE OF BEHAVIORAL PRINCIPLES PROGRAM

Program Sponsors: Siegfried Engelmann and Wesley Becker, Department of Special Education, University of Oregon

The Systematic Use of Behavioral Principles Program focuses strongly on academic objectives. The approach recognizes that the typical Follow Through child begins kindergarten or 1st grade considerably behind middle-class children in the basic learning skills. If the disadvantaged youngster learns at a normal rate he will stay behind, often as much as a full year. To achieve a faster-than-normal rate, procedures originally developed by Carl Bereiter and Siegfried Engelmann are used. They require a far greater number of responses from each child than are normally expected and program the materials so that the child works on the essentials needed for future tasks.

The class is divided into small study groups of five to eight children according to present skills so that each child in a group works at the same skill level. The small group approach requires one teacher and two aides for a class of 25 children. Tasks are presented in rapid-fire order. Questions are addressed to the group, interspersed with questions to individual children. Since no child knows when he will be asked a question, he must stay alert and ready to respond to all questions.

The model uses the DISTAR reading, arithmetic, and language programs as well as the IMA (Instructional Media of America) art and music programs. Science and social studies programs are under development.

Children spend 1 to 2 hours a day on core academic skills. The remainder is devoted to music, art, and other less structured learning. A key element is behavior reinforcement. Teachers use enjoyable activities, praise, food, and other means to encourage desired patterns of behavior.

The sponsor provides preservice and inservice training for teachers and other staff both in the use of curriculum materials and in classroom management procedures for behavior reinforcement.

Follow Through projects using the Systematic Use of Behavioral Principles Program in school year 1970-71 are in Flippin, Ark.; Washington, D.C.; Chicago, Ill.; E. St. Louis, Ill.; Flint, Mich.; Grand Rapids, Mich.; W. Iron County, Mich.; Tupelo, Miss.; Las Vegas, N. Mex.; New York (PS 137 Annex), N.Y.; Cherokee, N.C.; Dayton, Ohio; Providence, R.I.; Williamsburg County, S.C.; Rosebud Sioux Reservation, S. Dak.; Todd County, S. Dak.; DeKalb County, Tenn.; Dimmitt, Tex.; Uvalde, Tex.; and Racine, Wis.

TUCSON EARLY EDUCATION MODEL

Program Sponsor: Joseph Fillerup, Arizona Center for Early Childhood Education, University of Arizona

Major objectives of the Tucson Early Education Model are derived from an analysis of the kinds of skills and abilities children will need as adults to function effectively in a changing and highly technical society. The objectives include development of: (1) an efficient intellectual base (skills related to the thinking process); (2) language competence; (3) a motivational base which makes continued learning a gratifying experience; and (4) societal arts and skills—reading, mathematics, social interaction, and others.

Methods used in the Model differ dramatically from those one might see in the traditional classroom. Provision for individualization allows each child to move ahead independently of others. Serving as examples of desirable behavior, teachers capitalize on children's natural tendency to imitate. Generous use of positive reinforcement—for example, praise—is encouraged so that learning becomes a satisfying experience. Instructional objectives are coordinated across subject-area boundaries so that several skills can be taught at once.

To accomplish these goals, instruction concentrates on small groups of three to six children. The teacher and aide organize interest centers devoted to such activities as mathematics, reading, writing, dramatic play, music, and so on. The centers are structured around such learning tasks as weighing and measuring, dictating stories about each child's drawings and experiences, and listening to recordings. Learning is almost always based on the child's own experience and desire to know. The teacher is manager of the learning environment rather than a dispenser of information.

The sponsor conducts 6-week summer training workshops for teachers, psychologists, and other Follow Through staff and provides a program assistant for every five teachers working with the approach in each community. The program assistant is responsible for onsite teacher training during the school year.

Using the Tucson Early Education Model in school year 1970-71 are Follow Through projects in Hoonah, Alaska; Tucson, Ariz.; Los Angeles County, Calif.; Walker County, Ga.; Vincennes, Ind.; Des Moines, Iowa; Wichita, Kans.; Pike County, Ky.; Vermilion Parish, La.; Baltimore, Md.; Philadelphia, Miss.; Lincoln, Nebr.; Lakewood, N.J.; Newark, N.J.; Sante Fe, N.Mex.; Durham, N.C.; Chickasha, Okla.; Shawnee, Okla.; and Fort Worth, Tex.

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