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ABSTRACT

A survey was conducted of 125 parents of elementary and middle school children who participated in a parent involvement program in the Pittsburgh Public Schools. These parents were involved in the MAP (Monitoring Achievement in Pittsburgh)-AT-HOME Program, which focuses on helping parents to reinforce student acquisition of mathematics, reading, and grammar/composition skills. A mailed questionnaire collected data about parents' perceptions of the effectiveness of the training activities, how much they used the materials provided to them, and the frequency of participation with their children in other educational activities. Virtually all respondents reported they used the MAP-AT-HOME materials and found them understandable and easy to use and their children enjoyed them. Respondents were enthusiastic about the contributions the program made both to their children's and to their own learning of math and reading. Most frequently cited activities were talking with children about the school day and helping child with worksheet or workbooks. Three important dimensions of parent involvement in their children's out-of-school learning are identified: helping with homework, using home and community resources, and parent-child verbal interaction. Parent involvement was greatest for children in intermediate grades but it did not vary significantly by parents' educational attainment. (YLB)

PARENT INVOLVEMENT IN CHILDREN'S OUT-OF-SCHOOL LEARNING: THE MAP-AT-HOME PROGRAM*

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PARENT INVOLVEMENT IN CHILDREN'S OUT-OF-SCHOOL LEARNING:

THE MAP-AT-HOME PROGRAM

As increasing attention has been focused on the quality of public schooling in the United States, the important role of parents in the education of their children has also been stressed. Perhaps most emphatic of the recent reports in its admonition to parents was the National Commission on Excellence in Education (1983, p. 35):

> ...you bear a responsibility to participate actively in your child's education. You should encourage more diligent study and discourage satisfaction with mediocrity and the attitude that says "let it slide"; monitor your child's study; encourage good study habits; encourage your child to take more demanding rather than less demanding courses; nurture your child's curiosity, creativity, and confidence; and be an active participant in the work of the schools.

While not as dramatic in their claims, educational researchers have also been emphasizing the importance of parental reinforcement of their children's school behavior (See the comprehensive review by Barth, 1979.), of teachers involving parents in schools (Becker and Epstein, 1982; Epstein, 1983, 1984; Epstein and Becker, 1982), and of cooperative relationships among the home, school, and community (Brandt, 1979; Morrison, 1978) for enhancing the effectiveness of public school systems.

Given this resurgence of interest in parent involvement in schools, it is important that a concerted effort be made to provide systematic assessments of ongoing parent programs and to share with interested individuals information about the strengths and weaknesses of such efforts. Most of the foregoing studies deal with ways of involving parents in the schools. Very few efforts have been made to develop programs that provide parents with the resources that

are necessary for them to reinforce at home the basic curriculum that is being taught to their children in school.

The prototypic process for developing one such program, TIPS (Teachers Involve Parents in Schoolwork), has been described by Epstein (1985). She discusses four essential components in organizing parent involvement (clear goals, appropriate materials, two-way communications, and follow-up activities) and provides examples of prototypic materials for teachers to have parents use in working with their elementary school children on science and math. In TIPS, the classroom teacher has the primary responsibility for managing "...all available educational resources, including parent assistance" (Epstein, 1985: 3).

A second parent involvement program, MAP-AT-HOME, has been running in the Pittsburgh Public Schools for the past two years. MAP-AT-HOME is designed to provide parents with skills necessary for working more effectively with their children on homework assignments. While this program assumes the support of individual classroom teachers, they are not responsible for preparing materials and instructing parents in how to use them effectively. This paper reports the findings from a survey of parents who participated in MAP-AT-HOME which provided data about 1) their perceptions of the effectiveness of the training activities; 2) how much they used the materials that were provided to them; and 3) the frequency of participation with their children in other educational activities, both at home and in the Pittsburgh community. The study concludes with an analysis of the extent to which various dimensions of parent involvement vary according to parents' educational attainment and the grade levels of their children.

The MAP-AT-HOME Program

During the 1981-82 school year, the Pittsburgh Public Schools inaugurated the Monitoring Achievement in Pittsburgh (MAP) Program. MAP was

designed to provide parents and teachers with information about children's progress toward curricular goals as well as to monitor their academic progress. In January of 1982, the MAP-AT-HOME Program was initiated by the School Volunteer Association of Pittsburgh (SVA)[1] as a separate "at-home" tutoring component that supports parents' efforts to help their children achieve MAP objectives. This program was developed primarily through the efforts of Janet Birch, a teacher on special assignment in the Pittsburgh Public Schools. Drawing from a variety of sources as well as her own teaching experience, she prepared most of the curricular materials and conducts both parent and teacher workshops on their use.[2]

MAP-AT-HOME focuses on helping parents to reinforce student acquisition of the mathematics, reading, and grammar/composition skills identified in the school district's MAP objectives. Parents are invited to workshops where the objectives and processes of the MAP-AT-HOME Program are explained and "forgotten" basic skills are reviewed. Workshop participants receive a booklet entitled, "MAP-AT-HOME Tutoring Guidelines," that contains subject matter review and tips for "hassle free" helping at home. Following the workshop, parents are mailed three sets of learning activities designed to encourage active participation in their children's academic programs.

During the 1983-84 school year, the MAP-AT-HOME Program was accomplished in six phases. During the first phase, materials were prepared for the initial workshop and four teacher in-service sessions attended by 83 teachers and administrators were conducted. The second phase included scheduling of individual school meetings, dissemination of workshop packages, and distribution of materials (the "MAP-AT-HOME Guidelines," an acetate cover and marker, and four learning activities) to parents. MAP-AT-HOME Workshop attendance at 56 schools totaled 1,759 parents.

The design and implementation of a three-hour, Saturday morning workshop

conducted in five areas of the city occurred during the third phase. Workshop topics included an explanation of the school district's MAP Reading Objectives (as well as the Open Court and Harcourt Brace curricular materials that are used for teaching reading); a description of the evaluation component of MAP Composition Objectives, along with an opportunity to make a book; and presentation of several math activities that parents can do at home. This phase was concluded in mid-January of 1984.

Phase four included preparation, duplication, packaging, and mailing of learning activities to registered parents for each of three grade levels: K-2 (primary); 3-5 (intermediate); and 6-8 (middle school). Mailings were sent to 2184 registrants, distributed as follows across grade levels: K-2 (1125); 3-5 (705); and 6-8 (354).[3] The format for each mailing included four reading, four math, and four grammar activities; "tiny treat can" slides plus blank slides (for rewarding correct answers); an answer key; and a cover letter. Three separate sets of materials were mailed in January, March, and May of 1984. Over 17,000 pieces of paper were used for the January, K-2 mailing alone.

Research and writing of the MAP-AT-HOME Game that was telecast on Warner Cable in the city of Pittsburgh every night at 5:30 P.M. was done during the fifth phase. The game consisted of math, reading, and grammar questions - one set per week. The sixth phase of the program involved provision of continuing opportunity for parents to attend skill training workshops and to receive recognition for their efforts.

STUDY DESIGN

In order to gather information about parents' perceptions of the effectiveness of the MAP-AT-HOME Program, a questionnaire was mailed in June of 1984 to a sample of the parents who had attended workshops and been sent the three sets of supplementary materials.

A primary concern of the study was to determine the extent to which

parents' perceived that the MAP-AT-HOME Program was actually effective in helping them to improve their children's learning of assigned schoolwork. Since the curricular materials and approaches used in the Pittsburgh Public Schools were not entirely familiar to most of the parents, a related concern of the study was to assess parents' perceptions of the extent to which they had improved their own knowledge of math and reading. We were also interested in whether children's grade level or parents' educational attainment were related to their perceptions of MAP-AT-HOME.

Questionnaire Construction

Specific item construction followed the principles outlined by Sudman and Bradburn (1982). Some items were taken from a pilot assessment conducted in the spring of 1982, following the initial implementation of MAP-AT-HOME. All new items were pre-tested and appropriate modifications made before including them on the final questionnaire. The instrument was designed to fit on four 8.5 x 11 sheets of paper, and printed on both sides of two sheets. Every effort was made to keep questions short, simple, and direct. Most items were pre-coded to simplify responses as well as to facilitate data analysis.

Questions relating to the MAP-AT-HOME Program included the home tutoring schedule, parents' assessments of the extent to which the materials were useful for helping children as well as serving to sharpen their own basic skills, and perceptions of the extent to which communication with the school had been increased. Information was obtained about the patterns of usage of MAP-AT-HOME materials (time spent by both parents and school children in using materials as well as grades and subjects for which materials were used), perceived usefulness of the materials to parents, and suggestions for improving the materials. Finally, a set of ten parent involvement techniques were adapted from Epstein (1983, p. 15) for inclusion on the questionnaire.

Data Collection and Analysis

All MAP-AT-HOME workshop registrants were asked to provide their mailing addresses so that supplementary materials could be sent to them during the course of the school year. These address lists were used for drawing a ten per cent sample of parents. Among the 255 parents who were mailed the assessment questionnaire, 125 (49%) responded. The oldest children for whom respondents reported using MAP-AT-HOME materials were distributed fairly evenly across the three grade levels: K-2 (31%), 3-5 (38%), and 6-8 (31%). With respect to reported educational attainment of parents, 43% had completed high school or less, 29% had completed some college (but not a degree), and 29% had completed at least a college degree. Table 1 shows that there was no significant difference in the distribution of parents' educational attainment across the highest grade levels for which they were using MAP-AT-HOME materials.

[TABLE 1 ABOUT HERE]

Completed questionnaires were checked for errors and coded. Data were entered from the coded questionnaires into a disk file on an IBM XT micro-computer, and a micro-computer version of SPSS (Nie, et al., 1975) was used for statistical analyses.

The data analysis was done in two stages, as suggested by Rosenberg (1968). In the first stage, descriptive statistics (frequency distributions, percentages, and means) were used to report the basic results from the survey. In the second stage, multivariate analyses were performed on selected items to ascertain how responses were patterned, and to determine whether responses varied by parents' education or children's grade level.

RESULTS

Virtually all of the respondents reported that a) they used the MAP-AT-HOME materials, b) they found the materials to be understandable and easy to use, and c) their children enjoyed them. MAP-AT-HOME materials were used "3 or more" times a week by 43% of the respondents and "Once or twice" a week by 52%.

Respondents' were asked to indicate their perceptions of several possible benefits of using MAP-AT-HOME materials on a three-point scale ("Not at all," "A little," and "A lot"). The greatest perceived benefits were reported for "Helped my child learn more about reading" (66% "A lot;" 30% "A little"); "Helped my child learn more about math" (65% "A lot;" 31% "A little"); and "Increased my understanding of the MAP Program" (62% "A lot;" 35% "A little"). Because most of the responses were in two of the three response categories, it was not possible to do cross-tabular analyses of these three items by children's grade level or respondent parents' educational attainment. Clearly, these parent respondents felt that the primary objectives of MAP-AT-HOME (supporting parents' efforts to help with their children's schoolwork and increasing parents' understanding of the school district's MAP objectives) were being accomplished.

Less striking benefits were reported for "Increased my communication with the school" (40% "A lot;" 44% "A little"); "Learned more about reading myself" (31% "A lot;" 42% "A little"); and "Learned more about math myself" (30% "A lot;" 42% "A little"). Interestingly, there were no significant differences by children's grade level or parents' education for the first two of these items. For the third item, perceived math learning by the respondent, parents using MAP-AT-HOME materials with children in the higher grade levels reported learning more about math than those using the materials with children in the lower grade levels (Chi-square=9.8, $p<.05$). While less educated parents tended

to report learning more about math than their more educated counterparts, this trend was not statistically significant. These findings suggest that there can be important learning benefits to parents as well as to their school children of programs that are designed to support and improve parents' efforts to help their children at home with schoolwork.

Parents were also asked to indicate the general frequency of their involvement in ten types of out-of-school learning activities. Not all of these activities are related directly to schoolwork but they do, nonetheless, suggest the level of parental involvement in their children's learning (Epstein, 1983, 1984). Table 2 shows the weighted mean weekly frequencies of ten such activities. The most frequently cited activities were "Talk with child about school day" (85% responded "3 or More" times each week) and "Help child with worksheet or workbooks" (66% "3 or More"). Least frequently cited activities were "Take child to library" (39% responded "Never") and "Read aloud to child" (16% "Never"). The very low frequency of reported library trips is particularly discouraging for Pittsburgh because branches of the free, public Carnegie Library are easily accessible to residents of virtually every neighborhood in the city.

[TABLE 2 ABOUT HERE]

A "Principal Axes Technique" (Rummel, 1970: 338-345) factor analysis was also performed on the ten parent involvement items in order to determine which ones formed discrete groups. The results are reported in Table 3.

[TABLE 3 ABOUT HERE]

Factor 1: School Homework, represents the dimension of parent involvement having to do with helping children with their schoolwork and follows directly from the foregoing discussion of the primary objectives of MAP-AT-HOME.

Factor 2: Home and Community Resources, represents the dimension related to parental use of resources at home and in the local community (especially the

library, but could include other cultural institutions as well) for helping their children to learn. These activities may or may not be related directly to schoolwork.

Factor 3: Parent-Child Verbal Interaction, was somewhat unexpected in the context of the present research, since we tended to assume that these activities would accompany parental efforts to help with their children's schoolwork. We did not anticipate that it would emerge as a discrete dimension. It does underscore, however, the importance of concerted efforts on the part of parents to engage in frequent verbal interaction with their children.

Because the MAP-AT-HOME program (and certainly any such program in an urban public school system) must serve a very diverse parent population, we were interested in exploring the extent to which parent involvement varied by socioeconomic status and child's grade level. This is particularly important because the presence of educational resources in the home and parent-child verbal interaction tend generally to be related to both family social status and (to a somewhat lesser extent) children's ages. Consequently, for the final stage of the data analysis, we computed a scale score for the parent involvement factors by summing the responses to the items in each one. Scores on the school homework factor ranged from four to twelve, with a 9.7 mean; home and community resources ranged from four to nine, with a 6.6 mean; and parent-child verbal interaction also ranged from four to nine, with a 7.6 mean. A factorial analysis of variance was then done on each of the three scale scores. The independent variables in this ANOVA were parent's educational attainment and child's grade level.

For the school homework scale, there was only one significant effect ($F=3.9$, $p<.05$), child's grade level. Parents using MAP-AT-HOME materials for children in grades 3-5 had the highest mean (10.3) on helping their children with homework, followed by grades K-2 (9.7) and grades 6-8 (9.1). It is

understandable that children in the intermediate grades would have more homework than children in the primary grades, but somewhat puzzling that parents would report the lowest level of involvement with homework for middle school children. Perhaps the items in this scale reflect activities (drill and reading aloud) that are thought to be inappropriate for older children.

There were no significant effects of parent's education and child's grade level for the home and community resources factor. Because MAP-AT-HOME especially encourages parents to "play games that help child learn" and to "use things at home to teach child," this may be an indirect indicator of the program's effectiveness across a diverse parent population.

For the parent-child verbal interaction scale, there were no significant main effects but there was a significant interaction effect ($F=2.8$, $p<.01$) between parent's education and child's grade level. Figure 1 shows this very interesting contrast between the patterns of parent-child verbal interaction for the most highly educated (BA or more) parents and the patterns for the other two groups of parents. While these most highly educated parents reflect the expected high rates of parent-child interaction with their children in the primary grades (K-2), their reported parent-child interaction with children in middle school (6-8) is considerably lower than that reported by either of the other two less educated parent groups. The trend is quite dramatic for this group of highly educated parents, with a marked decline in educationally oriented parent-child verbal interaction as the child advances in school.

DISCUSSION

While we recognize that the research reported herein is based on a particular program in one urban public school system, the findings do suggest that there can be important benefits of providing encouragement and support to parents who are committed to trying to help their children with schoolwork. The parents in this study are enthusiastic in their assessments of contribution that

the MAP-AT-HOME Program made to both their children's and their own learning of math and reading.

Three dimensions of parent involvement in their children's learning have also been identified. While the expected dimension of helping with children's homework did appear, two other, less obvious, dimensions also emerged in the data analysis (use of home and community resources, and parent-child verbal interaction). This suggests that maximizing parental involvement in their children's out-of-school learning requires more than simply helping with school work. Providing games and materials that stimulate children's learning at home, taking children to the library, and having frequent conversations with children are additional activities that may enhance the benefits of parent involvement.

It should be noted that the parents surveyed for the present research have demonstrated a very strong commitment to helping their children with school work by their participation in the MAP-AT-HOME Program. Hence, the results reported herein may not be typical of all parents whose children attend the Pittsburgh Public Schools. Certainly, future research could expand the survey to include samples of parents who did not choose to participate in MAP-AT-HOME as well as those parents who did. This would enable more accurate description of what might be construed as "typical" levels of parent involvement, and could suggest additional topics which might be included in the MAP-AT-HOME materials.

In sum, the present research demonstrates that parents are not only committed to helping their children to do better in school but are also willing to be active participants in training activities that provide support for improving the quality of that involvement. While we are hesitant to tout MAP-AT-HOME as a model program for parent involvement, it does contain several elements that are worthy of consideration for those individuals and groups who wish to develop programs to facilitate and enhance the impact of parents' helping with their children's schoolwork as well as other aspects of

out-of-school learning.

FOOTNOTES

[1]The School Volunteer Association of Pittsburgh (SVA) is a not-for-profit organization founded in 1966 to promote the use of volunteers in Pittsburgh schools by attracting, recruiting, training, and placing volunteers. In addition, SVA assists teachers and administrators in using volunteers effectively. Full-time office staff (a volunteer co-ordinator, a teacher on special assignment, and a secretary) are funded by the Pittsburgh Public Schools.

[2]A substantial portion of the cost of the materials and mailings used in the MAP-AT-HOME Program as well as two district-wide Learning Fairs for parents were funded through grants secured by the SVA from the Pittsburgh Foundation, the Henry C. Frick Education Commission, and the Westinghouse Electric Corporation.

[3]In the 1984-85 school year, parent enrollment in the MAP-AT-HOME Program grew almost 50 per cent to 3030, distributed by children's grade level as follows: K-2 (1621); 3-5 (913); and 6-8 (496).

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TABLE 1

DISTRIBUTION OF PARENTS' EDUCATION BY THEIR CHILDREN'S SCHOOL GRADE LEVEL

(In Percentages)*

	Children's Grade Level		
Parents' Education	K-2	3-5	6-8
High School or Less	50.0	33.3	47.2
Some College	18.4	40.0	25.0
College Degree or More	31.6	26.7	27.8
(N)	(38)	(45)	(36)

*Chi-Square = 5.34, p = .25.

TABLE 2

WEIGHTED MEAN WEEKLY FREQUENCY OF PARENT INVOLVEMENT IN CHILDREN'S LEARNING*

Items	Mean Weekly Frequency
Talk with child about school day	2.75
Help child with worksheet or workbooks	2.43
Use things at home to teach child	2.29
Watch and discuss specific TV show	2.26
Listen to child read aloud	2.08
Give child spelling drills	2.06
Play games that help child learn	2.01
Give child math drills	2.01
Read aloud to child	1.81
Take child to library	1.01

* Responses were assigned weights as follows: "Never" = 0; "Once or Twice" = 1.5; and "3 or More" = 3.

TABLE 3

PARENT INVOLVEMENT FACTORS*

Items	Loadings
Factor 1: School Homework	
Listen to child read aloud	.696
Help child with worksheet or workbooks	.689
Give child math drills	.612
Give child spelling drills	.498
Factor 2: Home and Community Resources	
Play games that help child learn	.886
Use things at home to teach child	.624
Take child to library	.160
Factor 3: Parent-Child Verbal Interaction	
Watch and discuss specific TV show	.635
Talk with child about school day	.490
Read aloud to child	.310

*Principal Axis Factoring: Varimax Rotation with Kaiser Normalization.

Figure 1

Parent-Child Verbal Interaction
by Child's Grade Level and Parent's Education