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ABSTRACT

Spatial visualization is not yet clearly understood. Some researchers have concluded that two factors or abilities are involved, spatial orientation and spatial visualization. Different definitions and different tests have been proposed for these two abilities. Several studies indicate that women generally perform more poorly on spatial tests than do men; it has been suggested that this sex difference has an hereditary basis. Several studies support this hypothesis. A study has shown that females with Turner's Syndrome perform much more poorly on Wechsler performance subtests than on the verbal subtests, but immaturity due to parental indulgence may account for these results. A research question of considerable interest is at how early an age spatial ability can be tested. Few attempts have been made to improve performance on spatial tests by practice or relevant training, but the author has such a study with third and fifth graders underway. Such studies have shown training to improve scores considerably. References are provided. (KM)

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POSITION OR POLICY HEREDITARY FACTORS IN SPATIAL VISUALIZATION

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Ever since the subject "Block Counting" was included in the Army Beta Test and Thorndike (1921) showed that performance on it did not correlate highly with "general intelligence", there has been an interest in what came to be called "spatial" tests. The history of these tests has been described by McFarlane Smith (1964).

In the United Kingdom such tests are usually described as measures of a factor 'k' variously named "practical", "concrete" or "spatial" since L1 Poulton's study of the visual perception of space (1920).

The precise nature and limits of the hypothesized ability is not clearly understood, in part, because some authors have used the term "spatial" to describe features of tests which merely use geometric figures, but do not require visualization of two or three dimensional objects. Examples of such tests which sometimes have been called spatial are the Progressive Matrices of Pevsner (1962) various form boards, mazes and the Kohs blocks. Actually, the latter may have a "spatial" component in it because it requires two dimensional rotation. However, to the extent that the designs can be copied by trial and error, this test would require mainly verbal reasoning and form perception.

There may be several distinguishable abilities. French (1951) reviewed several factor analytic studies and concluded that two factors existed which could be described as spatial orientation and spatial visualization. Spatial orientation he defined as the aptitude to remain unconfused by changing orientations in which a spatial configuration may be presented and spatial visualization as the aptitude to comprehend imaginary movement in three dimensional space.

Guilford and his associates also proposed two factors with the same names but with slightly different definitions. Spatial orientation they see as an ability to appreciate spatial relations with reference to the body of the

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observer and spatial visualization as a process of imagining rotations, transformations and other changes in visual objects. (Michael et al., 1951, 1957 - Guilford & Zimmerman, 1956).

Although the names of the two abilities are identical, French and Guilford proposed different definitions and different tests to measure these abilities. French (1962) selected a test of Thurstone's "Identical Blocks" to measure spatial orientation. In this test subjects are required to decide whether two cubes in different orientations are identical or not according to symbols shown on the faces of the cubes. For visualization he selected another of Thurstone's tests called "Paper Folding". Here the subject is asked to imagine folding and unfolding a piece of paper and deciding where holes punched in the folded paper will show in the unfolded paper.

Guilford and Zimmerman (1956) constructed for spatial orientation a test in which the subject is asked to select one picture out of 5 of a boat in which he is supposedly riding, judging from a drawing showing the prow of the boat in relation to the horizon.

For spatial visualization they constructed a test in which the subject has to visualize rotating an alarm clock to decide which of 5 pictures shows its orientation after it has been moved as shown by an arrow.

Borich & Bauman (1972) found the correlations shown in Table 2 between these 4 tests, when they applied the Campbell and Fiske (1959) multitrait-multi method model to test scores of 40 college students.

		Guilford-Zimmerman Spatial		French Spatial	
		Orientation	Visualization	Orientation	Visualization
GZ	S.O.	(.88) ^x			
	S.V.	.67	(.93) ^x		
Fr.	S.O.	.48	.53	(.66) ^x	
	S.V.	.34	.44	.55	(.51) ^x

^xReliability reported by test authors.

Although the sample size was rather small, their results indicate that the two abilities measured by tests of the same author correlate higher than do tests of the same ability constructed by different authors.

A large variety of tests have been constructed which aim at measuring these and closely related abilities. In the appendix a list of such tests and sample items are included.

Performance on spatial tests is less correlated with social class differences than is performance on vocabulary tests or on tests of general intelligence. (Huttin, 1965 - Cliquet, 1963).

On the other hand there are several reports that women generally do poorer on such tests than do men (Maccoby, 1966).

In 1943 O'Connor suggested that this sex difference has an hereditary basis. Support for this hypothesis has come from several sources:

1. R.E. Stafford (1963) obtained a pattern of father-son, father-daughter, mother-son and mother-daughter correlations suggestive of sex linkage. Similar results have been reported by Harllage (1970) and Bock & Kolakowski (1973). The latter analyzed the results from the previous two studies and their own and concluded that the results are consistent with the hypothesis that spatial ability depends on a recessive gene on the x-chromosome with a frequency of approximately

.r in U.S. whites.

2. The results of several twin studies indicate that spatial ability has a considerable genetic component in each of the samples studied. (Vandenberg, 1969).

3. The genetic component in spatial test scores seems to be largely independent from the genetic component in other ability test scores. (Vandenberg 1965, Ecol. & Vandenberg, 1968).

Money and his associates reported that phenotypic females with XO aneuploidies, the so-called Turner syndrome, did much poorer on the non-verbal or "performance" subtests of the Wechsler than on the verbal subtests. He suggested that this was due to a specific impairment of mental functioning which he labelled visual agnosia. He related it to the earlier reports of a sex-difference in spatial ability and proposed that it is this ability which is impaired in Turner's Syndrome.

Money constructed a special road map test of directions thought to measure this ability.

However, more recently Money (1970) has reported that persons with Turner's syndrome have certain personality characteristics which are, at least in part, due to the fact that they are usually "infantilized" by their parents i.e., they are given less than the normal amount of responsibility and are treated as if they were younger than they really are.

This factor may contribute to their poorer performance on non-verbal than on verbal tests.

Such a psychological explanation which makes the effects not a direct genetic one but one secondary to the delayed physical development is reminiscent of recent proposals that the increased incidence of XYY in violent criminals is due to their increased height and earlier growth which may lead to more fighting during adolescence.

A question which is of considerable theoretical and applied interest is at how early an age spatial ability can be tested. To my knowledge no such data is available on the paper and pencil tests of Guilford or French, but studies of Piaget and others on spatial concepts may be relevant as well as perhaps studies with certain "performance" tests such as mazes or Kels Blocks.

Recently I have administered a test constructed from the Kelzger-Shepard figures to 5th graders. It is now being administered to 3rd graders. They will be retested after having had an opportunity to build from blocks some of the models shown in this test, to see what the effect will be of systematic efforts to construct such models.

There have been few other attempts to improve the performance on spatial tests by practice or relevant training. Brinkman: (1966) compared the performance of two groups of 8th grade students on the DAT spatial relations test. Both groups were tested twice, but only one group received a self instructional program intended to increase understanding of selected concepts in geometry. This group scored very much higher ($p < .001$) than the control group: the mean for the experimental group increased by 18 points while the mean for the control group increased only 3 points. The author contrasts his findings with the negative results from three unpublished studies of the effect of regular course in geometry or mechanical drawing on spatial ability test scores.

In an earlier study, Blade & Watson (1955) found significant increases in spatial test scores after a year of engineering courses. Students in other curricula obtained much smaller gains. Incidentally, they also reported that performance in the upper third on the spatial test was as good a predictor of success in engineering school as scoring in the upper third of a mathematics test.

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his environment be it urban or rural. One of the major components is an instructional program which is specially designed by experts in education and child development and which varies greatly in its approaches and techniques. Consultants work very closely with each program in the development of materials and in the total functioning of the instructional component.

Two other major components are health and nutrition. Each community involved in Follow Through must make provisions for mental, physical, and dental health of Follow Through children and designated sources for diagnosis, treatment, and after-care. Each program should utilize available sources of health care in the community, help establish new services if local programs are inadequate, and assist families in obtaining needed services. Health education activities should also be incorporated into the program for children and parents, with special attention to preventive services. Each project should provide a well-planned hot lunch each day for Follow Through



children. Mid-morning and mid-afternoon snacks are recommended as part of the nutritional services. Depending upon the circumstances and particular needs of the children, breakfast and supper may also be provided. Other important components of the total program include the psychological, social, and guidance services. Although specialized psychological treatment should be provided when necessary, the overall orientation of the psychological and social service program should be preventive and developmental rather than corrective or clinical. For the Follow Through child, the psychological and social service programs should focus on classroom and family activities, since the child's behavior is learned through all significant social interactions in which he is involved. Special attention should be given to the relations between these services and other community and parent involvement activities in the entire program.

The inservice training of all participants who carry out the program is viewed as another important component of the Follow Through program. Administrators, professional teachers, para-professionals, parents, and other associated personnel should receive inservice training so as to function at a higher level while carrying out the entire program for the children. A comprehensive and continuing program of total staff development as an integral part of the regular program is seen as vital for all Follow Through projects to accomplish their goals.

Parental and Community Involvement

Perhaps one of the strongest and most significant aspects of Project Follow Through is that of bringing parents and community members into the act of total education and development of disadvantaged children. A Policy Advisory Committee (PAC), commonly referred to in this document as a Parents Advisory Committee because of its makeup, is viewed as an essential organ of the entire Follow Through program. At least 50 percent of the membership of a PAC must be elected from among low-income parents of children enrolled in Project Follow Through. The

remaining members should be drawn from community groups which have a concern for children of the poor

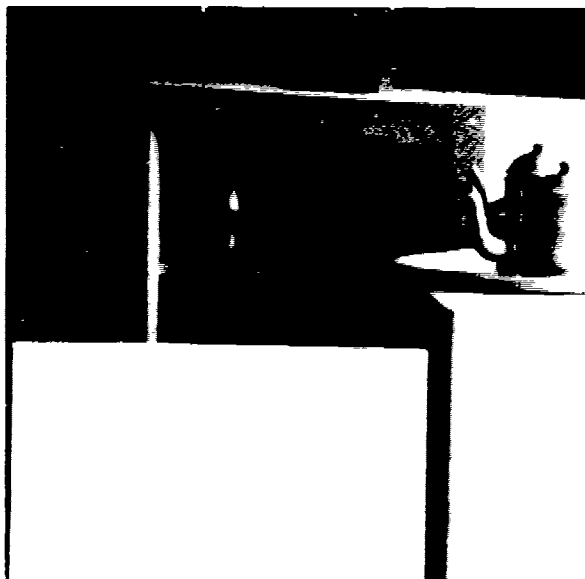
Besides the significant and contributing participation of the PAC, parents can and have been involved in a number of other functions within the project. They may serve as nonprofessional and voluntary workers to perform many functions within the school setting. It is suggested that wherever nonprofessional positions are created, preference in filling them must be given to members of the target population, and especially parents. Each project should develop parental involvement activities consistent with its program approach and the general purposes of Follow Through. Each project must define as explicitly as possible the particular parent activities that are developed within that project context. Indicate the relation of such activities to other aspects of the program, and specify the arrangements developed to insure that such activities are carried out. In many cases the development of a PAC was modeled after that of Head Start and, in turn, utilized a number of the Head

Start PAC members for planning and beginning Project Follow Through activities.

Community action agencies originally funded by the Office of Economic Opportunity have been involved in the development of Project Follow Through. Other community agencies concerned with health, welfare, and social service have been consulted in the planning and development of the project and have continued to play a role in the operation of the program. This is consistent with the expressed concern for health, social, and psychological concerns of the program. Bringing all the agencies to bear on the program is intended to develop more comprehensive services for the disadvantaged children and help them in their total development.

Project Follow Through in Illinois

The following four chapters will describe what the State of Illinois is doing with its four projects for young disadvantaged children. The four projects in Illinois involve approximately 1450 children in



kindergarten, first, second, and third grades. As will be noted, the primary emphasis has come in kindergarten and first grade. There are 58 classrooms with numerous teachers, teacher aides, parent aides, and other professional and para-professional personnel carrying out the Follow Through program in the State. Counting local Title I, and other United States Office of Education funds, the four school districts are spending approximately \$1,370,000 on these pilot attempts. The four major projects in the State of Illinois are located in Mounds, East Saint Louis, Waukegan, and Chicago, Illinois. The Chicago project is subdivided into three individual projects and is trying three different experimental programs with their children.

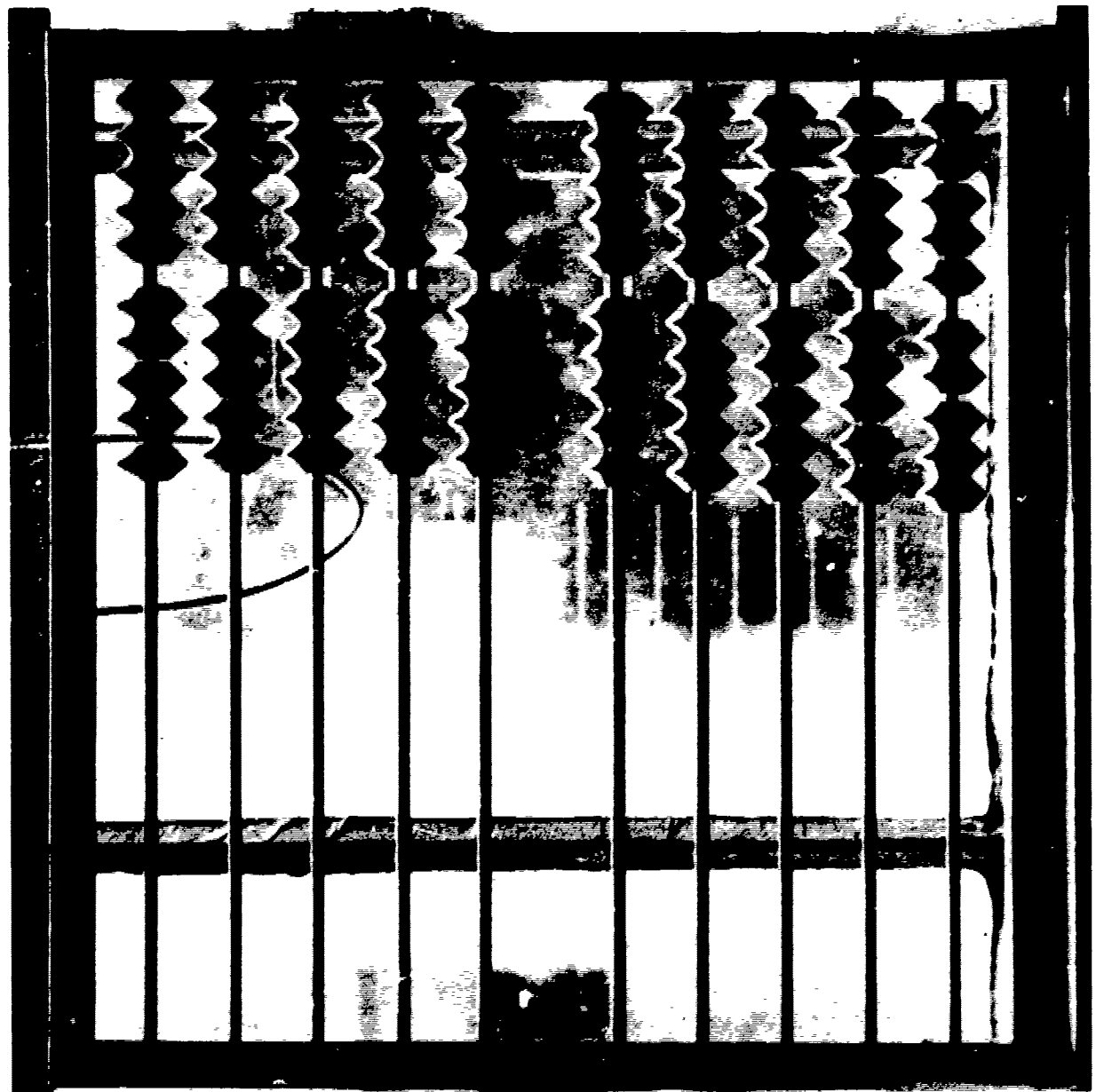
In describing the four major projects emphasis will be given to the nature of the environmental setting in which the projects occur, description of the project, the project objectives, and project participants. In each of the four projects some very exemplary and innovative aspects were observed and will be

described in this document. Finally, descriptions of evaluation and dissemination, inservice training of all personnel, and other significant aspects of each program will occur. The basic and underlying reason for the descriptions of the various projects is that the reader may gain sufficient information regarding some very significant attempts at bringing a total and comprehensive program to disadvantaged youngsters in the State of Illinois.



Chapter II

**MOUNDS - MERIDIAN COMMUNITY
UNIT SCHOOL DISTRICT = 101**



Environmental Setting

The Mounds-Meridian Community Unit School District #101 is located in Southern Illinois on the Ohio River in the southern half of Pulaski County. Pulaski County is one of the most economically depressed areas and is considered one of the three poorest counties in the State of Illinois. There is no industry in the community and agriculture is limited to a few independent farmers with some larger farming organizations run by outside interests. Using Office of Economic Opportunity standards, better than 50 percent of the population is classified as economically deprived. The assessed valuation per child in the school district is a little over \$4,000 and, of course is one of the lowest in the State.

The racial balance in the community is about evenly divided between black and white. Many families of both groups have been in the area for a number of years and the stability that has ensued from this state of affairs no doubt contributes to the fact there are relatively few racial conflicts. This is a particularly interesting phenomenon since less than ten miles away is located Cairo, Illinois, the scene of continued tense racial problems. Although there are many long-term residents in the area, it remains a stop-over for many migrants from southern regions. Since it is primarily a rural poverty area, many of the homes reflect the feeling of extreme financial deprivation. When housing projects develop and people are able to move into better housing situations, the older houses are taken up by migrants who come from across both the Mississippi and the Ohio Rivers and become residents of the district immediately. The new residents immediately qualify for welfare aid after residing in the district for two days. Thus, attempts by the community, the State, and the Federal government to improve living conditions appear to be futile because additional poor families move into the community at a very rapid rate. To further indicate the total economic deprivation in the district, it should be noted that all but 25 to 30 youngsters in the entire first grade qualified for Project Follow Through and are at the poverty level in family income.

The school district itself has around 1,700 students with 50 percent at the poverty level. Many of the young people move out of the community because of lack of job opportunities and go to bigger cities in the north. Noting the movement of the younger people from the school district to the bigger cities has caused one administrator in the district to describe the area as "the womb of the ghetto." Prior to this school year only about 20 percent of the graduates went into any form of higher education. However, this year a community college was developed in Pulaski County which a number of the students may now attend. This is seen as a big enhancement to the school district although there is no measurable technical or vocational skills taught at the community college or in any other system within the area. Approximately 40 percent of the teachers in the district are black and have been in the district for a number of years. A new junior-senior high school was built two years ago and was almost completely financed with State funds. The teacher turnover in the system is approximately 70 percent with most of these teachers moving upstate to better-paying jobs.

Despite the many economic problems encountered in the school district, there appears to be a certain amount of pride and interest in the young people who go through the schools. Influential black members of the community have worked very closely with other black and white members to provide the leadership for improved educational situations in this district. Perhaps the very positive race relationships that appear in this district are due to the common element of poverty for both blacks and whites. They all appear to be in the same situation and are concerned about the welfare and education of their children. Because of the nature of the district and its excessive poverty, this district can truly be called a rural ghetto.

The Project and Its Goals

The principal goal of the entire program is to enhance the educational performance of the first-grade children in the district. The central assumption underlying the project is that improved performance depends upon an improved self-image of the youngsters. The basic objectives of the project appear to be as follows:

- A Increase and improve literacy (Instructional)
- B Improve children's health with proper medical attention and nutritional diet (health)
- C Develop appropriate and acceptable social behavior and self-concept (social organization).

The instructional program is designed around the concept of behavior modification through positive reinforcement and stresses very heavily the three R's—reading, writing, and arithmetic. The instructional component of this project is centered around the ideas and materials developed by Professor Donald Bushell of the University of Kansas and utilizes the operant conditioning or the token economy to bring about the appropriate behavioral change. Tokens along with verbal positive reinforcement are awarded students for correct or appropriate responses and behavior. The classroom materials are largely programmed primers and workbooks designed more or less after the Skinnerian model. The essential characteristics of these materials are:

A Skills and concepts to be learned are presented in very small increments in order to insure maximum initial success.

B Immediate feedback provided to the pupil as he proceeds through the work.

Basically during the day there are three learning periods and three spending periods. Students earn tokens, which are actually poker chips, during a learning session and then are permitted to spend them for free time, the use of books, special foods, field trips, and other items that may be utilized in the classrooms.

Each of the six first-grade classrooms has approximately 25 students in it. The school itself, Douglass School, is a formerly condemned elementary school building which has been partially restored for project use. Teachers and administrators have made this quite a pleasant learning situation through many creative attempts both in the classroom and other related areas. Each class of first graders, which includes about 165 students of whom 110 are black and 55 are white, has one fully certified teacher, one teacher aide who meets the State requirement of at least one year of college training, and two parent aides. Wherever possible, the classroom team includes two blacks and two whites with four of the six teachers being white and the remaining appropriate mixture of teacher aides and parent aides. With four adult personalities in each classroom the emphasis is placed on individualizing or small grouping of the instructional program. Greater attention is provided each youngster in the classroom because of the approximate ratio



of one adult to six youngsters. This also insures that the classroom social system is more directly connected to the larger community, inasmuch as parent assistants are mothers of the children who are in the project. These mothers (and one father) rotate on six-week shifts, thus providing a more or less continuous flow of personnel from the community into the classroom system and back into the community.

Health and nutrition are deemed essential to this particular project. Therefore, the program provides for medical and dental examinations of the pupils and medical referral where treatment is indicated. This phase of the project is under the supervision of a full-time registered nurse and a full-time licensed practical nurse. Any psychological care that is deemed necessary is conducted by a cooperative group, JAMP. JAMP is sponsored by four counties in the region, Johnson, Alexander, Massac, and Pulaski. All children in the project receive breakfast and lunch of a specially prepared diet during the course of each school day. A parent coordinator provides the liaison work between the school and parents of the children. Further, a Parent Advisory Committee (PAC) has been formed and further assists with the work in the project regarding the school, community, and parents. The entire instructional component of the program is closely reviewed by the sponsor, Professor Bushell, and the University of Kansas.

Project Participants

This project involves the entire first grade of the school district which numbers approximately 165 students in six classes. Miss Gwendolyn Chambliss, a long-time resident of the school district, was the individual who wrote the proposal for Project Follow Through. She also intended to be director of the project before taking a position with the new community college in Pulaski County. Even though she is not formally associated with the project, she is still very active in the project and its successful fulfillment. She comes to the project office on most days and discusses interests and concerns with all

project personnel. Mr. Lawrence Wilson is currently the full-time director of the project and is a native of the community having taught in the school district for about 26 years. Mr. Wilson supervises daily activities and events and serves as general resource person for all members of the project. Miss Chambliss and Mr. Wilson, both of whom are black, are highly respected members of the community and school system.

As mentioned previously, the instructional staff consists of teachers, teacher aides, and parent aides in the classroom. The fully certified teachers are considered the master teachers in the classroom. There are six teaching assistants, one being assigned to each regular classroom in the program. They assist in carrying out the instruction and appear to be as active as the teachers. Sixty-six parents have been selected to work as parent aides or assistants in the classroom, all of whom except one are mothers of children who are in the program. One father has served as a parent aide. The parent aides are assigned in pairs, two to a classroom. Each pair works for a six-week session, after which they are replaced by another pair of parents. The parent aides receive a salary of \$250 for the six-week session they work. The entire instructional staff of teachers, teacher aides, and parent aides works very well together in carrying out the instructional program. There is a high degree of enthusiasm for what they are doing and they further enhance the very positive relationship between both races.

There is a registered nurse and a licensed practical nurse assigned to this project. They play the role not only of nurse but of social workers too as they move freely into the homes to discuss problems other than health with the parents. There is a parent coordinator associated with this project and she works both in the school assisting in rather general kinds of capacities and also in the community coordinating the activities of the Parent Advisory Committee and other members of the community who may have some relationship to the project.

Finally, there is an eighteen-member Parent Advisory Committee which serves in an advisory capacity and

guides the program in its entirety. Twelve of the members were elected by parents with two members coming from each classroom. Through a process of balloting, two members were elected to represent each of the six classrooms involved in the project. To insure a geographical representation, the project staff appointed six additional members to the PAC. The project director of the Head Start program is a member of the PAC with the other five members representing small communities in a rather large school district. It is interesting to note that one parent aide and one teacher aide from the project are also members of the PAC. As part of its function, the PAC carefully screens all parents who become involved in the parent-aide program as well as other aspects of the program. They have a business meeting one month where they discuss problems, concerns, and the nature of the program, the next month they have a social gathering and invite all parents to come on an informal basis. Provisions are made for transportation to and from the school during all of the PAC activities.

In addition to the above-mentioned people, others connected with the program include a full-time secretary, custodian, bus driver, and cafeteria employees. All of these personnel have been appraised of the nature of the project and its goals with most of them being parents of the children in the first grade.

Exemplary Aspects

Although the project has been in operation only a short time (September, 1969), many things appear to be happening with the young children involved. One of the more positive aspects of this particular program is the involvement of 66 parents as parent aides in the formal classroom setting. These people not only help in individualizing instruction and providing for small-group activities but also afford the opportunity for another adult image in a classroom. Many of the deprived youngsters in the project come from large families where little or no formal interaction with adults has taken place. These parent aides can help fill this gap by working very

closely with the students involved. It is most gratifying to note 66 parents are involved in this program which covers only 165 students. The enthusiasm invoked by this participation has caused a number of parents to enroll in college-credit classes so they too may become teacher aides in regular classroom instruction. With one adult to six or seven youngsters in a classroom more attention can be given to the students who desperately need the interaction with adults in a learning situation. Once the certified teacher has given some formal instruction, the teacher aide and parent aides carry out the activities in small-group work. This apparently has had quite an impact on the development of appropriate social behavior. For children coming from poverty homes and functioning in a condemned building they appeared to be orderly and well-behaved in the classrooms, halls, and cafeteria. It is difficult to ascertain if this behavior is the result of many adults in the learning situation or as a result of the token economy program designed to bring about such behavior. In any case, the presence of four adults including the certified teacher in each classroom certainly allowed for individual attention for each student and more importantly for the building of good human relationships.

Parental participation from the Parent Advisory Committee to parent teaching aides and other associated personnel was most enthusiastic and cooperative. The impact of such participation not only contributes to the growth and development of the children but spills over into the community creating better human relations particularly in regard to support for the school system and Project Follow Through.

Perhaps one of the most exemplary aspects of the program is again the fine relationships that exist between the whites and blacks of the community. This included both the teachers and students as the relationships appeared natural, open, relaxed, honest, and loving. Not all of this can be attributed to Project Follow Through because much existed prior to its establishment. However, this fine relationship is being significantly enhanced through the

considerable efforts of those involved in this particular project.

Innovative Aspects

Although application of operant conditioning in classroom behavior modification is not altogether new, certainly in experimental situations at least, it is a novel situation as far as most public school programs are concerned. In this instance the teachers reinforce correct responses with the rewarding of chips or tokens which the children collect and spend subsequently for a variety of things which the teachers make available to them. These can range from the privilege of viewing a film, to having extra recess time, to being able to play with toys or games that are in the classroom, and so on to other kinds of special treats which the teachers make available. The sponsors of the program at the University of Kansas plan to provide objects which can be obtained with the tokens, however, initially these materials were not available to the faculty and the teachers had to devise their own materials and purchasable privileges. As children make progress in skill and concept development, the quantity and frequency of reinforcements through the use of tokens is to diminish. In other words, it is assumed that eventually the knowledge of correct performance itself will become reinforcing and this will preclude the necessity of extrinsic reward in the form of tokens. Positive reinforcement is used to establish desired social behavior as well as the formal aspects of classroom learning. This means that teachers avoid using criticism or punishment to shape the behavior of children. A child who has difficulty in conforming to the established classroom routine is ignored as long as his behavior is not disruptive. As his social behavior approaches the criterion expectation, he may be reinforced with tokens in a manner similar to that used with more formal classroom learning.

At the risk of sounding redundant, another innovative aspect of this program would have to be the involvement of parents in the formal instructional setting. After being carefully screened by the PAC

and specially trained, these parents move into a classroom and assist in carrying out the instructional program. Again this provides for more small-group and individualized instruction and also affords other adult images in the classroom. This unique educational idea further encourages parental involvement in the education of disadvantaged youngsters and provides a fine liaison between the school and community. Finally, with two parents joining the certified teacher and the teacher aide, greater flexibility occurs in the classroom. This arrangement includes some degree of staff differentiation since the regular teacher is clearly the leader of the team and has the responsibility of assigning teaching tasks and supervising the teaching performance of the other people comprising the team. The enthusiasm of the parents serving as parent aides in the classroom was indeed most gratifying to note. It not only assisted the youngsters in the classroom but appeared to give the parents a new perspective on life and on what the school could do.

Evaluation and Dissemination

Continuous evaluation is built into this program in a variety of ways. In the first place, the children will be tested in terms of acquisition of reading skills and mathematical concepts and skills. These measurement processes will help the staff determine how effective the instructional program is by determining the increase in the level of competencies on the part of the children. Evaluation of the instructional process is carried on by video taping of selected teaching protocols of all the adults in the classroom and these tapes are in turn sent to the University of Kansas for review and critiques by Professor Bushell's staff. Upon analysis of the tapes, a written evaluation is sent back to the teacher to be used for the improvement of her instructional behavior. With this continuous monitoring of the program, the program sponsors will be providing evaluation of the teaching performance throughout the school year. In addition, consultants from CEMREL (a regional educational

laboratory) are working with the project partly in the area of evaluation. Thus, there seems to be ample provision within the program to provide continuing direction-giving assessment.

The dissemination of information particularly to the community takes place in two major ways. The first, of course, is the involvement of parents in the total program through the Parent Advisory Committee and through parents actively participating in the classroom. Other parents are involved with the serving of lunches and other activities in the school. This face-to-face communication has been viewed as very successful to this point and perhaps is a more effective way of communicating to the community. A second major effort at disseminating ideas and information is through a newsletter which is published bimonthly. This newsletter describes all the activities that take place in the six classrooms and other pertinent information relative to the entire project.

Inservice Training

The extensive training for the project participants began with each teacher and teacher aide spending time during the summer at a pre-program workshop with the University of Kansas staff. This workshop focused on the theory and practice of Bushell's model of instructing first graders in very basic skills. Upon returning to Mounds, the instructional staff immediately put the project into action. The parent aides are given special training through the efforts of the project and parent coordinators so they too may become a fully functioning member of the instructional team. Since parents are rotated every six weeks, continuous instruction is necessary. They are versed in the theory and practice of the Bushell technique and slowly break into the instructional process with other members of the team. This special training for parent aides is, of course, a continuous process since about 66 parents will be involved during the entire school year.



The video taping and analysis work are viewed as a significant aspect of the inservice training. The written evaluations serve as a new source of input into the system which can be used to help redirect the teachers' efforts. During the course of the year, consultants from the program sponsorship at Kansas are planning inservice workshops at various times. Other consultants outside of the program have been invited to work with the professional staff in other areas of the curriculum.

The advent of a new community college in the area has caused a number of the para-professionals and parent aides to resume their formal training. At the time of the visitation, about ten or twelve parents and teacher aides were enrolled at the Shawnee Junior College in order to further their formal education. Teacher aides were striving for full certification and parents aides were striving for certification as a teacher aide. The enthusiasm generated by the project itself has caused these people to return to college for more formal education.

The director and the project staff have continuous meetings to review the progress of the entire project. Analysis by the staff themselves has caused them to redirect much of their efforts too. Therefore, the additional training, or inservice work, is seen as a vital aspect of this particular project.

Other Areas of Interest

As with all Follow Through projects, there is a built-in criterion which specifies that at least 50 percent of the students in the project must have participated in a Head Start program. There appears to be a close working relationship between the Head Start project and the Follow Through project in this community. The director of the Head Start program, a retired female superintendent, serves on the PAC for Follow Through. Permanent records are developed during Head Start regarding the history and health factors of the youngsters and are then referred to the staff members on Project Follow Through. At present, there is no kindergarten in this school district, so the Head Start program has had to serve in this

function. Approximately 70 of the children in the project did not have Head Start experience so their permanent records have been developed in Project Follow Through. A number of the PAC members of Project Head Start were called upon to serve in an advisory capacity during the early stages of Project Follow Through. This provided a helpful transition between the two particular projects.

Further this project works very closely with other Federal and State welfare agencies in its operation. This is seen as very important because of the nature of the population it serves.

Conclusions

The strength of this project as with most educational endeavors lies with the professional personnel who carry out the program. This will be noted in all of the descriptions on Project Follow Through. Mounds-Meridian Community Unit School District #101 is no exception and the strength of the personnel can be noted from the director right on down to the aides. The interest and positive perception of the project expressed by the professional personnel involved have caused this program to experience a very significant start. The enthusiasm and atmosphere of cooperation pervading the school and the excellent human relations between adults and children of both black and white have been a most significant contributing factor. It appears a young deprived child in this school district could not help but learn something positive within such a setting.

CHAPTER III

EAST SAINT LOUIS UNIT
SCHOOL DISTRICT = 189



Environmental Setting

East Saint Louis is part of the metropolitan Saint Louis area and the largest city in Saint Clair County, with a population of about 82,000. Its particular set of social and economic characteristics makes it virtually unique in the entire area, and makes its educational problems depressingly acute. The historical scene of industrial exploitation, labor problems, political corruption, and racial tension, the city's decline has been accelerating rapidly during the past two decades. Most of the industry that once provided work has deserted the community and the majority of whites, with their relative wealth, have departed to outlying cities and towns.

Physically East Saint Louis is a shambles. The ugly remnants of industry rudely abut barely tolerable residential sections, empty storefronts blight the downtown district streets are obstructed by a variety of impediments, railroad tracks arrogantly chop the city into an irrational patchwork. The



Mississippi River prevents westward movement and the bluffs ascending to the east signify a social as well as natural barrier. They mark roughly the political boundaries which have isolated the city racially with startling effectiveness.

Economically East Saint Louis is a disaster. Annually the city government goes bankrupt as does the local school district. The schools invariably operate on deficit spending and are annually rescued by the banks through the questionable expedient of judgment financing. A diminishing tax base makes it increasingly difficult to raise funds for education. The tax base per student is presently only \$10,000 compared with \$55,000 in the adjacent (and virtually all white) suburb of Belleville.

This situation, of course, only reflects the depressed economic status of the people who live in the district. Negroes, who are in the majority, have an average annual income of about \$3,000, while for others it is \$6,000. Over thirteen thousand or about fifty-eight percent of the total school enrollment are from low-income families and attend schools receiving assistance in Title I programs. Some seventy-five percent of the district's 22,572 pupils are black.

Yet the city has received significant assistance in the support of education largely because of its extreme economic depression. In the fall of 1969 a completely State-supported community college was opened in East Saint Louis. The city has been the site of a model cities program for several years. The school system itself operates a separate office to administer Federally funded programs, the total value of which now exceeds two million dollars. The Follow Through project reviewed here is among those programs.

In the face of very severe adverse conditions, the public school personnel in East Saint Louis have worked diligently to provide an adequate educational program. During the recent past the schools were the particular target of militant groups, some of whom employed disruptive strategies which for a time threatened the stability of the system. It is a tribute to the supreme dedication of the professional staff

and to the genuine concern of many parents and others in the community that the program has been maintained. Yet in spite of the difficulties the effort has been directed not just at maintenance but at real improvement.

Description of the Project and Project Objectives

The East Saint Louis Follow Through project operates in eighteen classrooms of five poverty-area schools, and includes almost five hundred children. At present the program includes first and second grade children. The program is patterned after the Bereiter-Englemann model developed at the University of Illinois. It, therefore, employs the DISTAR curriculum materials and materials produced by Englemann-Becker Corporation. Kindergartens in East Saint Louis have been established as Head Start programs, in which the Bereiter-Englemann model has also been utilized. Ultimately the program will encompass all primary levels through third grade.

The central objective of the East Saint Louis program is to enhance performance in the basic skills by children from low-income families. These skills include the basic tools for learning—reading oral and written language and arithmetic—tools without which subsequent educational success is impossible. It is planned, however, the program will be expanded to include science and social studies as well.

Before discussing the instructional program it is important to mention other objectives which are regarded as necessary to the achievement of the major educational goals. One is to assure the physical condition of the children is as healthy as possible, therefore the program provides for certain medical and nutritional services. The latter includes both a school lunch program and an informational program for parents in food preparation. The other important objective is the stimulation of a live parent interest and participation in the educational experiences of the children. To meet this goal the project carries on several activities involving the parents both at school and home.

The instructional model for the program is, of course, an application of behaviorist theory to classroom practice, which emphasizes particularly reinforcement principles. The format followed in the Bereiter-Englemann program provides special reinforcement strategies designed to accommodate the particular learning difficulties of disadvantaged children. That is the assumption is made disadvantaged children are capable of acquiring the same skills as other children if appropriate practice conditions are provided.

More specifically the instructional program provides strong and frequent verbal reinforcement through praise. Much emphasis is placed upon doing right, doing a good job, etc. The program also makes sure every child gets far more active practice than he would in conventional classrooms. Moreover, a good deal of this practice is oral, which not only provides the child with needed practice in speech itself, but also promotes active involvement intellectually and facilitates the teacher's monitoring of his involvement.



The typical classroom in the project is staffed by a regular teacher, teacher aide, and parent aide. Classification as a teacher aide requires some college education; the parent aides usually have only a high school education. The presence of three adults in the classroom provides flexibility and permits small-group instruction. This advantage is enhanced by the fact the classes are somewhat smaller than usual, averaging about twenty-six children per room. In none of the classrooms visited was total class instruction in evidence. Usually there were two groups at work simultaneously, one with the teacher and one with an aide.

One of the most striking things about the Bereter-Englemann approach is the high intensity of verbal participation. The children are encouraged to shout the answers in chorus, which they do with obvious enthusiasm and relish. Their responses are reinforced by equally vigorous verbal praise from the teacher. To the uninitiated, the situation at first appears to be chaotic. The noise level would seem to preclude intellectual concentration.

Yet it quickly becomes apparent there is really considerable order. The children are uniformly absorbed in the tasks of their respective groups, and concentration upon the appropriate task is assured by the arrangement of room dividers. The teachers obviously have acquired the requisite discipline to concentrate upon the efforts of their own charges at the moment and seemed not to be distracted at all by the energetic vocalizing of adjacent groups.

The instructional program is accompanied by a continuous evaluation program. Six testers, provided and trained by the project sponsor, administer tests regularly to project children to provide formal monitoring of their progress. A testing supervisor is responsible for the coordination of the testing program and the training and supervision of the testers. Part of the project monitoring entails the video taping of class sessions, which are reviewed by the sponsor staff at the University of Illinois.

Efforts in the school are buttressed by as much parental involvement as possible. Workbooks produced by



Englemann-Becker Corporation to accompany the DISTAR materials are provided the parents to be used in helping children practice at home. Training sessions combining the elements of a seminar and a social are held in homes of parents.

Description of Project Participants

East Saint Louis has an advantage in being of sufficient size to require centralized coordination of Federal projects. Mr. William O. Thomas, administrative assistant to the superintendent, has full-time responsibility for general administration of all such programs in the system. He works closely with the various project directors and is able to keep well-informed about progress being made in the programs.

The director of Follow Through is Mrs. Geraldine Jenkins, a life-long resident of East Saint Louis. A teacher with several years of successful classroom experience, she also has demonstrated ability to work effectively with the teachers and principals. The apparent high level of participant morale and enthusiasm is no doubt largely due to the competence of Mrs. Jenkins as a supervisor and leader. This is her second year as project director.

There are eighteen regular classroom teachers in the project, sixteen of whom are Negro, and most of them from East Saint Louis. In addition to being experienced teachers, they have been specially trained in the use of the program materials. It is obvious they are devoted, hard-working, and enthusiastic about the possibilities of the program. The teacher aides who assist the teachers in the instructional program also appear to have been well trained. In many instances, they functioned very competently in the same manner as the teachers, and on short observation it was impossible to distinguish them from the teachers. There are two extra classroom teachers assigned to Follow Through as "floating" teachers. They are deployed variously among the project schools as needs require. It is especially important, for example, that a teacher with training in the sponsor's model

be available to substitute when regular project teachers are absent.

Maintaining parental involvement is the responsibility of Mrs. Shirley Byrd, the parent coordinator. She is assisted by a group of family workers who work closely with parents in their homes. Parental involvement takes a variety of forms. There is, for example, the homework project mentioned above in which parents are shown how they can help their children with practice in the kinds of skill development taking place in school. They are also provided with information about child care and about the buying and preparation of food. Parents assist in the schools also as volunteers for the hot lunch program. The parents have assumed responsibility for publishing a Follow Through newsletter. In addition, parents are involved in a policy advisory board, which has been very active in Follow Through from its inception in East Saint Louis.

The 484 children in the project represent about 9.3 percent of the 5171 children in first and second grades. There are two Head Start programs in East Saint Louis, a year-round kindergarten and summer program. Pupils from the year-round Head Start are given first priority for placement in Follow Through, with second priority going to the summer Head Start participants. About one-fourth of the first graders and one-sixth of the second graders have had Head Start experience. Principals and policy advisory board members may recommend other children to the program. Ninety-eight percent of the Follow Through children are from low-income families, and all are black. Project staff encourage children to remain in the program by providing transportation via cabs for those whose families move out of the Follow Through area. There are only a few children so involved, however.

Exemplary Aspects

Whether the East Saint Louis Follow Through project will produce substantial gains in skill performance is yet to be determined. The director, Mrs. Jenkins, reported first year results did not show substantial differences from conventional classrooms. It may

be that as the testing program continues the staff will be able to provide for individual children more efficiently. Even if significant improvement in formal test scores were not produced, however, the program exhibits some notable characteristics that should be considered for further development and implementation.

The first to be mentioned are characteristics of the classroom, particularly the enthusiasm and emphasis upon oral language. The expectation for good performance, successful learning, and real accomplishment is inescapable. It is conveyed in the entire approach of every teacher observed in the program. It is supported in even the physical environment. For even though the Follow Through classes are in some cases housed in relatively old buildings with the limitations frequently found there, they were invariably bright, inviting, and active places. Here were classrooms where children were expected to talk out loud—not to be quiet and still. The emphasis was upon action. School is an exciting place to be in these classrooms.

The classes, in other words, were a far cry from the stereotype of the inner-city or ghetto classroom. It is encouraging to speculate about the prospects if the outlook and style of life in these classrooms continues outside. We know from a good deal of evidence in the field of social psychology people often tend to conform to the expectations of others around them. Unfortunately the expectations communicated to children in urban classrooms have been negative about their worth and abilities. Often the children have behaved in accordance with such expectations. If the spirit observed in the Follow Through classes can be developed in other classrooms and at other levels, particularly the upper grades, East Saint Louis may have turned an important corner in improving education of disadvantaged children.

The intensity and quality of parent participation is an additional exemplary aspect of the East Saint Louis project. The high level of involvement in both school and home aspects has already been mentioned. Some 120 parents attended this year's orientation

for new families. Two sessions have been held with a home economist on the proper feeding of children on limited budgets. Parents spoke with pride to the observers about the program and their involvement in it.

Of special significance has been the work of the policy advisory board. In East Saint Louis this group takes an active and constructive role in the Follow Through project. The group is composed of fourteen members, including two or three from each site. The local Head Start director is also a member, and the Follow Through director an ex officio member. Members of this group have gone to Washington, D.C. to attend a meeting on community involvement in education. They have made site visits to other projects in deciding which program sponsor to select. The Board has passed on all professional and other personnel involved in the program, from director to teacher aides. Members of the Board are the active leaders in the local schools in stimulating involvement of other parents. The Board follows a regular schedule of meetings, sponsors special programs, hears complaints from the community, and makes recommendations to the school officials. The Board has exerted considerable influence in behalf of extending the Follow Through program to the third grade.

The policy advisory board has been organized vigorously, and vocal. It is a new phenomenon in inner-city school systems where members of the community have too often been inactive, if not indifferent, to education. The Follow Through project has provided a significant corps of people, invaluable experience in making important decisions about their own schools. It has demonstrated the capacity of the inner-city community to act constructively through established social institutions.

Chapter IV

**WAUKEGAN CHARTER
SCHOOL DISTRICT = 61**



Environmental Setting

Waukegan, Illinois, is a city of approximately 70,000 people located on the shores of Lake Michigan halfway between Chicago, Illinois, and Milwaukee, Wisconsin. At first glance the city does not appear to have the typical characteristics associated with poverty programs, such as is found in the black ghettos in other major cities in Illinois. A predominantly industrial city of medium prosperity, with an average assessed valuation per pupil of \$28,237, it presents to the superficial view the image of white middle-class respectability.

However, one of the characteristics of industrial Waukegan is the wide variety of ethnic groups found in the community. Almost every ethnic group is included, such as Germans, Scandinavians, Armenians, and recent migrants from Scandinavian countries and Finland. In addition, Blacks make up over eighteen percent of the population while another seven percent are Mexican American. Waukegan

is like many other large cities in that many of these groups are found to be culturally disadvantaged and occupying the lower social and economic levels of the community.

The community has two separate school districts—Waukegan City Schools, serving grades kindergarten through eight, and Waukegan Township High School, which enrolls grades nine through twelve. The elementary district is composed of seventeen K-6 buildings and three junior high schools for seventh and eighth grade students. Total enrollment for elementary schools as of January 1970 is 10,384 pupils.

Project and Its Goals

The main emphasis of the project is the involvement with the Bushell Model of Behavior Modification, which utilizes the token economy approach in working with children and meeting the project's objectives. The goals of the project are listed as follows.

- A Accelerate the academic progress of each child enrolled
- B Emphasize the academic areas of language, reading, writing, and mathematics
- C Utilize curriculum materials specifically designed to facilitate individual rates of progress
- D Employ systematic reinforcement procedures
- E Improve children's health with proper medical attention and nutritional diet
- F Develop appropriate and acceptable social behavior.

The Follow Through program serves approximately 165 kindergarten children in seven classes, all of which are housed in the new Gertrude M. Carman School.

The instructional component of the program is based upon the concepts and materials developed by Dr. Donald Bushell of the University of Kansas. One



should note that Bushell's materials were developed for first and second graders. Therefore, the use at Waukegan of these materials with kindergarten children will be an experimental test of the Bushell materials.

In any case, programmed materials serve as the instructional base while tokens (poker chips) and verbal positive reinforcement are awarded for correct responses and behavior. Teachers and students alike wear aprons for efficient collecting, awarding, and spending of tokens. During the instructional period, children earn their tokens for correct responses while during the spending periods, they exchange their tokens for games, toys, books, and art materials.

A different approach used with the kindergarten children is the extended day which lasts from 8.45 a.m. to 2.15 p.m. This extended day allows for art and music to be introduced to the pupils in addition to formal class work. Each classroom is staffed with a certified teacher, a teacher aide who has a minimum of 30 hours of college, and two teacher assistants. Parents of children in Follow Through are preferred as assistants.

Beyond the formal instructional component, the project is vitally concerned with the health of the children as well as their social behavior and adjustment. Medical and dental services are provided for either referral or treatment. A registered nurse, social worker, and psychological services are available to the children.

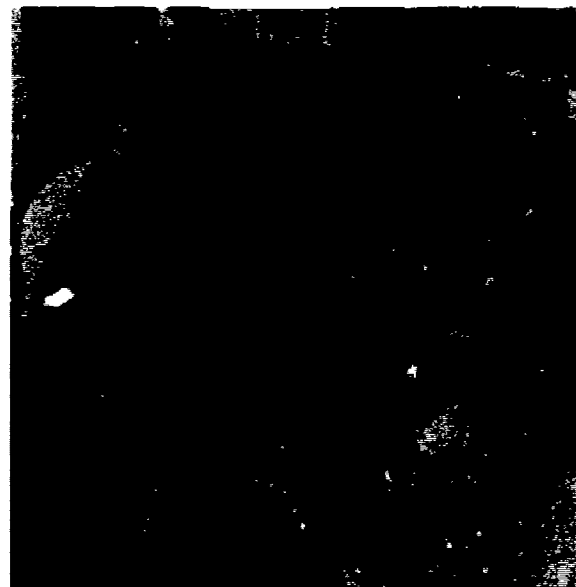
Finally, snacks and a special lunch (nutritional diet) is served all children in the Follow Through project.

Project Participants

Dr. Donald Van Devander, superintendent of schools, was active in visiting other projects, instrumental in developing the program, and has enthusiastically endorsed the project. Mr. Gilbert Memmen, program administrator, has overall responsibility for the Follow Through project.

The program coordinator, Mrs. Lillian Warren, an experienced kindergarten teacher, is responsible for the overall supervision of the program. Mrs. Warren is very positive and enthusiastic about the program. In short, she observed "kindergarten will never be the same again." She further explained that Follow Through has taught teachers to have higher expectations for kindergarten children and children at that level can accomplish more in the early school years than is customarily assumed.

Working closely with Mrs. Warren is Mrs. Helen Roberts, parent coordinator. Mrs. Roberts noted that recruiting parent aides was complicated since many of the parents in the district worked which may account for the fact that only one parent aide is in each classroom instead of the recommended two aides. Mrs. Roberts has also been instrumental in establishing a neighborhood youth center where kindergarten students can stay after school until an older brother or sister arrives to take them home. She has established an ongoing clothing drive.



to provide garments for both parents and children of the Follow Through program. Mrs. Roberts is also responsible for publishing a monthly newsletter, establishing workshops for parents, and helping in numerous ways with the Parent Advisory Committee.

The Follow Through certified teaching staff is almost altogether a new faculty. All but one of the seven teachers are new to the district. Four are first-year teachers and the others with two to five years experience. As a group they appear to be young and committed. In effect it is a new young staff working with new and untested curriculum materials and instructional strategies which hopefully will lead to successful development of the program. Assisting the certified teachers are certified aides and seven parent aides. The parent aides work on a six-week staggered basis so experienced aides can help new parents adjust to the program.

The project also has the service of the district's social worker three days a week and has three full-time psychologists for assistance when necessary. The district's school cafeteria director plans and supervises preparation of the meals, and a full-time food handler distributes the individually wrapped lunches transported to the school in "packers."

The school has a full-time nurse for assisting any Follow Through child, and physicians and dentists contribute time for physical examinations and treatment where needed.

All the instructional models used in the Follow Through projects are based heavily on the establishment of a Parent Advisory Committee (PAC) and parent participation in all areas of the project. After an interim PAC was established early in the development of the project, a permanent PAC has been appointed and officers elected as follows: Mrs. Heywood Matthews, President; Mrs. R. Mary Fisher, Vice President; Mrs. Alice Hernandez, Secretary, and Mrs. Maryann Grenlee, Treasurer. The major responsibilities of the Parent Advisory Committee are as follows:

- A. Assisting in the selection of staff
- B. Initiating suggestions for improvement
- C. Hearing concerns and complaints
- D. Organizing parent activities
- E. Serving as liaison for other public and private organizations
- F. Assisting in recruiting volunteers and mobilizing community resources
- G. Approving expenditures of funds for travel, visitations, baby-sitting, etc.

Exemplary Aspects

The instructional program itself is formal and straight-forward in an attempt to actually teach kindergarten pupils reading, writing, and arithmetic. This creates a more structured atmosphere than found in most kindergarten classrooms. However,



the extended day allows for introduction of music and art into the program. In addition, the spending time allowed gives the children time for play and activity. Finally, it was obvious that the new young teachers used ideas of displaying learning tools and decorations throughout the rooms resulting in colorful, attractive classrooms.

The teacher, a teacher aide, and a parent aide allows for emphasis on individual attention in small-group work in the classroom. The certified teacher's major concern is the instructional component and with the assistance available has time for creativity and innovation in the classroom and is burdened less with the drudgery of classroom management procedures. The mere presence of four adults in the classroom is a positive aspect of the program.

Beyond the parent aides in the classroom, it is obvious many other parents are highly involved in all phases of the project. One has the feeling the school is no longer a personal domain of the

professional educator. However, teachers, administrators, parents, students, blacks, whites, Spanish, and all others working together in a common cause certainly creates an atmosphere of cooperation, understanding, and enthusiasm not found in the average school system or building. It is usually people that make any program succeed, and it appeared the caliber and quality of the total staff was such as to guarantee progress.

Finally, people need tools and facilities to work efficiently. It appeared the program which is housed in a new building had provided the program materials, equipment, staff, and space to carry out the project's objectives.

Innovative Aspects

The combination of using behavior modification procedures for teaching kindergarten and an extended school day results in a most interesting program. This means that part of the day the instructional approach is specifically defined and



not left up to the discretion of the individual teacher. On the other hand, the extended day allows time for art, music, fun, and games.

Upon entering the token economy, one observes a teacher with apron and poker chips working with five or six students on their reading, writing, and arithmetic. Programmed materials are being used by either the teacher or the student and correct responses and behavior are rewarded with a token which the student deposits in an apron. One almost feels that he is in a Las Vegas casino except in Las Vegas everyone loses and in the classroom it appeared everyone was winning.

After their formal lessons, the youngsters used their accumulated tokens resulting from correct responses to purchase toys, games, books, free time, or extra treats during the day. As the child learns a given task, his tokens are reduced on the assumption that success in the skill alone is enough reinforcement. As the child turns to a new task, the ante goes up again and reduces gradually as he reaches the established goal or behavior.

Supplementary materials used in the program include Buchanan and Sullivan Associates reading materials and Bell and Howell Language Masters. Adding to this rather intensified program are materials designed by the classroom teachers to develop readiness work for some of the children. Other innovative aspects of the program come under the umbrella of parent and community participation. An ongoing clothes drive provides children and parents alike with clothing. Certificates for fifteen new pairs of shoes were given to the Follow Through program by the Exchange Club of Waukegan, and a Neighborhood Youth Center provides baby-sitting services for those kindergarten children who have working parents.

Finally, innovative or not, it is fascinating to observe parents in the classrooms, in the school hallways, and busily about the community vitally interested and concerned in the educational process.



Evaluation and Dissemination

Evaluation of students, teachers, and the Follow Through program itself are built into the project. Classroom teachers keep daily records of individual students and their progress. In addition, the children will be tested near the end of the year to evaluate their reading and mathematics progress.

Teacher techniques, processes, and procedures are evaluated through the use of video tapes. After recording, the tapes are sent to the University of Kansas for review. The teachers then receive back a written critique. Although feedback has been slow in coming, the project coordinator feels the video taping can be a very effective means of monitoring and improving teacher behavior.

Dissemination of information concerning the project is carried out in two basic ways. A monthly newsletter is published and distributed to parents and other interested individuals and groups. The parent coordinator is responsible for the newsletter. The

Parent Advisory Council has considerable responsibility for maintaining open communication with parents through various planned activities. In addition, the PAC serves as a liaison group for public and private organizations, assists in mobilizing community resources, and represents professional groups, public agencies, and parents involved in the program.

Inservice Training

A staff training session was held in August, 1969, at the University of Kansas. The workshop involved the entire support staff familiar with Bushell's Model. The workshop focused upon the theory and practices of the "token economy" in teaching basic skills.

Parent aides received special and continuous training. Since they participate for only six weeks at a time, the parent coordinator must constantly recruit, train, and provide orientation for parent



aides Staggering of time assignments also allows for experienced parent aides to help new aides adjust to the program

In addition, Mrs Warren, the coordinator, has weekly meetings of the staff so procedural problems never last more than a week or two The staff meeting may also include a visit from Dr Donald Nickerson, general consultant from Michigan State University.

As noted before, video taping the instructional process appears to have great potential for inservice training if used properly and if the feedback is prompt.

Finally, regional, semiannual, and one-day workshops are planned throughout the year with other directors and staff to share experiences and ideas.

Comments

In a discussion the program administrator said, "The success of the project will depend upon the classroom teachers" This is undoubtedly true, since all the theories, concepts, new materials, ideas, equipment, and techniques must be translated into meaningful learning experiences for the children in the project One cannot leave such a project without noting the enthusiasm, cooperation, and hard work of everyone involved in the project. The high caliber of staff with administrative support cannot help but have considerable impact on the children and parents of the community. Finally, as one leaves the project, the haunting and disturbing question remains—why has it taken us so long to implement learning theory in the classroom?



Chapter V

**FOLLOW THROUGH PROJECTS
IN THE CITY OF CHICAGO**



Environmental Setting: Description of the Community

Describing Chicago as an educational community is a mind-boggling task. The physical presence of the city itself exhibits a wide array of environmental elements, and its massiveness alone renders it almost unmanageable to conceptualize as an educational setting. Perhaps the most pervasive character of the city is the enormous energy which seems to emanate from all directions. Strangely enough, this sense of potential power is observed everywhere, from the hectic activity of the business district and the posh elegance of the magnificent mill where it suggests progress and success, to the depressing and endless blocks of ghettos where it suggests frustration and failure—and where it also suggests explosive revolt. Regardless of what other qualities found there, it is most obvious that education and all other social activities transpire in a dynamic milieu. A critical question, which cannot be answered here, is whether the school system, as the organization set up to carry on the educational process, can control and direct the forces impinging upon it in productive ways. This seems to be more fundamental an issue than the apparent characteristics of a given educational effort, such as Follow Through, and should be kept in mind in considering this report.

The size of the Chicago school system is formidable to contemplate. There are more than 8 million children in the public and nonpublic schools of the city. The children alone, in other words, would populate a city the size of Cleveland. Some eighteen percent of the children, or 153,000, meet the Office of Economic Opportunity criterion for poverty-level classification. In the public school system there are 275 Title I schools, among which funds are concentrated in 102 focus-area schools. Thus another factor that must be considered along with the dynamic social environment is the closely related one of magnitude. The magnitude, not only of the school system itself, but of poverty and cultural deprivation is greater than the figures can communicate. This means, of course, the task

of those attempting to improve education through compensatory programs such as Follow Through is multiplied in difficulty by an unknown but significant factor.

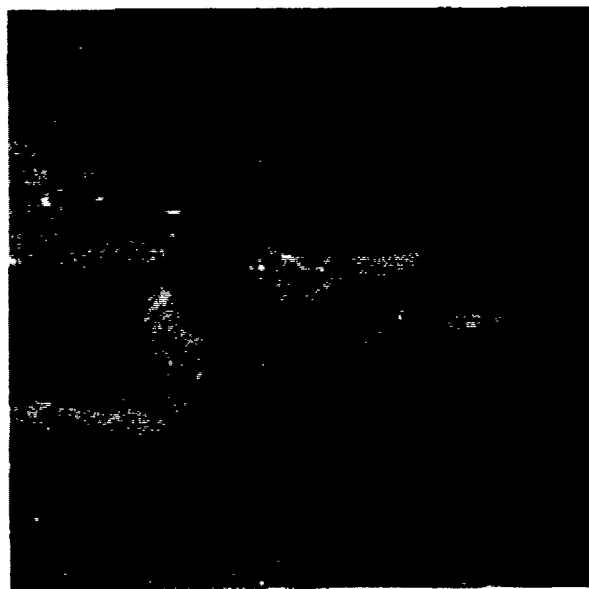
As to the Follow Through environment itself, there are seven sites in Chicago, six of which are located in black low-income areas. The six black schools are Fuller, Price, Jenner, Lathrop, Howland, and Brown. The seventh school, Ogden, is racially and socioeconomically mixed. Multiple-dwelling housing prevails among all the black schools, ranging from three-to-six family apartments to large high-rise housing projects. In the Ogden district housing ranges from single-family dwellings to apartments located over shops and other businesses.

Ogden is obviously unique among the seven. The economic range extends from poverty level to well-to-do business and professional families. The ethnic mix is also much more varied including blacks, whites, and Orientals. It was estimated about twenty percent of the children come from non-English



speaking families, including Mexican, Indian, Puerto Rican, and Oriental. The school seems to have enjoyed a tradition as an innovative and progressive institution, and this experience has no doubt influenced the way in which the staff approaches its task, including the Follow Through program.

There is perhaps more variation among the school plants themselves than among the housing and other physical features of the sites. In one of the black communities the school epitomizes the stereotype of the ghetto school. Occupying an entire block, on three sides literally to the sidewalk, the building is indistinguishable from a factory or warehouse, only the presence of children nearby signifies its function. Entry to the building is monitored by a uniformed policeman who opens the locked, reinforced doors and checks the credentials of all visitors. The dim, cavernous hallways suggest the interior of a prison or asylum rather than a school. Even modern classroom accouterments fail to overcome the oppressive architecture.



Yet in another black district the school is fairly modern and sleek. Hallways and classrooms are bright and airy. Classrooms seem livelier and more colorful, even though plastic sheets taped over broken windows tend to remind one that it is a ghetto school. The physical environment of this school seemed to be conducive to a relatively high level of enthusiasm and competence on the part of the faculty.

A final word is in order about the term, community. Descriptions of the physical and surface characteristics of an area may provide a rough index of its status as a community, but they cannot define it in a deeper sociological sense. More importantly they do not directly indicate the extent to which the area is really a community. Problems in urban education are generally exacerbated by the fact that residents of a given school district do not commonly share sufficient goals and purposes to enable them to act as or even be, a community. By emphasizing parent participation, projects such as Follow Through seek to strengthen and enhance the sense of community among the people in a school area. Conversations with parent participants suggest the program is succeeding in this regard with the people so involved. However, there tends to be a polarization of inner-city groups in all large cities, some of which appear to be strongly suspicious of, if not hostile and opposed to, public school programs. Some of these groups appear to actively compete for the allegiance of school children. The success of Follow Through will depend ultimately upon the extent to which group sentiment can be generated in behalf of the schools in general. An evaluation of Follow Through as a program must bear in mind the kinds of limitations imposed upon it by the very community characteristics which create the need for the program in the first place.

Description of Project and Project Objectives

The Chicago Follow Through project consists of three programs directed toward similar complex sets of objectives. Each program seeks the achievement of instructional objectives centering around the basic school skills of oral language development, reading (especially preparatory or readiness skills), and arithmetic computation. In addition to the instructional objectives, all three programs provide for maintaining and improving the general well-being of pupils. This broad objective, which is assumed to be essential to the achievement of instructional objectives, is approached through the following: medical and dental examinations with referrals for treatment as needed, psychological examinations and counseling, social services, a health program, and a nutrition program. Contractual arrangements for medical and dental services are negotiated by the school district's Bureau of Health Services. Psychological and social services



are coordinated by the Follow Through project coordinator. The health program includes the services of a teacher nurse, who works directly in the classroom with the teachers, providing special assistance on medical, dental, and nutritional education. The Board of Education nutritionist directs the food program, which includes mid-morning and afternoon snacks in addition to lunch.

The three instructional programs being implemented in the Chicago project may be identified according to their sponsors: Arnez (cultural linguistic); Weikart (cognitively oriented), and Becker-Engelmann (behavioral principles). These programs differ essentially along two dimensions, which can be thought of as learning theory and programmatic structure.

One way of distinguishing among the programs along the learning theory dimension is in terms of the degree to which they require "intervening variables" in the form of assumptions about cognitive structures and processes. The most demanding in this regard is the Weikart program which builds a pedagogical system directly around a psychology of cognition. Drawing heavily upon the work of Piaget in the study of children's thinking, the system sets up a series of cognitive goals to be achieved through special curriculum materials and instructional strategies. This means the teacher must design and plan each activity according to the characteristics of a specific phase of the thinking process. The thinking process, in turn, is thought of in terms of specific cognitive structures and is presumed to function according to specified logical principles. The application of the Weikart model, in other words, requires considerable sophistication on the part of teachers in cognitive theory, as well as special training in relating the theory to practice.

The Arnez program also emphasizes cognitive development but from a cultural-anthropological point of view rather than psychological. Specifically it is based upon the assumption that cognitive development depends upon primary language development. In this sense primary language is

the language or dialect of one's immediate culture. This view leads to an instructional program featuring a culture-based content with emphasis upon oral language. Extension of the child's repertoire in his primary language is deemed essential to the enhancement of self-concept and conceptual development.

As its behavioral label suggests, the Becker-Engelmann program involves the least elaborate consideration of cognitive processes as they might occur within the pupil's mind. The model combines elements of behaviorist-learning and its application in programmed-learning technology into a classroom teaching-learning system. Its essential assumptions are that educational goals can be identified and formulated as terminal objectives; requisite intermediate steps to their acquisition can be stipulated as successive approximations; the learner must be afforded a high frequency of practice trials on each task and practice trials must be accompanied by systematic reinforcement. As in typical applications of behavior theory to behavior modification, the reinforcement of responses is regarded as essential to efficient acquisition and retention of the objectives without particular regard to what transpires in the way of a thinking process. This view leads to an instructional program characterized by many short exchanges between teacher and pupils accompanied by much verbal praise or other form of reinforcement.

Differences in programmatic structure are of course directly related to differences in the underlying theories. The Arnez program utilizes less of the school day in its formal aspect, supplementing the regular program with individual daily lessons. Since the approach is based upon the cultural experience of the children, each session incorporates objects with which the children are likely to be somewhat familiar. One of the lessons observed used food cartons typical of those seen in the food market and at home. Each child is presented an object and asked to make a statement about it indicating one or more of its attributes. The statements are recorded and subsequently played back, to the obvious delight of the children. By requiring children to identify and describe according to specified attributes

the program provides practice in classification, seriation, and other cognitive operations associated with concept development. At the same time the program provides practice at oral language which according to the rationale contributes to concept development also. The teachers manage the tasks in such a way that statements gradually become more complex, and presumably also the conceptualization. The technique is in other words, somewhat similar to pattern practice employed in foreign language teaching. By beginning with simple statements about familiar things, the program capitalizes upon primary language already developed and moves the child toward more formal or standard language. The tape recordings provide the teachers and other staff with a means of monitoring pupil progress.

The Weikart program is much more complicated programmatically as it is theoretically. It encompasses the entire school program with all activities and materials being geared to specific cognitive objectives.



Even the physical layout of the classroom is prescribed in order to provide facilities for the specific kinds of activities in the program. Each activity in the instructional program is designed for a given cognitive level. It is important, of course, that the cognitive level be matched with the present cognitive level of the children. This imposes a double demand upon the teacher who must be able to assess the present cognitive level of her children and also provide materials and means to narrow the gap between their level and the level of the activity. This is an especially important problem with inner-city children who operate against the experiential deficit generated by poverty and social discrimination.

The Becker-Engelmann model is the most highly structured program of the three. It is designed to encompass most of the school day and virtually all of the work in language, reading and arithmetic. Moreover, the materials and activities are so tightly programmed that teachers follow a virtual script in some instances. Children and teacher

engage in a predetermined verbal exchange in which the complete response of the pupils is highly predictable and guaranteed by virtue of preceding trials. Much of the pupil recitation is in chorus although the program also calls for individual responses. As noted elsewhere in this report the lessons are characterized by rapid-fire question-and-answer sequences with intensive often shouted responses from the children which are followed by enthusiastic and emphatic reinforcing behavior from the teacher.

In the case of Ogden School where the Becker-Engelmann program is operating in Chicago there seemed to be more flexibility and deviance from the pattern than was the case in other Follow Through projects. This variation appeared to be a function of pupil characteristics which differed considerably from other Follow Through groups. The group was more variable ethnically and economically as previously indicated. A number of the children were obviously verbalizing at a higher level of



generalization and abstraction than most children in other projects, and decidedly beyond the verbal complexity of the exercises themselves. They not only performed the program tasks with great ease, but frequently commented about the activity itself offering judgments and analysis of the tasks. Others in the group seemed to be more typical of Follow Through children.

Description of Project Participants

The Chicago Follow Through project is administered out of the Title I district office. Directly in charge of the project are a project coordinator, coordinator for ancillary services, and a home-community coordinator. They are really mobile administrators spending almost all of their time directly in the project schools rather than in a central office.

The professional teaching staff consists of the regular full-time teachers assigned to project classrooms each of whom is assisted by a parent employed as a teacher aide. In addition, volunteers work in the Follow Through classes on a flexible schedule, depending upon their individual availability.

Each of the schools has a school-community representative, six on a part-time and one on a full-time basis. As in other projects, the representatives are responsible for enlisting parents in activities related to the program and for generally maintaining communication between school and community. The project has been fortunate, in the view of the observers, in recruiting people (apparently all women) who are positive and enthusiastic about the program. In conversations with the observers they demonstrated considerable understanding about the program and great insight into the problems of ghetto life and its relation to education. One of these women for example discussed the social and psychological implications of formal and informal language systems with a competence that would have enhanced the treatment which the topic usually receives in college courses.

Parents are also involved as members of the Policy Advisory Council. Through this organization members of the community work together with the professional and administrative staff in planning policies and implementing the total program.

The most important participants of course are the children. There are about 620 in the project all of them are (with the exception of those at Ogden) low income and virtually all of them black. Non-public school children are included in the Follow Through kindergartens from nearby Head Start centers under the local urban progress groups. At the Ogden School children attend Follow Through from the Holy Name Parochial School.

Exemplary Aspects

As the staff pointed out to the observers the Chicago Follow Through program is still in its developmental stage, and therefore, what may prove particularly exemplary components are not yet really identifiable. However, it shares with programs elsewhere certain features that are particularly promising. Among these are

A. Involvement of low-income parents in planning the educational program for their children. Such participation is an obvious imperative if city schools are to become viable components of urban communities.

B. Direct and active involvement of teachers in curriculum development at the local school level.

C. The presence of teacher aides which provides more individual and small-group instruction.

D. Full-day programs and extended year for kindergartners. It has long been known that inner-city

children lack important developmental skills when they arrive at school. Bringing them into educational programs earlier and for longer periods of time is a promising strategy which of course is the whole purpose of following Head Start with Follow Through.

Intensive involvement of the supervisor and consultants and continuous training of teaching personnel are also very promising aspects of the program.

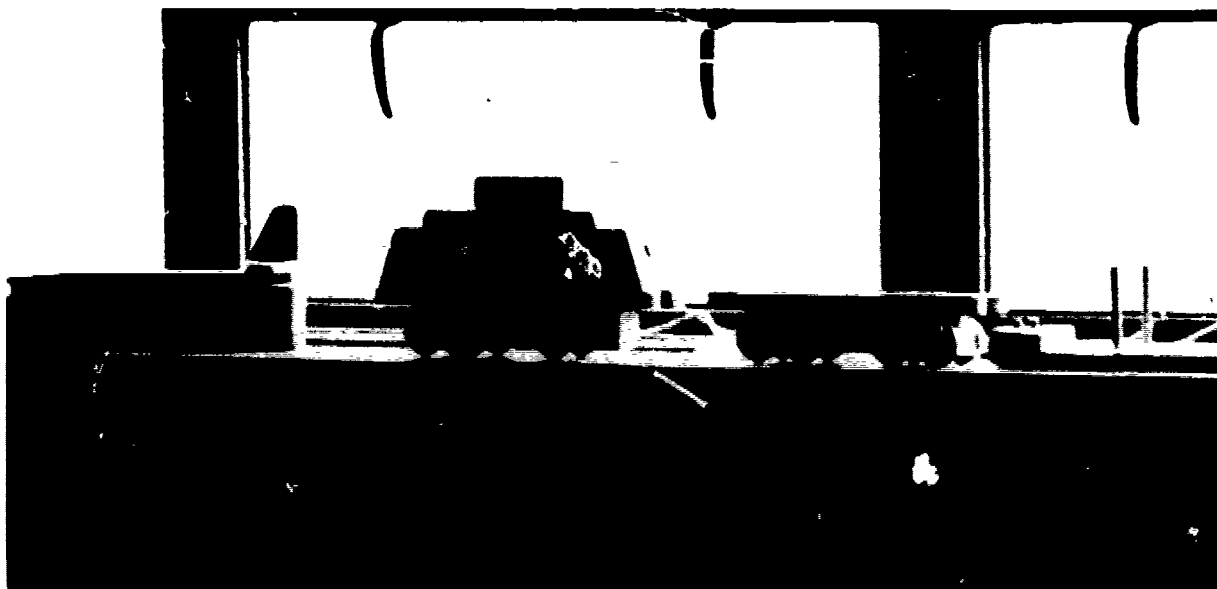
Innovative Aspects

Innovative aspects of the Follow Through programs in Chicago are viewed not as much in terms of their conceptual novelty as in terms of organizational changes sponsored by their implementation. Basing instruction upon cultural experience of the young is certainly not new. It has historical counterparts in Nineteenth Century European pedagogical theory. Behavioral theory has had currency in teaching strategies for some time. However, its systematic application in a total program is quite recent.

The programs are decidedly innovative in that they require scheduling and personnel deployment arrangements not commonly found in schools especially in the inner city. These advantages include providing at least some school time for teacher planning and evaluation. The utilization of teacher aides permits some staff differentiation and a limited form of team teaching in addition to providing more individual attention for pupils. Although the concepts underlying the programs are not new the programs do require more systematic application to instruction than is usually the case. In addition the involvement of parents is an innovation which may prove beneficial instructionally and socio-politically.

Method and Extent of Evaluation and Dissemination

Dissemination at the community level which is probably the most critical takes place through the regular meetings being held with parents and other members of the community. In other words



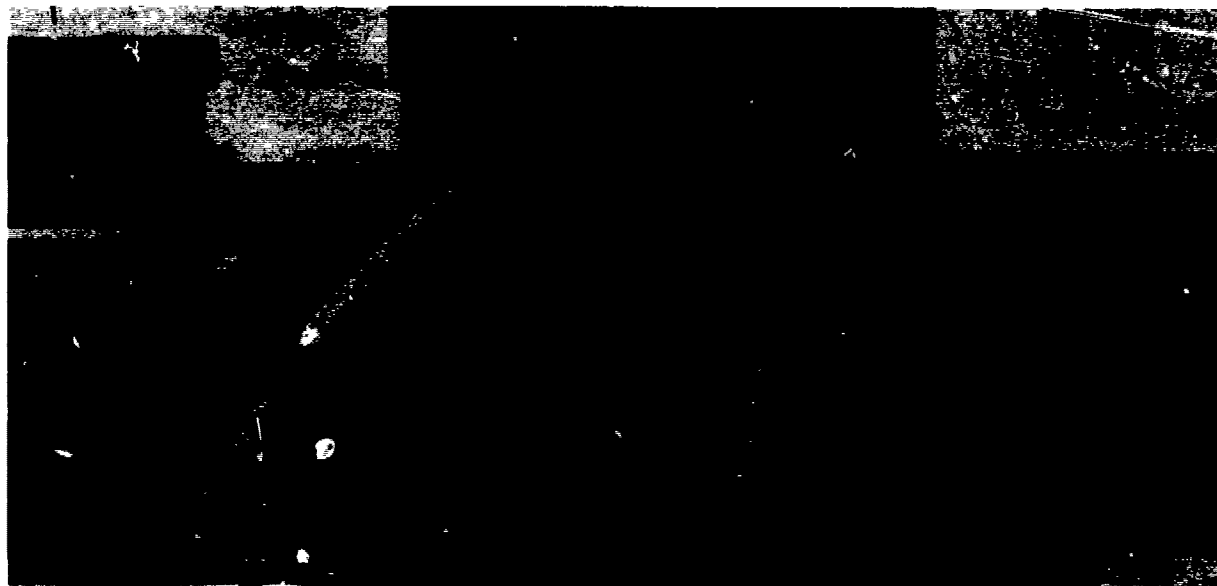
dissemination and community participation in program planning and evaluation occur essentially in the same process. Broader dissemination will be accomplished through a brochure under preparation.

Evaluation occurs in two ways. The first is the more formal evaluation being conducted as part of a national longitudinal study of the Stanford Research Institute. The second is the largely empirical sort of monitoring provided by the staff as they work in the program and by the program sponsors as they collect data from the project sites. The program is at too early a stage for evaluation at this time to be very meaningful.

A few words based upon observations may be in order with regard to evaluation. One is that the timing of program implementation seems to be of critical importance in relation to its potential success. It appeared that in some instances the staff could have benefited by earlier training and orientation to the program. The second thought is that program

success may be partly a function of the facility with which it can be mastered by the teaching staff. The Weikart program in particular depends upon comprehension of a relatively abstract and complex explanation of cognitive processes. Acquisition of the necessary concepts may require considerably more time than is available in the preservice training session.

A final word should be said about the particular situation in which the Becker-Engelmann program was being used. At the Ogden School a representative of the program was assigned to the school so inservice assistance and on-the-spot monitoring were available. This indeed seemed to be an advantage and probably should be the pattern wherever feasible. On the other hand, it has been indicated earlier in this report that the particular mix of children seems to impose some strains upon the program not so noticeable elsewhere. In essence, the difficulty may be that the program is too confining in relation to the verbal capacity of more advantaged children.



Community Involvement

Organization for community involvement is somewhat more complex in Chicago than elsewhere as might be expected. There is a city-wide Policy Advisory Council to which each school sends two delegates. This group considers general kinds of issues affording parents from different local communities an opportunity to get an overview of the Follow Through program in Chicago and at the national level. In addition the Community Action Agency which is the Chicago Committee on Urban Opportunity, places a representative on the Advisory Council. Since this representative also works closely with Head Start continuity with that program is facilitated. At the local level each school has a Policy Advisory Council of which half of the members are low-income parents of the children in the school. The parent members invite other individuals from the community to round out the membership.



Chapter VI

SOME SIGNIFICANT FEATURES



From a careful perusal of this book, it surely has been noted some interesting and innovative ideas have been brought into play for the total-learning experiences of disadvantaged youngsters. Although many of the projects are in the early stages of development, many new as well as older concepts have been utilized and assembled into a very comprehensive program which recognizes the need for special services both in the school and in the total community in general. This recognition given to the total environment, its impact, and effect on the disadvantaged child is perhaps the most outstanding aspect of the Follow Through program. Within this major area of emphasis other salient features in the total program deserve a reiteration because of their significance to the success of the entire endeavor.

Formal Instructional Program

One of the outstanding features observed in the Project Follow Through in the State of Illinois is the formal and highly structured instructional program offered to these young disadvantaged students. The instructional programs afford great emphasis on skill building, particularly in the areas of reading, writing, arithmetic, and language development. With a concerted effort on the part of the instructional staff, the children are taught the basic three R's and language development in an attempt to bring them to a level of achievement commensurate with students from more economically advantaged situations. Although the methods, techniques, and materials vary from program to program, the strong emphasis given to the basic skills was most notable and successful to this point. Many schools have formal programs in grades one, two, and three but few experience the concerted effort that was witnessed in these programs. Of course, the emphasis placed in the kindergarten curriculums of the project make the entire Follow Through project a unique and different kind of experience for these children. The formal and carefully

structured programs observed in kindergartens indeed, have to be considered one of the strongest points in Follow Through.

Besides the formal instructional program concern and emphasis were placed on the individual's self-concept and to taking the youngster where he is as he enters the school and begin to make him an important and fully functioning member of society. The work done in this area was noted as a significantly contributing part of the entire program because of the nature of the student population. The majority of the students are black or from other minority groups where positive self-concept development is deemed so important.

Multi-personnel

Another significant feature contributing to the success of Project Follow Through in its early stages here in the State of Illinois is the diversified use of many personnel in the classrooms and community of young disadvantaged pupils. Each classroom situation contained one professional and fully certified teacher and at least one and in many cases more than one, para-professional to carry out the instructional program. Some classrooms had teacher aides who were certified and parent and community members who served in a parent-aide capacity. The two to four adults in each classroom added immeasurably to the instructional program and to other aspects of the learning situation. With numerous adults in the classroom more individualization of instruction occurred and more attention was given to each disadvantaged youngster. Several adult images in the classroom contributed to the total development of the youngsters particularly in the area of self-concept because the children were being talked to and listened to perhaps for the first time in their lives. Care was given to the concerns that the youngster brought to the classroom, and the multi-personnel concept involved in each classroom afforded the young children with a model of positive adult behavior. These adult images were viewed as significant as the youngsters began to form more positive behavior patterns of their own.

Besides multiple personnel in the classroom, Project Follow Through had other people, both professional and para-professional, contributing to the total success of the program. From professional psychologists to cafeteria workers each person had something to offer the program and, in turn, the pupils involved. The use of parents and community members in many positions in the program was seen as important not only to the youngsters and the program but to the parents and community members themselves. With so many human resources brought into play in this program, it seems safe to say these youngsters cannot help but achieve success in their early childhood programs.

Parental and Community Involvement

Perhaps the strongest component observed in Project Follow Through in the State of Illinois was the involvement of parents and community members in the education of disadvantaged youngsters. This involvement starts right at the top with decision-making powers and moves through to the actual implementation and working of the entire program. Based on the assumption that to improve the educational achievement of disadvantaged youngsters the total environment of the children must be considered and involved, each program in the State of Illinois has truly mobilized the community and the parents.

Each program in the State has defined an Advisory Committee generally composed of parents of children in the program who guide the program in its entirety. The PAC serves the function of liaison between the school and community and works for better community involvement and understanding in each program. In the larger programs, each school has a PAC with usually one or two members serving on a city-wide PAC. It was observed in most cases the PAC was an active and vital part of each program and the contributions of these committees in no small measure made for successful operational programs.

Many parents and community members, as mentioned earlier, are involved in the direct instructional processes in each classroom. They may serve as teacher aides or as parent aides and, in many cases help carry on the instruction in the classroom. Some programs had a rotating plan whereby a number of parents could be involved in the classroom during the course of the year. Other parent and community members were involved in such capacities as parent coordinators, lunchroom assistants, testers, school-community workers, and cafeteria workers. The use of parents and community members in these capacities has brought the school to the community and, in turn, the community to the school. Acceptance and interest have resulted from the involvement of so many people in the educational experiences of disadvantaged children. The specifications of parental and community involvement mandated in Title I and Project Follow Through have been met in these programs and have resulted in true community mobilization for the educational achievement of the disadvantaged.