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ABSTRACT

An attempt was made to test the assumption that a wide variety of institutions and agencies have the fiscal and managerial capability to house a programmatic research and development effort for education. To this end, interviews were conducted with the staff director or principal investigator of four Follow Through programs affiliated with member institutions of the Council for Educational Development and Research. Interviews sought to determine the extent to which directors/investigators believed their model's affiliation with the host institution enabled them to (1) benefit from the host institution's other major research and development thrusts, and (2) remain committed to a rigorous research and development mode rather than be turned into a technical assistance program for various school sites. Responsive education, bilingual/bicultural, individualized early learning, and cognitively oriented curriculum program models were investigated. Additionally, the sponsor of the direct instruction model, not developed in affiliation with a research and development institution, was interviewed to provide a basis for comparison. It was concluded that sponsors do benefit from affiliation with institutions having a strong commitment to programmatic research and development. It was also found that other factors appeared to be as important as the host institution's focus. (RH)

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**Programmatic R&D Institutions' Influence
on Selected Follow Through Models**

by

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The National Follow Through program funds 19 models that attempt to provide a variety of approaches to teaching children from economically disadvantaged homes. Four of these models are contained within institutions that characterize their educational research and development approach as "programmatic" in nature.

Such institutions argue that they employ a unique approach when it comes to large-scale program development. Richard Schutz said it well when writing about institutions such as his own:

Programmatic r & d in education is sustained, cumulative, analytic and empirical inquiry addressing matters of significant interest to the educational profession and its constituent publics. Organizations engaged in such work have sufficient scale and duration to be able to demonstrate identifiable effects of their work (Schutz, 1978).

Most instructional r & d efforts of the magnitude of the various Follow Through models undoubtedly are programmatic in nature. That is, they are "... long-term, systematic efforts to develop, test, and disseminate innovations targeted at specific populations and problems" (Datta, 1980).

But the organizational characteristics of various sponsors' host institutions vary greatly. And these differences probably influence the programmatic nature of their r & d endeavors. In other words, we assume that a wide variety of institutions and agencies have the fiscal and managerial capability to house a programmatic r & d effort. Many colleges of education, for example, could encourage a group of faculty in their programmatic r & d efforts. But we believe this relationship would be less beneficial to the researchers than one where the host institution itself were organized, staffed, and committed to conduct such work. An example would be an independent research center within a university setting. Or a separate, nonprofit institution organized and run as an

educational r & d laboratory or center. In fact, "The nation's current capability and activity in programmatic r & d for education relies largely on 5 - 10 publicly operated and regionally governed education laboratories and on about the same number of r & d centers in major state and private universities" (National Institute of Education, 1976).

If we are correct in our assumption, developmental programs, such as Follow Through sponsors, should benefit from their affiliation with programmatic r & d institutions. For one thing, such sponsors should be able to identify improvements made in their program, because of their close ties to similar r & d thrusts within the host institution; and generally speaking the Follow Through sponsors should continue to view their work as a research effort rather than as a simple maintenance or service program.

This paper attempted to determine the extent to which our assumption is true. The staff director or principal investigator of four sponsors were interviewed. Four of these sponsors are affiliated with member institutions of the Council for Educational Development and Research (CEDaR). In the interviews with each of the directors we sought to determine the extent to which they believe their model's affiliation with the host institution has enabled the sponsor (1) to benefit from the host institution's other major r & d thrusts; and (2) remain committed to a rigorous research and development mode rather than be turned into a simple technical assistance program for its various school sites.

The models are:

- o Responsive Education Model, Far West Laboratory;
- o Bilingual/Bicultural Model, Southwest Educational Development Laboratory;
- o Individualized Early Learning Model, Learning Research and Development Center, University of Pittsburgh; and

- o Cognitively Oriented Curriculum Model, High/Scope Educational Research Foundation.

An author interviewed a fifth sponsor, the Direct Instruction Model at the University of Oregon. This highly praised model was not developed in affiliation with an r & d institution. Consequently, it provided some comparison with the other four models.

History of Follow Through Model Development

When examining these models today, it is important to consider the major events leading to the idea of model sponsorship and how they affected the models' development. These events are discussed briefly in this section of the paper and documented more extensively in other sources (e.g., Krulee, 1973; Haney, 1977; Elmore, 1975).

Follow Through was originally conceived of as a comprehensive service program, as extensive as Head Start, but intended for children in grades k-3. Its broad goal was to make schooling more effective by building on the gains these children had made in Head Start. Consequently, Follow Through was to have all the features of Head Start: parental involvement; health, nutritional, social service, and educational components; and coordination with existing programs sponsored by local community agencies.

Program planners initially expected the program to receive an allocation of \$120 million to support this full range of services. But by late 1967 it became apparent that Follow Through would not receive this anticipated level of funding. The program, authorized under an amendment of the Economic Opportunity Act, was at that time the official responsibility of the Office of Economic Opportunity (OEO). But during 1967, Congress

cut the agency's budget by \$200 million for 1968-69. As a result, Follow Through received only \$15 million, a funding level that made it impossible to initiate a new social action program on the scale originally planned (Haney, 1977).

Follow Through could continue only if it found a new identity. Consequently, the decision was made that "Follow Through—for the time being—should be an experimental program designed to produce information which would be useful 'when' the program was expanded to nationwide service proportions" (Egbert, 1967 in Krulee, 1973). As Follow Through's first director, Robert Egbert, explained, the program's funding "appears to depend in large part on our ability to plan and carry through a program involving substantial planned variations among projects, which variations can be carefully evaluated in terms of the full range of Follow Through objectives." He added, "We are eager to do this and are accepting the challenge of trying to bring it off despite fearful time pressure" (Egbert, 1967 in Elmore, 1975).

In fact, the Office of Education, the agency that took over responsibility for administering the program, was faced with the task of turning a service-oriented social action program into a planned variation experiment involving the program's instructional component in time for the 1968-69 school year. It accomplished this task by funding a group of model sponsors. These were organizations with promising, innovative educational approaches, who implemented their model programs in different communities around the country. Of the 26 potential sponsors who attended planning meetings in 1968, 18 were invited to submit proposals, 16 responded, and 12 were finally funded as Follow Through sponsors. The five sponsors discussed in this paper were among the original group.

Developers of High/Scope's Follow Through model offer the following insight into the

sponsors' reaction to the planned variation experiment:

The idea of planned variation may have been totally logical at the national level, but at the sponsor level it was mystifying. The meeting in Washington of prospective sponsors to present their various orientations to curriculum, the idea that evaluation could be done by a third agency, the meeting in a hotel room to add Head Start Planned Variation, and the assumption that each sponsor had a complete package to present—all created a feeling of bewilderment and even madness (Weikert and Banet, 1975).

The sponsors' bewilderment was well founded. As participants at a Brookings Institution conference on social experimentation suggested, basic issues related to the nature of the program and the planned variation experiment, and to the sponsors' role had not been resolved (Rivlin and Timpane, 1975).

These individuals, all figures who had played key roles in Follow Through and Head Start, agreed, for example, that the program's objectives should have been clarified to eliminate the competing conceptions of purpose that have persisted throughout the program's history. As Haney (1977) observes, as early as 1968 four different notions about the program's purpose had begun to emerge.

On one hand, it was a service program aimed at providing disadvantaged children with a range of educational, medical, dental, nutritional, and social psychological services. Also, it was a social action program mandating parent participation and community involvement. From another perspective, it was a planned variation experiment designed to test alternative models of education. And at the same time, it was also a research and development effort designed to develop and refine alternative models.

The implications of these competing perceptions became apparent during a subsequent national Follow Through evaluation.

This much discussed national evaluation, as far as the bulk of the sponsors and sites were

concerned, was unfair. For one thing, it focused on only a small part of the program's total objectives. That is, the evaluation attempted to determine the various models' impact on children's cognitive and affective development. To make matters worse, the evaluators relied on children's achievement and attitude test scores, and ignored other program elements which many considered vital to the overall impact of the models. As one commentator put it, "The (evaluation's) focus on children instead of on parents, teachers, or other Follow Through participants mirrors the ultimate goal of the effort—promoting the development of low-income children to their full potential—but it largely ignores the social, action, service, delivery, and r&d conceptions of the program."

(Haney, 1977).

The waters became even murkier, the Brookings conference participants agreed, when the government planners failed to clarify the nature of the planned variation experiment before it began. That is, it was unclear from the outset whether the evaluators would test the models individually, compare them to each other, or both. Later, the sponsors acquiesced under pressure to a comparative evaluation using a battery of standardized tests. Outcome measures sensitive to the models' objectives were not developed and used in the national evaluations. The measures used and their interpretation have been the source of considerable controversy (House et al., 1978; Hodges, 1978; Haney, 1977; Hodges and Sheehan, 1978).

We could say more about the evaluation; certainly others have. It appears to be a major watershed in the history of the Follow Through program. But for our purposes, the evaluation is important only in the sense that it might have altered either the purpose or direction of the five sponsors visited. Perhaps not too surprising, we did not find that the evaluation had much impact on the sponsors' programs. Sponsors that appeared to benefit from the evaluation, such as the Oregon team, used it to buttress their argument

about their program's effectiveness. Other sponsors discussed it in terms of its perceived negative impact on the overall program. That is, several sponsors felt the evaluation was used by critics of social programs to further erode federal funding for Follow Through. But no sponsor said the evaluation prompted them to make any changes in their model. At most, it forced sponsors to come up with different explanations about the effectiveness of their approach.

The evaluation did serve to point out some of the unrealistic expectations held by many Follow Through advocates. That is, although many of the principal investigators were well known players in the revival of early childhood education that occurred between 1958 and 1965, none had completely developed a k-3 curriculum or perfected a system for installing an instructional program in someone else's school district (Hodges, Sheehan and Carter, 1979). What is more, the sponsors had accepted an ambitious task. Adopting the view that the school, classroom, home, and community are a system, the sponsors developed curriculum materials; classroom organizational systems; training manuals and workshops for teachers, teachers' aides, their supervisors, and sometimes their principals; parent training and education materials; evaluation procedures and instruments; and systems for the effective delivery, management, and maintenance of their models.

This challenge is particularly striking because development of such complex educational interventions requires an enormous commitment of time, talent, and resources. Weikart and Banet (1975), for example, state that "the effective delivery of an educational program with the ability to obtain consistently the desired results (required) full twelve years of research, development, demonstration, dissemination, and implementation."

In summary, then, the sponsors had their work cut out for them. To add to their woes, during the 12 years the sponsors have worked to develop and refine their models the national program has been plagued by turbulence. It has experienced years of level

funding or budget cutbacks, continued confusion about purpose at the national level, and persistent pressures to prove its worth in a series of third-party evaluation studies.

Programmatic R & D Institutions

Of the four models being examined in this paper, two blossomed within regional educational laboratories, one within a research and development center, and one within a nonprofit educational institution.

The Learning Research and Development Center was one of the first two university-based centers to be funded by the federal government under authority of the Cooperative Research Act. The Pittsburgh Center, originated in 1966; eventually 11 were established. Each of these centers was to assemble a critical mass of researchers and supporting technicians to address a major problem area in education. The Pittsburgh Center, to paraphrase its mission, sought to address problems and challenges relating to the education of young children. From the beginning the center's work evolved around "individualized learning." Although the Center operated numerous programs with different funding sources, they all served to reinforce one another and the individualized learning focus. Consequently, it comes as no surprise that when the national Follow Through program began, the Pittsburgh Center had its "Individualized Early Learning Model" selected as a model.

The laboratories were created under somewhat different circumstances than the centers. The centers were established because the federal government believed a critical mass of researchers could better develop usable new knowledge than could

9
researchers working in isolation from one another.

The laboratories, on the other hand, were created to do more than just research. In fact, these geographically distributed institutions were to be "full-service" r & d institutions. They were to conduct research, where needed, and to develop and assist schools in installing new learning programs. All this work, though, was to result from an assessment of the particular needs of each laboratory's geographical region.

During the mid-60s a critical educational need in the Southwest evolved around the issue of Bilingual Education. Effective, validated bilingual curriculum programs, teacher handbooks, and parent-community materials were essentially nonexistent. Consequently, the Southwest Educational Development Laboratory accepted bilingual education as an institutional challenge. Again, the National Follow Through Program turned to the Austin-based laboratory for a bilingual/bicultural model.

Meanwhile, on the West Coast, Far West Laboratory was developing a national as well as regional reputation for its work in early childhood education. Building on the earlier work of its principal investigator in this area, Far West Laboratory was operating a host of early childhood programs when the National Follow Through Program came along. It then became one more way for the laboratory to build its resources, personnel, and programs in the early childhood field. That is, Follow Through further enhanced an already thriving effort to assist educationally disadvantaged children.

The High/Scope Research Foundation is neither a laboratory nor a center. In fact, it did not exist at the time the federal government created the two companion institutions. Consequently, it alone among the host institutions being discussed in this paper owes its origins to the Follow Through effort. The two laboratories and the one center, in other

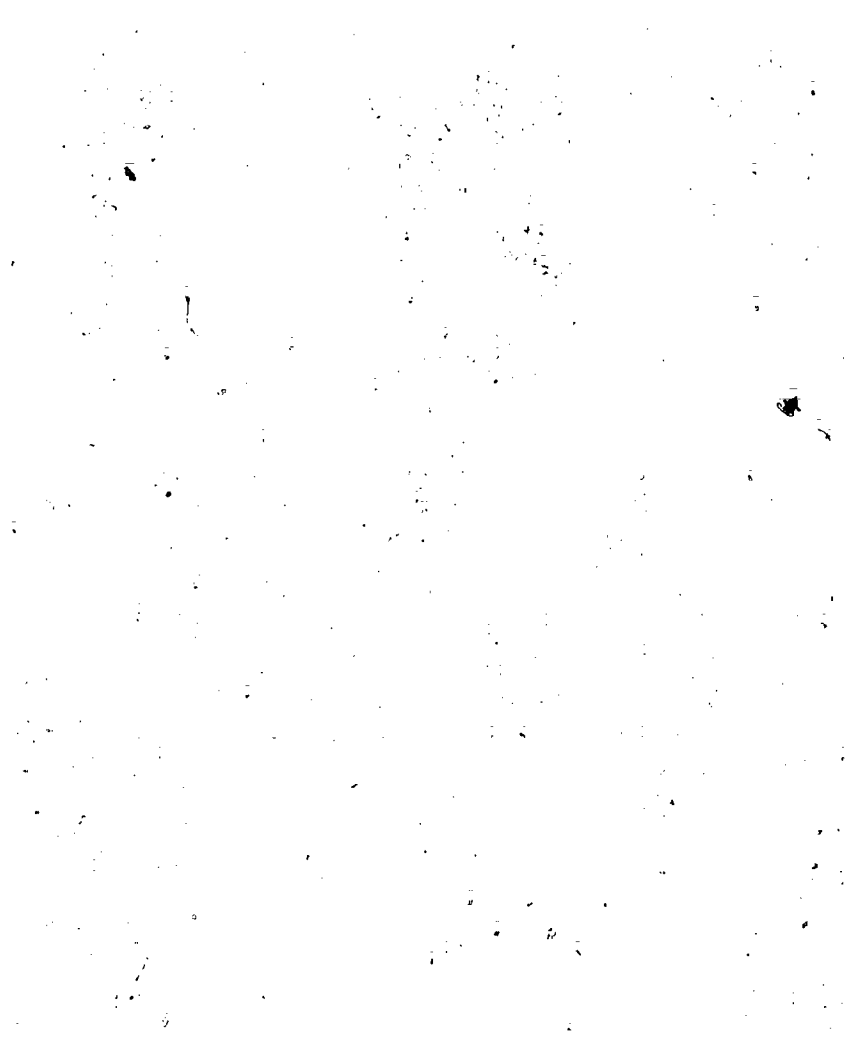
words, were doing effective early childhood research and development work before Follow Through. And even without this new program, the institutions undoubtedly would have found ways to install their instructional programs in schools. High/Scope, on the other hand, probably would never have become a recognized national r & d institution without the impetus provided by its initial Follow Through program.

Despite its separate origins, High/Scope does share one characteristic in common with the r & d center and the two labs: all four institutions are committed to programmatic r & d. As an approach, programmatic r & d is relatively new and currently, only a small number of institutions besides the labs and centers utilize it (Frankel et al., 1979).

Now many models, both within the institutions visited as well as within other universities or nonprofits, would argue that they followed a programmatic approach throughout their development. And they undoubtedly are correct. But a difference exists, we believe, between a programmatic thrust at the program level and an institutional commitment to the enterprise.

We have already said that a programmatic effort, such as an individual Follow Through model, is a "long-term, systematic effort to develop, test, and disseminate innovations target at a specific population or problem." That certainly covers most Follow Through models we know, including all five mentioned in this paper. In other words, each of the sponsors spent considerable time and expense developing a model. These models, then, were tested in classroom settings. And recently Resource Centers funded at some of these classroom settings have been working with the sponsors at disseminating the models to new sites.

Any Follow Through model, we are saying, could reasonably claim that it adhered to a



programmatically approach without being within a programmatic r & d institution. Our examination of the University of Oregon sponsor certainly confirmed to us that such a developmental process can be undertaken in isolation from a friendly, supportive organizational setting.

Consequently, for the sake of this paper we visited five separate Follow Through sponsors and visited in each case with their current principal investigator or staff director. We asked questions that would enable us to make some assumptions about the host institution's contributions to the program. The questions attempted to generate answers regarding the host institution's record of (1) encouraging the sharing of additional research, development, and dissemination information and processes with the Follow Through program; and (2) encouraging the Follow Through staff to continue viewing their model as a research and development program rather than a simple service effort.

The principal investigators of three of the models, those affiliated with High/Scope, the Pittsburgh Center, and the Austin laboratory, maintained that the programmatic emphasis of their host institutions contributed to the success of their programs. The director of the model at Far West Laboratory said that at one time the parent institution provided such support, but alterations in its r & d thrust resulted in a change of view toward the Follow Through program. Instead of being continued as a research and development effort, it became a service program to its various school sites. The fifth model located at the University of Oregon never had an affiliation with a programmatic unit at its host university.

Impact of Model Affiliation with Programmatic R&D Institutions

Programmatic r&d's impact on the development of Follow Through models was most direct in settings with the following characteristics. First, the host institution's structure, a product of its programmatic focus, facilitated cross-program cooperation, and sharing of information and approaches. In all cases, other projects and their staff contributed curriculum materials, training procedures, classroom routines, and theory that were incorporated and refined in the Follow Through models. Second, the model itself was a central thrust of the host institution. That is, each of these models were logical extensions of the institution's approaches to educating children and in each case Follow Through was one of the institution's major programs. Third, each Follow Through program was conceived of as a research effort that would benefit from input and feedback from other staff and programs within the institution. Fourth, by and large, there was considerable continuity in leadership within the Follow Through program or within the host institution so that the model's development was not interrupted or changed midstream.

These attributes characterize the settings of three of the Follow Through models—the High/Scope's Cognitively Oriented Curriculum Model, SEDL's Bilingual/Bicultural Model, and the Pittsburgh Center's Individualized Early Learning Model. These attributes at one time also characterized the Responsive Education Model of the Far West Laboratory. But they never characterized our companion model, the Direct Instruction Model at the University of Oregon.

The Cognitively Oriented Curriculum Model

According to Charles Hohmann, director of the High/Scope's Follow Through program, there is a close association between the Foundation's r&d focus and its Follow Through model, the Cognitively Oriented Curriculum. As Hohmann said, "Follow Through was a bold initiative that gave High/Scope's work a place to flourish." In fact, Follow Through funds made possible the creation of High/Scope in 1970. Within this nonprofit organization David Weikert and his associates were able to test and refine the theory and r&d base underlying their work, and hence the Follow Through model.

According to Weikert and Banet, a cohesive cognitive curriculum began to emerge at the end of five years of r&d. They state that during this time "the model had grown from an assumption that theory could automatically be transferred to practice in the classroom to include different classroom operations and new teaching materials, and finally a restructuring of the classroom and the routine" (Weikert and Banet, 1975).

The Follow Through Model has its roots in the preschool work of David Weikart and his colleagues who, in the early 1960's, established a successful experimental preschool program for disadvantaged preschool children—the Perry Preschool Project—in Ypsilanti, Mich.

As Hohmann recounted, "In 1968 as Weikert and his group began work on the development of a Follow Through model, they turned to their preschool experience as a starting point. As a first step in developing the model, they adopted existing preschool materials and extended the preschool curriculum's goal sequences to grades k-3. Until 1976, in

fact, when the major portion of the development work was completed, there was a very close association between High/Scope's preschool department and the Follow Through project."

Characteristics of this original version of the Cognitively Oriented Preschool Curriculum included "a basic theoretical orientation to the child development work of Jean Piaget focusing on the development of intellectual processes and an operational organization involving team teaching, curriculum supervision, a materials-rich classroom setting, daily teacher planning around specific intellectual goals, and weekly home visits" (Hohmann, 1976).

The approach to educating children embodied in this original curriculum guided the development of the Follow Through model as well as other programmatic efforts at High/Scope Educational Research Foundation.

One of the primary methods used by High/Scope staff to install the curriculum in classrooms was through workshops designed to acquaint teachers with Piaget's developmental concepts. Hohmann characterizes this period in the program's development as its "religious" phase. That is, Follow Through staff assumed that teachers could develop their own program using these developmental ideas as a starting point.

Although this approach had worked in the controlled preschool experiments, experience at the elementary level soon showed that the workshops did not adequately prepare teachers to implement these ideas in their classrooms. Teachers were simply unable to translate the theory into teaching behavior and a system for classroom organization.

They needed more explicit directions and specific materials and activities.

In response to these concerns, the program then entered what Hohmann calls its "black book" phase. That is, High/Scope staff reviewed commercially available elementary curriculum materials and produced the "Black Book", a handbook that listed goal sequences for each of the curriculum's cognitive areas and a guide to recommended commercial materials. These materials were viewed as vehicles that would provide the children with training in the basic cognitive areas incorporated into the curriculum (e.g., class, series, number, space, and time), as well as providing for language development. Furthermore, they provided teachers with intact programs they could plug into their classroom routine.

High/Scope staff's studies of the program's operation in classrooms soon revealed, however, that the classroom routine of most teachers was not what they had hoped it would be.

"In most classrooms", according to Hohmann, "teachers continued to teach as they had in the past although they used more small group instruction. Most activities were teacher-initiated and students were the passive recipients of lessons from adults. Although children manipulated materials and moved around the classroom, the activities they engaged in were designed by adults."

Drawing on several sources of input, including experiences from, High/Scopes preschool program, the Follow Through staff reorganized the classroom and school day to include active learnign experiences for children where they were involved in independent work of their own design. As Hohmann notes, "We insisted that the daily routine include, in addition to small-group instruction, a period in which children could make plans to work

independently in activity centers and that this be followed by a period of reflection, drawing and report writing and small-group evaluation. This cycle of planning, work, and review brought with it a major shift in the way teachers and students spent their time."

This planning-work-representation-evaluation cycle was first a part of the preschool program. That is, the preschool curriculum provided time for children to work independently on activities of their own choosing, lessons were planned in such a way that children worked with concrete materials, and they were encouraged to share their experiences with their classmates.

In addition, the idea of active learning was reinforced through the Staff Training and Curriculum Development Center (TDC), the project's own training and development classroom in which program staff tested curriculum ideas that were being presented in the field. The classroom's teaching staff had taught in the Ypsilanti Preschool Demonstration Project where the daily schedule included independent work in activity centers.

Active learning made an important contribution to the model's evolution for it integrated the pieces of curriculum that had been developed through 1972. Prior to this time, commercial materials and the cognitive goals had not been integrated in an operational day-to-day classroom design. It also created the need for a new approach to teacher training. Training materials and procedures had to be redesigned to help teachers develop competencies that were in line with the classroom's new characteristics and procedures.

The model, of course, has continued to develop in response to both r&d input and feedback from the program's seven sites. As Hohmann said, "The model has developed

with input from theory, research, parents, home teaching aides, and preschool and elementary demonstration classrooms and their teachers. It is above all a reality-based model that is responsive to forces in the schools."

The Bilingual/Bicultural Model

Like High/Scope's Cognitively Oriented Curriculum, the Bilingual/Bicultural model program was the product of long-term development and was influenced heavily by the programmatic R&D of its host institution—the Southwest Educational Development Laboratory (SEDL). In fact, as program literature explains, "the SEDL Follow Through Model incorporates products of the laboratory's major developmental programs." Each of these programs, like the Bilingual/Bicultural model, reflect the laboratory's overall commitment to "designing instructional programs for low income or culturally different children." Since its creation, "SEDL has focused on curriculum development, staff development, and parent involvement efforts which acknowledge the importance of the home in a child's learning." (SEDL brochure).

The resources other laboratory programs provided SEDL's Follow Through staff were especially valuable in view of the pressure to put Follow Through into schools quickly and the limited funds available for the major effort needed to develop a comprehensive educational model. According to Preston Kronkosky, the program's director, "Throughout the history of the SEDL Follow Through program nearly all the Follow Through funds supported implementation rather than development of program materials."

In fact, when program staff determined the model was not addressing a particular content or curriculum area, they sometimes received a small amount of money from Follow Through to develop materials. More frequently, however, they developed the materials with funds they had carefully budgeted or they sought assistance from other laboratory programs. On still other occasions they would seek outside funding sources. As a result of this rather uncertain funding support, third grade curriculum materials were never completed. In lieu of a complete third grade curriculum, SEDL staff developed guidelines third grade teachers could use with commercial materials.

When pressure mounted in 1968-69 to implement Follow Through in schools, SEDL, like other sponsors, did not have a fully developed model although the basic outline of the model's bilingual component was in place. Development began in the mid-1960's when staff who had started work on a bilingual education model for San Antonio Public Schools joined the laboratory and continued work on the model first as part of SEDL's Bilingual Program and later as its Language Development and Reading Program.

Products resulting from this work included oral language booklets and activity cards, teacher training materials, and video tapes for use in staff development activities.

During the 1969-70 school year Language Development and Reading materials, which provided a maximum of three hours of language-oriented instruction each day, and self-concept materials were implemented in the classrooms in the laboratory's six Follow Through sites.

Data collected by Follow Through staff during the following school year, however, showed that the materials were not producing the desired results and the still-developing program needed "substantial revision." In revising the program, Follow Through staff turned to resources within the laboratory, revamped the program quickly, and introduced

a much more comprehensive model into schools during the following school year.

Two of the program's new components were developed by other programs within the laboratory. That is, SEDL's Early Childhood Program was responsible for Bilingual and English kindergarten materials and their parental involvement and staff development components, and the laboratory's Social Education Program developed the program's multicultural social education or social studies program.

According to Kronkosky, "One of the factors contributing to the communication and exchange across programs was a reorganization within the laboratory where various program directors reported to a central administrator responsible for planning and program development." The laboratory also took steps to integrate its four basic programs—Early Childhood, Language Development and Reading, Multicultural Social Education, and Mathematics/Science Education—into two learning systems, Early Childhood and Early Elementary Education. A major institutional thrust, then, was "movement from discrete programmatic efforts into the development of integrated learning systems" (SEDL, 1972). As Kronkosky observes, "The programs began to talk to each other. They also followed the same laboratory-wide guidelines for developing and validating educational materials."

Even when the laboratory adopted a more decentralized structure under a new executive director, Kronkosky reports that the Follow Through program could still draw on the resources of the laboratory's other programs and frequently did so. This includes staff expertise materials and products from specific programs, as well as technical expertise from laboratory media and graphics experts who assisted in developing and producing many of the Follow Through program's media-based materials.

"By 1975", Kronkosky notes, "the Follow Through curriculum and its staff development and parent involvement components were as complete as possible given the limited funds available for curriculum development." The model that had evolved over seven years was the end result of input from other programs across the laboratory. Although these funds supported part of the development and refinement of program components, the kindergarten and social education materials, were developed as part of the laboratory's ongoing programmatic r&d. By incorporating them into the Follow Through model, the program was strengthened and became the kind of comprehensive educational program its developers envisioned.

Individualized Early Learning Program

Long before the National Follow Through program came along the researchers at the University of Pittsburgh's Learning Research and Development Center (LRDC) were putting together a new instructional program. The approach was based on the assumption that "... schooling should respect the individual differences among children and adapt to their varying states of knowledge and development." Based on this belief, the center staff analyzed school subjects and specified a set of instructional objectives that they thought kids in grades K-3 should be able to master (LRDC brochure).

Actually, Follow Through came along at the right time for the Pittsburgh researchers. Their "adaptive education" program had already gone through small-scale pilot tests in Pittsburgh classrooms. The Follow Through program, then, gave the researchers an opportunity to expand their instructional components into "... realistic school settings

with a variety of ethnocultural characteristics." (LRDC brochure).

But the center staff didn't move too quickly. Despite pressure from the federal government, the researchers wanted to insure that their new instructional components did what they were developed to do. Consequently, the center only picked up one site the first year, added two more the following year, one the year after, and three the next year. Altogether, the Center was working with seven sites. The number was later cut to six following the latest reduction in funding.

As in other models, the leadership has remained relatively unchanged over the history of the program. The model's first director was Lauren Resnick, now co-director of the Center. Although not directly on the Follow Through program, her research continued to contribute to the model's evolution long after her name was no longer associated with it.

The current director, Margaret Wong, was initially director of evaluation for the project. She and Resnick both left the program after about three years. At about the same time federal funding leveled off and the Pittsburgh developers, like their counterparts in other models, became more concerned with maintaining their sites than they did in introducing more innovations to them. Wong returned, though, to initiate a new research effort designed to learn why some sites were more capable than others in their adherence to the program's objectives and materials.

According to Wang, the Center has always conceived of the program as a research effort. "For the first two or three years we were busy implementing our new instructional approach while we were also discovering ways of working with the school administrators, involving parents, and teaching the children," Wang goes on. "And it became a serious research program again when we decided to look at our sites carefully

and learn why some classrooms were having trouble implementing the program as it was intended."

Because of the research orientation, the Center attempted to get a mix of sites to work with. Schools, for example, were in both rural and urban settings.

As Wang observes, "We went after a mix, because we were using a research approach, not a service notion. We wanted to see how adaptive education would work with children of different backgrounds. We were also interested in learning how difficult it would be to maintain such sites a great distance from the Center."

Even when Wang and Resnick officially left the program, they remained involved. "We left the nitty gritty," explains Wang. "It's difficult to do good research and manage at the same time. And we both were developing a more comprehensive learning program. Besides, at this point in the program, the point at which we left, the sites were in greater need of technical assistance and service than they were more research."

All along, though, the Follow Through staff, aided by their colleagues throughout the Center, were continuing to develop instructional ideas, components, and procedures.

"These were installed at the sites when we thought the instructional components were ready and the classrooms were ready for them," says Wang. "In fact, for the first ten years, I would classify our work with the sites as a 'developmental stage.' It has just been within the past three years that they have experienced much stability."

About the same time Wang decided to take a look at those factors that seemed to be necessary for a site to adopt the LRDC Follow Through model successfully. When she

began this stage of her research, Wang found few of the 180 classrooms involved in the program were using the model as it was initially introduced to them. Concurrently, research being done at LRDC and other places had taught the r & d community much about the manner in which a school or even a classroom adopts an innovation. Based on that work, then, Wang and her colleagues attempted to identify the factors affecting successful adaptation and then to work with the sites in improving their performance. As she notes, "In two years time, we got things changed around. Now only about 20 of the classrooms do not have a high degree of implementation."

Wang stresses that a lot of the techniques used by her staff to improve the Center's Follow Through sites came from work being done by her colleagues. In fact, when pressed, she will admit that all along the model has been greatly aided by work done elsewhere in the Center. Even during the cutbacks in funding, Wang maintained that LRDC's heavy research orientation ensured that it would be the last aspect of the program cut. Besides, in hard times other programs with a different sponsor but a similar research thrust frequently could be tapped for both ideas and personnel. "We borrowed where we could to continue our research and strengthen our model," according to Wang.

The Responsive Education Model

While the Responsive Education Model was also strengthened by the programmatic r&d of the Far West Laboratory, its host institution, this program did not experience the same kind of broad-based, cross-fertilization from programs across the institution as had some

of the other models.

In Far West Laboratory's case Follow Through was and continues to be one of several programmatic strands within the laboratory. As John Hemphill, laboratory director says, "Follow Through funds provided a long-continual thread through the laboratory's programmatic history, a strand of inquiry that is important to the laboratory." It is a strand, however, that is separate from the laboratory's other programmatic efforts. While there has been considerable exchange of ideas and communication between individual projects within this programmatic strand, "there is little or no interaction with staff and programs across the institution", according to Follow Through director, Francione Lewis. Even more important, the programmatic strand that includes Follow Through was constructed through the efforts of one Far West Laboratory staff member, a fact that had considerable consequence for its continued development when its chief architect left the laboratory.

The Responsive Education program had its origin in a preschool program for low income, Spanish-American children. The program's director joined the laboratory's staff in 1967 as head of its Early Childhood Division which housed Follow Through, Head Start, and other programs whose products were incorporated into these compensatory programs. As Hemphill states, "It is fair to say that the Division director "had a clear conceptualization of responsive education before coming to the laboratory. Within Far West Laboratory's organizational structure he was able to initiate a number of related projects that contributed to responsive education's evolution and refinement."

The preschool curriculum, known as the New Nursery School, was an independent research and demonstration school that opened in Greeley, Colorado under the auspices of the Colorado State University. The program was built on the premise that the school



environment should be designed to respond to the learner and that the curriculum should include many different kinds of self-rewarding activities. Children attended the nursery school three hours a day and spent up to twenty minutes per day in "an autolitic responsive environment", an environment in which activities were self-rewarding and were done for their own sake. They were not undertaken to obtain rewards or to avoid punishments that had no inherent connection with the activity (Ninmicht, 1970; Ninmicht et al., 1966).

One of the major self-rewarding activities in the nursery school program was the "responsive environment booth" in which a child would play with an electric typewriter under adult supervision. Essentially the child would provide instruction and feedback as the child played with the typewriter and moved from exploration through matching and discrimination to production of original sentences. These booths were a less expensive version of O.K. Moore's computerized "talking" typewriter.

The program combined Moore's responsive education concepts with Deutsch's enriched nursery school program for economically and socially deprived children and incorporated some techniques attributed to Montessori (Ninmicht et al., 1966). Its basic features, including its general approach to education and specific activities, such as responsive typing booths, were incorporated into the laboratory's Follow Through program. In addition, the program included educational toys either designed or evaluated by laboratory staff, developed as part of the Early Childhood Division's Child-Parent Toy Library program, and a series of episodes or educational games to accompany the toys.

As the model continued to develop, however, the role of these materials and activities was modified. That is, while the staff remained committed to the notion of responsive education, its originator and Follow Through program's principal investigator, left the laboratory in 1973. His resignation broke the continuity of the division's work and its

programmatic focus. According to Lewis, "When the director left the laboratory, the thrust and conceptualization of the responsive education program also left" (Lewis, 1980). At about the same time, other programs within the Early Childhood Division which had contributed to the Follow Through model also ended.

More importantly, since 1973 the model has been conceived to an increasing extent as a comprehensive service program rather than an r&d program. When the other r&d projects which had contributed materials and processes to the model ended, they were never replaced with projects with the same commitment to or focus on responsive education. Consequently, Follow Through remains the only major effort within the programmatic thread and over the years, program staff have reduced the program's focus on learning episodes, deleted the typing booths, and tried to build more problem solving experiences into the curriculum.

Direct Instruction Model

The fifth model examined is the Direct Instruction Model at the University of Oregon. "It emphasizes the use of small-group, face-to-face instruction by teachers and aides using carefully sequenced lessons in reading, arithmetic, and language. The programs are now published under the trade name DISTAR." (Becker and Carnine, in press).

In addition to its other attributes, the Direct Instruction model gained considerable notoriety when a national Follow Through evaluation identified it as the "most effective of the models. Heavy criticism of the evaluation, though, has tended to pale the claims

made for the Oregon model by its developers:

Douglas W. Carnine, director of the Oregon Follow Through model, has been with it since its inception at the University of Illinois. The model itself flows from an earlier preschool approach developed by Bereiter-Engelmann. Englemann teamed then with Wesley C. Becker in the development of the Follow Through Model. The instructional component of the preschool program, DISTAR, was then implemented in the Follow Through sites.

The reason the developers left Illinois for Oregon, according to Carnine, was to enable them to continue their programmatic focus. That is, much of the instructional component was essentially done prior to the beginning of Follow Through. Nevertheless, the developers needed to find ways to improve the way teachers utilized the program.

Consequently, nearly 20 professional made the move to Oregon with the program's directors. Several of these, including Carnine, were graduate students at the time.

Oregon wasn't all that hospitable to the Follow Through group. Carnine remembers those days well. "At the time the (College of Education) faculty were big on the child-centered approach. They were not fans of ours at all."

Carnine nevertheless said the university affiliation helped the program. "It gave us a way to explain to our sites why things had to be done a certain way. "Also, the university environment gave our field people a chance to mingle with people of their own backgrounds and training. Constant exposure to the sites would otherwise have overwhelmed them. "But Carnine is quick to add that intellectual stimulation came almost entirely out of the Follow Through group itself, not from the host university.

"None at all," he said firmly. "We were pretty much alone (on the university campus, Carnine explained, "except for the far-out behavior-modification folks."

The model, though, certainly was programmatic. Although the basic theory underlying the program remained unchanged, the component pieces went through numerous alterations. Most of these changes resulted from feedback received from the cooperating sites. But the changes seem to have occurred primarily in the early days of the program. DISTAR, said Carnine, was through two cycles of development, field test, and revision before Follow Through came into being. During the first year of Follow Through it was introduced into 22 sites. Later, after the model moved to Oregon, DISTAR was revised once more based on feedback from the 22 sites.

After that, observed Carnine, the program was complete except for slight modifications in the training and general preparation of the DISTAR teachers and teacher aides. Since the early revision, it now appears that the Oregon sponsor has been primarily interested in ensuring the spread of the commercially distributed DISTAR program.

Conclusion

This paper was written to advise NIE about the feasibility of creating new Follow Through programs within self-described programmatic r&d institutions. We attempted to determine if such institutions provide the current sponsors with any "extras," any benefits that could not normally be expected from an affiliation with a regular host institution.

Based on our admittedly limited sample of five, we conclude that sponsors do benefit from affiliation with r&d institutions having a strong commitment to programmatic r&d. We also found, though, that other factors appear to be as important as the host institution's focus.

For example, any long-term programmatic effort is enhanced when it experiences low staff turnover, particularly at the senior scientist level.

All five of the sponsors we visited had, over the years, changed their principal investigators. And yet the turnovers do not appear to have had a negative impact on four of the programs. In these four institutions, though, the turnover was smooth and in all cases appears to have followed a logical succession.

For example, the Pittsburgh sponsor had its initial director promoted within the r&d center. The current director, though, was the sponsor's first director of evaluation.

Other sponsors have similar experiences. At High/Scope, for example, the current director has been with the program from the beginning. And the man he replaced stayed on at High/Scope as its president.

The opposite situation occurred at Far West Laboratory. The program's first director provided the impetus for the laboratory's early childhood thrust. When he left, the lab's involvement in the field dwindled. And the Follow Through program became much less a research effort than it did a service function.

The point is, even within an institution long noted for its programmatic focus, an isolated program probably is not going to benefit much from the affiliation. Strength comes, as it did at High/Scope, the Austin laboratory, and the Pittsburgh Center, from the collection of related r&d programs interfacing, complimenting, and sharing.

We were impressed with the Oregon model. The sponsor, though, is not affiliated with a research institution. But if the sponsor's director is bothered by that fact, he did not convey it to us.

Of course the model was fairly well developed before the developers ever moved West to Oregon. Once at the University, the staff was primarily interested in developing teacher training materials to compliment the instructional program. Perhaps if the host college of education had not been going through a fairly rough period of self-examination at the time, the Follow Through staff and the resident faculty might have benefitted each other more. Today, the director of the university's national research center and the Follow Through program director have a strong personal as well as professional relationship. Future work might just prove advantageous to both.

While visiting the five sponsors we attempted to determine the extent to which the models were enhanced by the presence of fellow researchers, developers, evaluators, and disseminators. The directors at High/Scope, the Austin laboratory, and the Pittsburgh Center all gave examples showing how their model was modified and improved because of the r&d work going on around them. The fact that the Follow Through models were so integral to all three institutions' overall missions certainly was a big factor in this cross-program fertilization.

The "common mission" theme also seems to explain in part why the three sponsor directors were willing to say that their program remained essentially an r&d thrust. That is, the r&d orientation of their host institutions keeps the Follow Through staff from becoming too identified with the sites and the interests of the people they serve.

Finally, a word about resources. Although the Follow Through directors were reluctant to become too specific, it was obvious to us that the sponsors also benefitted financially from the close affiliation with the strong r&d institutions.

For example, each of the directors cited instances where the former directors lent their time on the program after drawing their salaries elsewhere. Other staff within the host institutions also "volunteered" their time when requested.

In conclusion, then, we believe future Follow Through models would benefit from affiliation with institutions having a recognizable commitment to programmatic r&d. We believe such institutions, although limited in number, provide the Follow Through program with its best chance of fulfilling its charge of providing a sound education to economically disadvantaged youth.

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