DOCUMENT RESUME

ED 380 203 PS 023 004

AUTHOR Landerholm, Elizabeth; And Others
TITLE Involving Parents of Young Children in Science, Math and Literacy Activities.
PUB DATE [Apr 94]
NOTE 20p.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Cooperation; Family Involvement; Family Programs; Family School Relationship; Hispanic Americans; Inner City; *Literacy Education; Low Income Groups; Mathematics Skills; *Parent Education; Parent Influence; *Parent Participation; Parent School Relationship; Parent Student Relationship; Preschool Children; Preschool Education; Program Descriptions; Science Instruction
IDENTIFIERS *Family Literacy; Family Math; *Family Support; Illinois (Chicago)

ABSTRACT

A summer parent involvement project was set up in a Chicago inner city public school in a Hispanic neighborhood. The eight-session program was intended to help parents: (1) become involved with the school program by becoming comfortable with the school setting; (2) enjoy reading and writing and replicate these experiences with their children; (3) enjoy and understand science and math processes and replicate these processes with their children. The program was designed to include support activities to build rapport, such as providing refreshments, providing free books, and providing one day a week during which parents could bring other children not enrolled in summer school. The project was also designed to include educational, achievement activities related to family literacy, science, and math. The activities included making healthy snacks for kids, making arts and crafts items, and making books. Parents enjoyed the variety and responded well to each type of activity. The success of this program indicates that different languages and cultures need not be a barrier to parent participation, because the desire to educate children well is universal. (Contains 28 references.) (AP)

INVOLVING PARENTS OF YOUNG CHILDREN IN SCIENCE, MATH AND LITERACY ACTIVITIES

Elizabeth Landerholm, Ed.D.
Department of Curriculum & Instruction
Northeastern Illinois University
550 N. St. Louis Avenue
Chicago, IL 60625

Deborah Rubenstein
Early Childhood Special Education Masters' Program
Northeastern Illinois University

Michele Losch
Early Childhood Special Education Masters' Program
Northeastern Illinois University

ABSTRACT

A parent involvement project was set up in an inner city public school on the North side of Chicago in an Hispanic neighborhood. The project was set up through a partnership sponsored by a grant from the Chicago Community Trust where a state university worked in a partnership with several public schools. A university professor, two graduate assistants, the principal and the school community representative worked together to design a summer parent involvement program for parents of children in the grades pre-kindergarten through first grade. Funding and time was contributed by the school, the university and the Community Trust grant. The two graduate assistants and the community representative implemented the program under the supervision of the principal and the university professor. The program was designed to include support activities to build rapport, such as providing coffee and rolls, providing free books, providing one day a week where the parent could bring other children not enrolled in summer school, and providing hands-on, enjoyable activities for parents. The project was also designed to include educational, achievement type activities related to family literacy, science and math.

Research from the onset of the Headstart Program in the 1960's through current research has provided substantial evidence that children's academic achievement is linked to their parents' involvement in their education. Involvement of parents in the educational programs of their children has shown to produce positive results in terms of child outcomes, increased parent skills, and improved educational programs (McCollum and Stayton, 1985, Welsh and Odum, 1981, Berger, 1991, Fruchter et al, 1992).

FAMILY SUPPORT

The early parent involvement programs connected with Headstart and special education, birth to three programs, focused on educational type parent involvement activities and leadership type activities. Since the early 1980's there has been a movement toward the development of family support and empowerment programs, (Weisbourd, 1983, Powell, 1986, Cochran and Dean, 1991).

Current research supports providing a variety of types of parent involvement rather than only one way, (Landerholm and Lowenthal, 1993, Olmsted, 1991, Berger, 1991, Comer and Haynes, 1991). Still, many schools only regard volunteering as legitimate "parent involvement." Because of this tendency, Lowitzer, (1989), found that families from low socio-economic status groups were rated by teachers as less involved with their children's programs than parents from higher income groups. Furthermore, these low income families had fewer resources and sources of support available to them. Landerholm and Lowenthal, (1993), Landerholm and Karr, (1988), found that support type activities such as food,

family entertainment, child care, were important in building rapport and a first step in getting parents involved. Later volunteering and leadership activities could be introduced. Building rapport and providing support was particularly important in low income and multicultural populations of parents and children, (Cicchetti, 1987, Landerholm and Karr, 1988, Ascher, 1988, Cochran and Dean, 1991, Goodson, Swartz and Millsap, 1991).

FAMILY LITERACY

The importance of the family's effect on children's achievement has been discussed in articles on family literacy. Burger and Landerholm, (1991), in their review of the literature, listed seven parental behaviors that effected childrens' literacy:

- parents talk with their children,
- parents model literacy activities,
- parents provide access to reading materials,
- parents read to their children,
- parents expect their children to achieve, and
- parents are involved with the school.

Other studies have documented the importance of families reading books and doing literacy activities together, (Morrow,1993, Schickedanz, 1986, Handel, 1992, Strickland, 1990). The families that are least likely to read books together and do literacy activities together are young, poor, urban families. According to Comer & Haynes (1992), in the reanalysis of the Coleman Report approximately one-half to two-thirds of the student achievement variance studied was accounted for by home variables, especially

socioeconomic status rather than school variables. Children of low income families are at risk for poor school achievement. The Illinois Pre-Kindergarten at Risk programs target the risks of low income, teen mothers, minority families, bilingual families. The children of teenage mothers are especially at risk for not achieving in school (Landerholm, 1982, ERIC Clearinghouse, 1992). Even though socio-economic class is a risk factor for low achievement, many poor children do very well in school. One factor related to this is the individual parent's literacy behaviors with their children as mentioned above. Another factor is the school professionals' attitudes toward low income parents which has an effect on parents becoming involved in school. In a large study of elementary teachers, parents and students, teachers who were leaders in parent involvement did not prejudge less educated poor or single parents. They rated all groups of parents higher on helpfulness and follow through on learning activities with their children at home than teachers who did not frequently involve parents in their children's education. Those teachers who did not frequently involve parents also made more stereotypic judgements about the parents, especially socioeconomically disadvantaged parents and single parents (Epstein, 1992). Thus, the attitudes and practices of the teachers, not only the educational status, socioeconomic status (SES) or marital status of parents are important variables in predicting parental success as partners in their children's education.

Some current programs that are geared to reach urban, poor,

young parents and their young children are Even Start, Head Start and programs related to the Education of Children with Disabilities Act. These programs are becoming more family centered and especially family literacy centered. Headstart is phasing in literacy training for parents. Even Start program helps families in their homes with ways to prepare their children for school. Current programs are more willing to work with families at home or in the community. Burger and Landerholm, (1991), implemented a family literacy program for low income parents and their preschool children in a library on the West side of Chicago. Bilingual programs are also emphasizing family literacy. The family Initiative for English Literacy in El Paso, Texas (Quintero and Huerta-Macias, 1990) is using a family literacy approach with Hispanic parents and the Pajaro Valley program for Hispanic families in Arizona (Ada, 1988), uses storytelling among parents and children in Spanish and in English.

FAMILY MATH AND SCIENCE

Family Math and Science Programs provide joint classes for parents and children in problem solving and hands-on mathematics and science activities to reinforce school curriculum through home based learning activities. Weekly classes, taught by specially trained teachers and parents take place across six week cycles in both school and community settings. The programs were developed to address the lack of interest and limited abilities in math and science among female and minority students and the resulting under representation of these groups in post secondary education programs

and professional careers such as science and engineering. The Family Math program was developed in 1981 at the University of California, Berkeley and disseminated to 5 minority community based organizations by the National Science Program in 1988. A grant from the Chevron corporation made it possible for the Northwest Equals program at Portland State University to institute the Family Science Program in 1988. Currently, the idea of Family Math and Science has caught on. The results have shown that families doing math and science together get the same result as families who read--improved skills and enjoyment, (Fruchter, et al, 1992).

DESIGN OF THE PROJECT

A parent involvement project was set up in an inner city public school on the North side of Chicago in an Hispanic neighborhood. The project was set up through a partnership sponsored by a grant from the Chicago Community Trust where a state university worked in a partnership with several public schools. A university professor, two graduate assistants, the principal and the school community representative worked together to design a summer parent involvement program for parents of children in the grades pre-kindergarten through first grade. Funding and time was contributed by the school, the university and the Community Trust grant. The two graduate assistants and the community representative implemented the program under the supervision of the principal and the university professor. The program was designed to include support activities to build rapport, such as providing coffee and rolls, providing free books, providing one day a week

where the parent could bring other children not enrolled in summer school, and providing hands-on, enjoyable activities for parents. The project was also designed to include educational, achievement type activities related to family literacy, science and math. Activities were designed that were easy to do, enjoyable, inexpensive, and involving materials that were easy to find at a local grocery store. Activities were also designed so that they could be replicated at home with their other children at a range of ages and levels. The program was scheduled two mornings a week. One morning was parents only, and one morning was parents and children. The program was implemented by the graduate assistants with the help of the community representative who also provided the translation.

GOALS OF THE PROJECT

The goals of the project were:

1. To help parents become involved with the school program by becoming comfortable at the school, making friends, having enjoyable experiences.
2. To help parents enjoy reading and writing and replicate these experiences with their children.
3. To help parents enjoy and understand science and math processes and replicate these processes with their children.

DESCRIPTION OF THE PROJECT

The two graduate assistants, both English speaking only, with the project goals in mind, designed and implemented the parent

activities in a Chicago public elementary school were the majority population was Spanish speaking. A number of parents involved in the program were bilingual, however, a significant proportion was Spanish speaking only. Thus, this school community representative served in the function of both translator and facilitator.

As this was a pioneer program at this particular school, there was no previous data to rely on, which resulted in an array of questions. Would parents be interested in the program to attend, even initially? If so, how many? Would the language barrier make the parents uncomfortable? What kind of activities would prove to be interesting?

As there were so many questions, it had to be decided what one common denominator would everyone have that could bring this group together successfully. After debate, it was concluded that food is enjoyed by most people, and food also stimulates conversation. Therefore, not only refreshments (bagels, cookies, hot and cold beverages) were provided, but the initial activities that the parents would participate is centered around food. The science and literacy activities would be worked in with the food theme.

The program was scheduled to begin the first day of the summer school session, as the first day of school usually brings good attendance. As the children were brought to school by their parents, there would be a large number of parents on the premises. The community representative at the school, who was well-known by the parents, initially brought the parents in to the program and acted as a intermediary.

The first day's activities centered on making healthy snacks to eat. On one table were bowls of vanilla yogurt, defrosted frozen fruit (sold inexpensively in bags in grocery stores), dates and almonds. Each person was able to pick and choose ingredients as they liked to make a yogurt mix. All ingredients necessary, including bowls and utensils, were plainly in sight. Having a beginning lesson that was self-explanatory was essential in the event that no bilingual translator was available. It was imperative to the success of the program that the parents feel welcomed and that the language barrier not be a major obstacle. Along with the yogurt mix activity, a science activity that showed how the root systems of plants operated, was introduced. While this needed translation into Spanish, the parents were sufficiently relaxed to be receptive to an activity that needed translation and more concentration. With both activities, it was stressed to the parents that all ingredients used in the activities were readily available, inexpensive and that the activities, as they had just personally experienced, were not time consuming. In addition, the parents were informed that upon completing a quick evaluation on each activity (printed in both English and Spanish), they would receive a free book as a thank you for coming. The books were age-appropriate in relation to the level of the activities. The parents were also informed that they would receive refreshments and a free book with each session they attended (the sessions were held twice-weekly for three hours each session). The program ended with favorable evaluations from the parents and promises to return the

next session. In all, over thirty parents attended the first session. Also, the root system activity (where a celery stick is inserted into a cup that has a little water with food coloring in it) was chosen for the first day because the results need to be checked several days later - incentive for participants to return.

The second session found not only all the participants of the first day, but guests that they had brought along. The day's activities included making pizza with english muffins as crusts, and finger painting with pudding. As participants were hesitant to use their fingers (always have paint brushes on hand for the squeamish), it was pointed out that the waiting time for the pizzas to bake was a perfect time to try the pudding art. Also, the children that were present that day (children were invited to attend once a week) engaged in doing the pudding art were reminders to the parents that this is an interesting activity for children, and educational also, as measuring the ingredients to make the pudding is a math lesson in itself.

By the third session, the staff coordinator no longer had to shepherd people into the meeting room. As parents dropped off their children, they took the initiative to come to the program. They were also becoming comfortable enough to start examining the day's materials without the coordinator's translations. The activities of this particular day consisted of silk flower arranging and growing grass seed. The parents were drawn to the brightly colored flowers, and expressed happy faces when told that they could take the flowers home. The grass seed sprouting was

also a project to be taken home, and, like the root system activity of the first day, was a project that could be observed over several days, fostering the science process of observation and communication.

The next session consisted of tissue paper flower making. This day could be called cceptance Day - the day the parents showed how comfortable they truly were with the program and teachers. All parents expressed great delight with the brightly colored tissue paper on the work table. As a sample flower had been provided, the parents needed no translation and began working on the project before the community representative arrived. The community representative, who previously joined in but mainly oversaw the operation, became well ensconced in the activity herself, and from that session on, truly became a participant in the program versus just a facilitator and translator. On this day, also, was a project where the parents made apple prints' stationery. It was a project that involved dipping apples cut in half into corn syrup colored with food coloring and imprinting the apple shape on paper. The parent of a young girl expressed her concerns that her daughter never seems motivated to begin projects. Then while the parent had almost given up hope, the apple prints stationery project was an activity that she believed her daughter would like. She was so grateful to have been given an idea she thought her daughter would enjoy, and planned to try it at home that week. Another reward of the program was when a young girl who had attended the program with her mother and had made tissue paper

flowers at the program returned the next session with flowers she had made at home - a gift for the program teachers.

By the fifth session parents were comfortable with the facilitators and joked about the unique materials of the day. This session consisted of dying noodles to string for necklaces and painting with shaving cream and food color. Food color was used for both activities this session, giving the parents different ideas to do with the same media. All of the materials used this session are readily found in many homes. Parents that in the past had been hesitant to get dirty enjoyed painting with shaving cream and food color. Many unique designs were developed! Parents enjoyed these two activities. They were both easy to put together, inexpensive, fun to do and they were able to take home a finished project to share with the rest of the family.

The next session involved more messy art. This session the parents followed a recipe that had been translated into Spanish for play dough. Again, the materials here were easily found in many homes. This recipe also included food coloring. The parents just loved developing their own colors. Zip lock bags were provided so that parents could bring their dough home and play more. This activity also had another twist. One of the children present pressed her hand print into one of the facilitator's dough. The next week, after it was hardened and dry it was shared with the group as another thing to do with the recipe. Both old and young alike enjoyed and were able to be independent in this activity. This session also had the parents using glue, dried beans and other

foods to create patterns and designs by gluing these to paper plates. The designs created were truly unique. Each parent seemed to really do their own thing. These projects were great again in that the parents had something to take home to remind them of the activity.

As the seventh session came along the activities took a new turn. Literacy was the theme for this week. The first day of this theme the parents made their own story books. Since the beginning of the program parents received a children's book for attendance and they had asked for Spanish books. Here was their chance. They were supplied with construction paper, glue sticks, scissors, a stack of magazines, envelopes filled with already cut out pictures, and markers. They spent time deciding how best to attack their book, what story they would write and what pictures they would use to illustrate their story. Each parent had the opportunity to leave one book to be laminated and returned the following week. A few did not want to part with their book and instead decided to take it home to show off. The other activity of the day was making puzzles from magazine pictures. Supplied for the parents was scissors, glue sticks, construction paper, zip lock bags (to carry their puzzle home), markers, and card board. This too was done with a great deal of preplanning on the part of the parents. They spent time deciding which scene from the National Geographic magazines provided would they use to create a puzzle scene. Some parents made small puzzles with five and six pieces while others made puzzles with as many as 25 and 30 puzzle pieces. These two

activities went over very well, the parents enjoyed the activities, the materials were inexpensive with little to prepare and the material for both activities were the same (two activities for the price of one!).

As we came to the eighth session our literacy theme followed. The activities for this day included making books, a carry over from the previous session, and making placemats. This day about 10 to 12 parents attended the session. These two activities again used the same material. This day the placemats were the big hit! This activity was presented with simple directions and left very open ended for the parents. They enjoyed the opportunity to cut, paste, create, without limits to how the activity should be done or how it should look once it was finished. Parents are not much different from children when it comes to enjoying the opportunity to do their own thing!! The other activity for this session was making books. Although this activity was enjoyed the first time it was presented, parents did not spend too much time with this activity the second time it was presented. It seems as though this activity would have done better a second time if there had been more time between the sessions.

The activities planned for this parent's group were very mixed. Some activities were experiments, some were cooking, some activities had results to take home, and some activities were open ended while other activities followed specific directions. The parents enjoyed the variety and responded well to each type of activity. This group of parents was very responsive, gave helpful

feedback, enjoyed our attempts and fun in school!

A successful program, as evidenced by the one in this article, need not be hampered by language and culture barriers. As play is the universal language of children, the desire to educate their children can be the universal language of adults.

REFERENCES

Ada, Hispanic/Family Literature. 1988.

Ascher, C. (1988). Improving the school-home connection for poor and minority urban students. Urban Review. 20, 109 - 123.

Berger, E. H. (1991). Parent involvement: Yesterday and today. The Elementary School Journal, Vol. 91, Number 3.

Burger, Marylou & Landerholm, E. (1991).

Cicchetti, D. (1987). The application of a transactional risk model to intervention with multi-risk maltreating families. Zero to Three, 7, (5), 1-8.

Coleman, M. (1991). Planning for parent participation in schools for young children. (ERIC Document Reproduction Service ED 342463).

Cochran, M. and Dean, C., (1991). Home-school relations and the empowerment process. The Elementary School Journal. Vol. 91, Number 3.

Comer, J. and Haynes, N., (1991). Parent involvement in schools: an ecological approach. The Elementary School Journal. Volume 91, Number 3.

Epstein, J. (1992). School and family partnership. Report No. 6. Sponsored by Department of Health and Human Services. Office of Educational Research and Improvement. ED 343715.

Fruchter et al. (1993). New Directions in Parent Involvement. Academy for Educational Development. Washington, D.C.

Goodson, B., Schwartz, J. & Millsap, M. (1991). Working with families: Promising programs to help parents support young children's learning. Cambridge, MA: Abt Associates, Inc.

Handel, (1992). The partnership for family reading: Benefits for families and schools. The Reading Teacher. Vol. 46, No. 2.

Karnes-Bone. (1993).

Landerholm, E. (1982). High-risk infants of teenage mothers: later candidates for special education placements? The Journal of the Division for Early Childhood, 6, 3-13.

Landerholm, E. & Karr, J. (1988). Designing parent involvement program activities to deal with parents' needs. Life Long Learning. 11(5), p. 11-14.

Landerholm, E. & Lowenthal, B. (1993). Adding variety to parent involvement activities. Early Child Development and Care, Vol. 91, pp. 1-16.

Lewis, Anne. (1992). Helping young urban parents educate themselves and their children. ERIC/CUE Digest, No. 85. Office of Education Research and Improvement, Washington, D.C., ED 000036.

Lowitzer, A. (1989, April). Family demographics, family functioning, and parent involvement. Paper presented at the Society for Research in Child Development, Kansas City, Mo. ED 311 669.

McCollum, J., & Stayton, V. (1985). Infant/parent interaction: Studies and intervention based on the SIAI model. The Journal of the Division of Early Childhood, 9, (2), 125-135.

Morrow, L. M. (1993). Literacy development in the early years. Allyn & Bacon, Boston.

Northwest EQUALS, Family Science. Portland, OR: Portland State University.

Olmsted, P., (1991). Parent involvement in elementary education: findings and suggestions from the follow through program. Elementary School Journal. Vol. 91, Number 3.

Powell, D. (1986). Parent education and support programs. Young Children, 41, (3), 47-53.

Quintero, E. and Huerta-Macias, A., (1990). The Reading Teacher. Vol. 44, No. 4.

Schickedanz, J.A. (1986). More than ABC's: The early stages of reading and writing. Washington, D.C.: National Association for the Education of Young Children.

Strickland, D. S. & Morrow, L. M. (1990). Family Literacy: Sharing good books. The Reading Teacher, p. 518-519.

Weisbourd, B. (1983). The family support movement: Greater than the sum of its parts. Zero to Three, 4, 8-10.

Welsh, M. & Odum, C. (1981). Parent involvement in the education of the handicapped child: A review of the literature. The Journal of the Division of Early Childhood, 3, 15-25.

Authors: Elizabeth Landerholm is an Associate Professor of Early Childhood Education at Northeastern Illinois University in Chicago, Illinois.

Deborah Rubenstein and Michele Losch are graduate students in Early Childhood Special Education Master's Program at Northeastern Illinois University in Chicago, Illinois.