Chapter 3

Collaboration between teachers and parents in assisting children's reading

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A collaboration between teachers and parents was organised so that every child in two randomly chosen top infant classes at two schools (one class at each school), randomly allocated from six multiracial inner-city schools, was regularly heard reading at home from books sent by the class teacher. The intervention was continued for two years, i.e., until the end of the first year in the junior school. Comparison was made with the parallel classes at the same schools, and with randomly chosen classes at two schools, again randomly allocated, where children were given extra reading tuition in school. This report presents cross-sectional analyses which show a highly significant improvement by children who received extra practice at home in comparison with control groups, but no comparable improvement by children who received extra help at school. The gains were made consistently by children of all ability levels.

Introduction

This chapter reports the main findings of an experiment designed to assess the effects of parental involvement in the teaching of reading. The study was based on an earlier survey finding that, in working-class families, children whose parents said they heard them read at home had markedly higher reading attainments at age 7 and 8 than children who did not receive this kind of help from their parents (Hewison and Tizard, 1980). This finding could not be accounted for in terms of differences in IQ, maternal language behaviour, or any of the aspects of upbringing style which were investigated. The study left a number of questions unanswered. Parents who listened to their children read were a self-selected group, and possibly the improvement was mainly due to the interest which they took in their children's schooling, of which help at home was only one powerful indicator, rather than to the help itself. Attitudinal data collected at the time went against this hypothesis; but questioning by parental interview may not be a very effective method of finding out about differences in parental 'style' of upbringing. Further, it might have been the case that only the best readers at school were allowed, or wanted, to take their reading books home.

More importantly, survey findings obtained from self-selected groups throw no light on the question of how far parental attitudes and practice are subject to change: can one, in other words, persuade all, or nearly all, parents to help their children at home – in this case, by hearing them read? Is it feasible for class teachers to try to ensure that *all* children will take their books home? Will they return books if they do? How many books will get lost or destroyed? How many parents will argue that it is the school's job not theirs to teach the three Rs? How many parents will 'help' in such a punitive or unsatisfactory way that children will be put off, rather than turned on, by reading practice at home? Can non-English speaking or illiterate parents be involved? And finally, will active parental help of the kind suggested actually lead to a measurable improvement in children's reading performance?

Questions such as these can only be answered by experiment, and we were fortunate in being able to carry out such an experiment, in partnership with the primary advisers and heads and class teachers in six infant and junior schools in the London borough of Haringey.

The overall purpose of the project was to find out if there was a causal relationship between active parental help and reading performance. To this end the main task of the project team was to establish an arrangement whereby all children in certain experimental classes were heard to read at home. The effectiveness of this treatment was to be measured against control children both within the schools where the intervention was to take place and in different schools, and also against a separate control in which children were given extra reading tuition by a qualified teacher in school, rather than by parents at home. The purpose of this control procedure was to gain some understanding of process factors: parental help, it was argued, might aid reading performance simply because it represented extra time spent on the learning task; alternatively, the improvement might follow primarily from the increased motivation of children whose parents became involved in their learning. By providing some children with extra practice given in school, it was planned to obtain some idea of the relative importance of these two factors as mediators of any established causal relationship between parental help and reading performance. As the schools sampled were multiracial, problems of organising extra reading practice in homes where English was not spoken and in homes where neither parent could read English were also to be examined.

Method

The main sampling frame was an opportunity sample and included all children in the middle infant, top infant, first-year junior and second-year junior classes at six schools in a disadvantaged working-class area of the London borough of Haringey present when tests were given at the end of 1975/76, 1976/77, 1977/78 and 1978/79 school years. For 1975/76 this totalled 1,867 children, and each subsequent year 400 to 500 children joined the sample on becoming middle infants and a similar number moved out on leaving the

second year of the junior school. The schools were of similar multiracial character and occupations of fathers almost without exception were in the Registrar General's manual working-class categories.

Procedure

The field work for the interventions took place over a two-year period (1976–78) with a cohort of children studied first in the final year of their infant schooling (i.e., when the children were 6 to 7 years old), then in the first year of their junior schooling (7 to 8 years old). At the end of the 1975/76 school year baseline reading tests were given to all children in the four yearbands at the six project schools. The schools were assigned at random to three groups: parent involvement, extra teacher help and control. They were visited early in the 1976/77 school year and told into which category they had been drawn, and support was confirmed. One top infant class at each of the two parent involvement schools (schools 1 and 2) was chosen at random to receive the research intervention, and the remaining classes at each school formed the within-school control group for that school. Similarly intervention and control groups were randomly chosen at the two schools (schools 3 and 4) where the extra teacher help was to be given at school. It had been established previously from the summer reading data that the year group concerned had not been streamed, and that there were no significant differences in reading performance between those classes which would be receiving the interventions and those which would not. There were no interventions at schools 5 and 6 other than annual testing of reading attainment.

An experienced and qualified teacher was appointed (from more than 30 applicants) to implement the intervention at schools 3 and 4. She worked four half days each week at each school for the two years of the intervention. Her work was planned, in consultation with the class teacher, and involved not only hearing the children read but all aspects of the teaching of reading, since it was felt by the LEA advisers and the staff concerned that a teacher could not merely hear the children read as was intended for the parents. A second difference from the parent intervention was that the children were seen in small groups rather than individually, although of course reading was heard individually within those groups, each child reading to the teacher on average once or twice a week. These were professional decisions made by the staff concerned who felt that they were an advantage for the children receiving the extra practice in a school context.

The intervention began at schools 1 and 2 with a visit by a member of the project team to the home collaboration class assigned to his or her care: this division of responsibility was maintained for the two years of the intervention, and although the two researchers were in frequent contact with each other they advised and monitored exclusively in one school and with one home collaboration class. Thus an element of replication was built into the design.

Since both head teachers and class teachers actively, and with both goodwill and effect, contributed to the implementation of the experimental intervention the organisation differed slightly between the two schools. At both schools an introductory letter from the Chief Education Officer was sent to each home. At school 2 the researcher concerned followed this letter by meeting the parents individually at a school open evening, and then by making a personal visit to each child's home to discuss the project in more detail. At school 1 the first step was fully school based: parents were invited to individual meetings with the class teacher and the researcher at individual interviews to discuss the project. There was a very high initial attendance, possibly because by that time the researcher was well known to the children. The few parents who did not attend were offered further opportunities, always by the head teacher, and were seen later. At both schools several parents were difficult to contact, but all were seen before half-term, either at school or at home.

Parents, almost without exception, said that they welcomed the project and agreed to hear their child read at home as requested and to complete a record card showing what had been read. All parents also agreed to allow the researcher to visit them at home two or three times each term to hear the child reading to them; the first of these visits was made to each home immediately after half-term and the intended monitoring was maintained for the two years of the intervention. During the home visits it was the practice of the researchers to observe the children reading to their parents. At school 1 for the first, and in some cases for the second visit, this was followed by the parent observing as the child read to the researcher, and specific advice was given to all parents on 'good practice'. Further, at school 1, during the final two terms of the project, children were also observed taking part with their parents in other literacy related activities sent from school, and parents were given advice by the researcher on how to deal with these. Parents were not given any special training in how to hear their children read beyond this specific advice from either class teacher or researcher. At both schools advice and demonstrations were given to the very small minority of parents – no more than one or two in each group – who adopted strategies which the researcher judged to be potentially counter-productive. It was noted that parents responded to these demonstrations, and were in general eager for advice and suggestions. This level of interest and co-operation was maintained, with only two or three exceptions, over the full two years of the project. Occasional difficulties arose as a result of housing or family problems, but again these affected only a small number of families, and in no case was contact completely lost.

Care was taken to ensure that visits were at times suitable for reading by the child and convenient to the family concerned. Mostly visits took place in the evening. They were always arranged in advance. For example, at one school times and days suitable for each family were known and the day before one such suitable occasion the researcher would send a note from school to say

that a visit was intended. Parents were asked to send a message to school if the proposed visit was not convenient. Letters were individually written and sealed in an envelope, but the date and time were also written on the outside of the envelope where they could be seen by the child who took the letter home. The children seemed highly motivated by their involvement in the letter delivery. Non-English reading parents were also met at the school gate and told what was in the letter, or the letter was read carefully with an older sibling, or with the project child, before sealing. It was notable that the children did not lose the letters or forget to give them to their parents.

The school side of the home reading was organised at each school by the head teacher, the class teacher and the researcher. Teachers kept their usual records and in addition special records for the project including a reading card for parents to complete at home. The nature and frequency of reading material sent home varied between the two schools and between the infant and junior years of the intervention, in accordance with the wishes and customary practice of the teacher involved, but the common objective of reading practice at home was maintained. Mostly books were sent home on a minimum of three or four nights per week at school 1 and two or three nights per week at school 2. For the infant year at school 1 the book taken home was always the child's current class reader, but in the junior year at this school the reader was sent home once a week and a supplementary book from the reading scheme, or an appropriately selected library book, on the other nights. Also at school 1 in the final two terms of the project other literacy related work was sent home, including written work based on the material read, and parents were given advice on their handling of this. At school 2, a number of commercially produced schemes had been banded together, and each child was expected to read a variety of books at each level: at this school the book taken home was always the book the child was currently reading at school both during the infant and junior years of the project. At first children were told by their class teachers not to read ahead of material already covered in class, and teachers checked progress by hearing the child re-read whatever had been read at home. By the second term the children were reading so much more than had been anticipated that complete re-reading at school was no longer either desirable or necessary; however, limits continued to be placed by the teachers on the amount to be read at home. Accelerated progress led to a need for additional reading books and these were made equally available to experimental and control classes at the two home collaboration schools. Very few books were lost or damaged, and it was noted that new and attractive books were particularly cared for.

At the conclusion of the 1976/77 school year children in the intervention classes moved from the infant to the junior sections of their schools. For the parents involvement groups this involved establishing links between teachers and parents similar to those established in the infant year. This was facilitated by the contact the researchers already had with the parents, by the reading

competence of the children (by then there were almost no non-readers in the home collaboration classes), and by the positive attitude to school which the teachers said they observed in the children.

As has been mentioned reading tests were given to all middle infant and top infants, and to all first and second year juniors at the conclusion of the 1975/76 school year immediately before the interventions began. This pattern of testing all four school year groups was repeated in July, 1977, on conclusion of the infant year of the intervention; again in July, 1978, on conclusion of the junior year; and finally, once again, in July, 1979, twelve months after the researchers had left the schools.

It had been intended that the cohorts following the intervention cohort through the schools would provide control information on attainment standards in the wake of the research project. In the event at schools 1 and 2, at both infant and junior levels, the head teachers and staff introduced their own parent collaboration schemes drawing on their experiences during the research years and extending what had been done to the lower classes in the schools. Thus although subsequent data for these cohorts lost their control value, they did provide a method of assessing the effectiveness of this follow-on work.

Throughout the project all testing was done by retired teachers or teachers on leave who were instructed on procedure and who had no information on which schools or classes were taking part in the interventions or what the interventions were.

Instruments

The disparity between the reading skills of 6-year-old middle infants at one end of the sample and 9-year-old second-year juniors at the other made selection of suitable tests difficult. The tests used were: middle infants, Southgate Group Reading Test 1; top infants, Southgate Group Reading Test 1, NFER test A, Carver Word Recognition Test (data available from LEA); first-year juniors, NFER Test A, Spooncer Group Reading Assessment; second-year juniors, NFER Test BD. Southgate and Carver are word recognition tests; both NFER tests are of reading comprehension; Spooncer contains word recognition, reading comprehension, and phonic sections. Southgate was given to groups of eight to ten children, and the other tests to complete classes, in suitably prepared accommodation.

Southgate (1958) reports a parallel form reliability of $r = 0.95$; Kuder-Richardson Formula 20 reliabilities for the other tests are all above $r = 0.95$ (NFER, 1973; Spooncer, 1977; NFER, 1974; Carver, 1970). The only test-retest reliabilities available were 0.96, reported for the Spooncer test, and 0.92 reported for NFER BD. The information available on validity was of variable quality, and mostly consisted of reported correlations of between 0.8 and 0.9 with well-known individually administered reading tests such as the Schonell or Neale.

Age and sex and number of half-days absent from school for each school year were obtained from school records for all children in the intervention cohort. To check comparability of control and experimental children, father's occupation, past attendance at nursery school or class, the language spoken at home, and time resident in the UK for children born abroad were obtained from the LEA.

Results

The main findings of the project are presented here in as straightforward and direct a form as possible. Future analyses will take advantage of the longitudinal and multivariate aspects of the data, and will make more extensive use of information collected from cohorts other than the one which contained the intervention children.

(a) Comparison of mean scores for experimental and control groups at the beginning, middle and end of the intervention period

When the reading attainment of 5- to 6-year-old middle infants was compared across the six project schools for the 1976 data, i.e., for before the intervention period, highly significant between-school differences in performances were found (one-way ANOVA on Southgate raw scores: $F = 6.66$, d$f = 5.429$, $P < 0.0001$). Differences amongst the six schools in reading performance were also observed for top infants and first year juniors in 1976 but the rank order of the schools was not consistent across the different school year groups. Complex patterns of between-school differences were also observed in the 1977, 1978 and 1979 data. For this reason, the main statistical comparisons to be reported here were carried out on experimental and control groups within the same schools.

In each of the four schools where an intervention was to take place the 1976 middle infants reading performance of children assigned to experimental and control groups was compared: no significant within-school differences were found. Twenty-four children joined the intervention cohort (and were given the Southgate test) at the beginning of the 1976 autumn term, and 101 children left it over the following two years of the intervention. These changes did not affect the within-school comparability of experimental and control children. Table 3.1 gives, for each school, the middle infant reading score of those children who were to remain in the sample for the full two-year period. No significant within-school differences were found. The pattern of between-school differences was found to be similarly unaffected by sample changes. Overall, the 101 children who left the intervention cohort had a mean Southgate score of 15.0, while the mean of the 358 who remained was 15.8. There were no significant differences between experimental and control groups within schools, either at the beginning or at the conclusion of the two-year

Table 3.1 Middle infant reading scores on Southgate test at beginning of intervention period (July, 1976) and first year junior scores on NFER Test A at the end of the two-year intervention period (July, 1978)

		Southgate Raw Score 1976		*NFER A Standardised Score 1978*		
School	*Group*	*Mean*	*SD*	*Mean*	*SD*	*N*
1	Home collaboration	16.7	6.34	107.0	8.35	23
	Control	16.1	6.90	95.6	10.94	49
2	Home collaboration	18.1	7.21	101.9	12.74	28
	Control	18.5	6.79	94.1	11.06	37
3	Extra teacher help	11.6	7.82	93.15	17.51	20
	Control	12.9	7.02	97.9	13.80	45
4	Extra teacher help	16.2	7.32	104.3	15.86	25
	Control	16.3	7.31	98.5	13.34	21

intervention, on the classification of father's occupation, language spoken at home, nursery school experience, length of residence in the UK, or school attendance variables.

At the conclusion of the first year of the project children in the experimental classes at both home collaboration schools had higher mean scores on NFER Test A than children in the parallel control classes. However this difference only reached statistical significance at School 1 ($F = 12.86$; df = 1.70; $P < 0.0006$). For the groups which received the extra teaching help at school there was no significant difference at school 4, but at school 3 the children who had received the extra help were significantly behind those who had not ($F = 7.56$; d$f = 1.58$; $P < 0.008$). The results were similar for all the reading tests used, including the LEA's own independent testing. Testing for this year was not entirely satisfactory in that the word recognition tests were too easy for many children, whereas the reading comprehension test was too difficult, resulting in score distributions with marked ceiling and floor effects respectively. These distributions were not strictly appropriate for parametric analyses and in non-parametric analyses based on group medians the only statistically significant differences were at school 1. Further, the project interventions, particularly in the two parent involvement schools, did not become fully operational until the late autumn of 1976 and consequently the effect being measured was not for a full school year.

In summer, 1978, after the full two-year intervention period had elapsed, the children's reading performance was tested for the third time. Table 3.1 also gives, for each of the intervention schools, the mean NFER Test A standardised reading score obtained by the experimental and control children at this time.

In both home collaboration schools a clear divergence of reading performance between experimental and control groups can be observed. At both

schools the differences were highly significant (for school 1, $F = 19.60$; df = 1.70; $P < 0.0001$: for school 2, $F = 7.02$; df = 1.63; $P < 0.01$). Again the pattern of results was less clear at the schools where the intervention had taken the form of extra teacher help. Although the mean score for children who received the extra teacher help at school 4 was higher than for the controls the difference was not significant ($F = 1.79$; df = 1.44). At school 3 the children who received the extra teacher help had a lower mean score than the control subjects, but again the difference was not significant ($F = 1.37$; df = 1.63). An analysis of mean scores for the Spooncer test produced exactly the same pattern of results. The overall correlation between the two tests was 0.85.

(b) Relationship between performance levels at the beginning and end of the intervention period

To examine this question, the middle infant Southgate scores were divided to give three groups overall of approximately equal size: children with scores of 12 or below, scores of 13–19 and score of 20–30. With 1978 NFER A standardised scores as the dependent variable a three-way analysis of variance (School × Experimental Group × Initial Reading Band) for the two parent involvement schools yielded no interaction terms and three highly significant main effects. (For the effect of School, $F = 7.48$; df = 1.125; $P < 0.007$: for the effect of Experimental Group, $F = 28.30$; df = 1.125; $P < 0.001$: for Initial Reading Band, $F = 30.48$; df = 2.125; $P < 0.001$.) In a comparable analysis for the two extra teacher help schools the only significant main effect was that of Initial Reading Band ($F = 38.69$; df = 2.99; $P < 0.001$), and there was a significant interaction between Experimental Group and School ($F = 4.56$; df = 2.99; $P < 0.001$).

Two tests were given to the intervention cohort at the end of the intervention period and these analyses were repeated using the 1978 Spooncer scores as dependent variable. All main effects were similar to those reported for NFER Test A except that in the analysis for the parent collaboration schools the interaction between School and Experimental Group was significant ($F = 4.68$; df = 1.125; $P < 0.032$).

Taken together these statistical analyses show, first, that in all four schools and in each experimental group within the schools, early reading performance was an extremely powerful predictor of subsequent attainment; second, that the effect of parental help could be observed in children of all initial performance levels, and in both schools for NFER Test A but that a significant difference in the extent of the effect is evident in the Spooncer test scores; third, that any suggestion of benefit from extra teacher help was confined to one school but that the significant interaction was due as much to poor performance of the children who received the extra teaching help at school 3 as to the slight improvement of the children who received similar help at school 4.

(c) Group reading performance at the end of the first junior school year, expressed in terms of the proportion of children falling into different score bands

As an alternative to the calculation of a mean score, the reading performance of a group can be described in terms of the proportion of children scoring above or below particular threshold values. For practical purposes proportions, although using less of the available information than means, may be more readily interpretable. Teachers, for example, tend to characterise the reading performance of their classes in terms of the number of children reading at certain levels, rather than by reference to a group average figure. Further a description in terms of proportions can show whether a mean score, in this case for reading attainment, has been raised by improving the performance of good readers, or by reducing the number of failing readers, or by improvements at all levels.

In rough reading age terms, a standardised score of 99 or less on a test such as NFER Test A represents performance 'below age level'. In a representative national sample just under 50 per cent of children would be expected to obtain scores in this range. Data from the 1976 and 1977 testings were used to estimate the proportion of first-year junior children performing below this level for the six project schools. The figures are given in Table 3.2. In 1976, the proportion of children in this age group scoring 99 or below on NFER A was found to range from 56 per cent at school 1 to more than 80 per cent at school 4. For the six schools combined, the figure was 65 per cent, a high proportion by national standards, but not unexpected in an inner-city area. In 1977 the overall figure was very similar with 61 per cent of that year's first-year juniors scoring 'below age level'; but again schools varied considerably, school 1 now exhibiting the worst performance with 72 per cent of children

Table 3.2 Proportion of children who scored 99 or less on the NFER A at first-year junior level

		1976		*1977*		*1978*	
School	*Group*	*Percentage*	*(Ratio)*	*Percentage*	*(Ratio)*	*Percentage*	*(Ratio)*
1	Home collaboration	–		–		21.7	(5:23)
	Control	55.7	(64:115)	72.0	(72:100)	73.5	(36:49)
2	Home collaboration	–		–		42.9	(12:28)
	Control	63.6	(49:77)	65.6	(42:64)	67.6	(25:37)
3	Extra teacher help	–		–		60.0	(12:20)
	Control	63.9	(53:83)	61.1	(44:72)	57.8	(26:45)
4	Extra teacher help	–		–		40.0	(10:25)
	Control	82.5	(47:57)	52.0	(26:50)	52.4	(11:21)
5	Control	69.6	(64:92)	47.7	(41:86)	54.5	(36:66)
6	Control	64.9	(50:77)	64.3	(45:70)	47.7	(21:44)

scoring 99 or less. The best performance was in school 5 where only about 48 per cent of children scored in this range. In 1978 the cohort containing the intervention children were first-year juniors and had received the complete two years of the intervention. Table 3.2 gives, for that year, the percentage of 'below age level' readers found in experimental and control groups at the six project schools. In both parent involvement groups the proportion of children performing 'below age level' was reduced relative to within-school controls, reduced relative to the school's figures for the previous years, and reduced also relative to the national standard. Some improvement can be seen at one extra teacher help school, but none at the other. Results for schools 5 and 6 are also included in Table 3.2 primarily for the sake of descriptive completeness, but also to illustrate the absence of any general trend in reading standards over time. The figures for 1978 in Table 3.2 are for children present for the full two-year intervention, but the results are unaltered if the 1978 control estimates are based on all children on the roll, including newcomers, as were the estimates for 1976 and 1977.

More extreme groups on the reading scale were examined, but since the number of children falling in the separate bands was small the data for schools 1 and 2 were pooled to give a combined parental help group and a combined control group. A similar pooling of groups was made for schools 3 and 4. Table 3.3 compares the proportions – expressed as percentages – of experimental and control children falling into four reading bands for the pooled data. Chi-squared tests revealed that the distribution of the children across categories was significantly different for the experimental and control children from the two parent involvement schools ($\chi^2 = 18.77$, d$f = 3$, $P < 0.0003$), but not for the groups from the extra teacher help schools ($\chi^2 = 3.58$, d$f = 3$). From Table 3.3 it can be seen that parental help both reduced the proportion of failing readers (scores of 84 or less) and increased the proportion of able readers (scores of 115 or above). The lack of significant effect for the extra teacher help children appears most evident in the lowest attainment band.

Table 3.3 Proportion of children falling into four reading bands for the 1978 results

		NFER Test A score band				
Schools	*Group*	*84 or less*	*85–99*	*100–114*	*115 plus*	*N*
1 and 2	Home collaboration	5.9	27.5	49.0	17.6	51
	Control	17.4	53.5	22.1	7.0	86
		($\chi^2 = 18.77$, d$f = 3$, $P < 0.0003$)				
3 and 4	Extra teacher help	26.7	22.2	33.3	17.8	45
	Control	18.2	37.9	31.8	12.1	66
		($\chi^2 = 3.58$, d$f = 3$, not significant)				
(Standardisation sample		15.1	33.6	34.6	16.7	7249)*

*Source: National Foundation for Educational Research, 1973.

(d) Reading standards in the second-year juniors: mean scores 12 months after conclusion of the intervention

The interventions ended in July, 1978, and there was no research presence in the schools during the following year. In July, 1979, the children, by then second-year juniors, were tested again to see if any gains made during the project had been maintained. In both schools 1 and 2 the parent involvement group continued to perform at a higher level than the control children, even though no intervention had taken place in the preceding year. This difference was highly statistically significant at school 1 ($F = 20.17$; $df = 1.64$; $P < 0.0001$) but not at school 2 ($F = 1.18$; $df = 1.56$). The mean scores are given in Table 3.4. Differential sample loss affected these mean scores particularly at school 2 where between 1978 and 1979 the control group lost three poor readers with 1978 scores of 77, 77 and 89; whereas the leavers from the experimental group had scores of 122, 106, 101 and 84. Differential sample loss affected mean scores at school 1 in the same direction, but to lesser extent.

In neither school 3 nor school 4 where the children received extra help from a teacher was the performance of experimental children significantly better than that of controls. For these schools differential sample loss affected mean scores in the opposite direction from that at schools 1 and 2. At school 3 the seven children who left the experimental group had a mean score of 83.1, while the five control children who left had a mean of 96.2. At school 4 differential leaving also acted in the same direction of raising the reading level of the experimental group, and lowering that of the control group.

Table 3.4 Second-year junior reading scores on NFER Test BD (July, 1979)

		NFER BD Standardised Score		
School	*Group*	*Mean*	*SD*	*N*
1	Home collaboration	101.7	7.73	22
	Control	90.5	10.33	44
2	Home collaboration	96.2	13.34	24
	Control	92.6	11.59	34
3	Extra teacher help	94.7	14.39	14
	Control	93.5	12.49	39
4	Extra teacher help	97.8	10.20	23
	Control	92.2	12.62	19

(e) Reading standards in the second-year juniors; proportions of scores below standardised average for age

The biasing effects of differential sample loss must also be borne in mind when comparing the percentage of children from the different experimental and control groups who, in 1979, obtained standardised scores on NFER Test BD

Table 3.5 Proportion of children who scored 99 or less on the NFER BD at second-year junior level

		1976		*1977*		*1978*		*1979*	
School	*Group*	*Percentage*	*(Ratio)*	*Percentage*	*(Ratio)*	*Percentage*	*(Ratio)*	*Percentage*	*(Ratio)*
1	Home collaboration	–	–	–	–	–	–	45.5	(10:22)
	Control	79.6	(82:103)	81.7	(85:104)	78.7	(74:94)	84.1	(37:44)
2	Home collaboration	–	–	–	–	–	–	54.2	(13:24)
	Control	79.2	(57:72)	81.9	(59:72)	81.4	(57:70)	79.4	(27:34)
3	Extra teacher help	–	–	–	–	–	–	71.4	(10:14)
	Control	66.3	(63:95)	77.1	(64:83)	78.7	(63:80)	66.7	(26:39)
4	Extra teacher help	–	–	–	–	–	–	47.8	(11:23)
	Control	76.9	(50:65)	82.0	(50:61)	73.7	(42:57)	73.7	(14:19)
5	Control	73.7	(55:75)	64.4	(58:90)	65.6	(59:90)	69.5	(41:59)
6	Control	80.8	(59:73)	75.0	(54:72)	83.0	(49:59)	76.9	(30:39)

of 99 or less (Table 3.5). In both parent involvement schools there were fewer 'below age level' readers among the experimental children than among the controls. This was also clearly the case at one of the extra teacher help schools, school 4, but not at the other.

Second-year performance figures from 1976, 1977 and 1978, also given in Table 3.5, permit these results to be placed in the context of the schools' reading standards in previous years. In schools 1 and 2 standards for the second-year age group were found to be constantly poor over the period 1976–78 with between 75 and 85 per cent of children obtaining standardised scores of 99 or below, as against just under 50 per cent in the national standardisation sample. From Table 3.5 it can be seen that when children in the intervention cohort were tested as second-year juniors in 1979 the percentage of 'below age level' readers in the control groups at schools 1 and 2 were much the same as for previous years (84.1 per cent and 79.4 per cent respectively, giving an overall figure of 82.1 per cent); but for the experimental groups the figures were similar to the national sample (45.5 per cent and 54.2 per cent, overall 50.0 per cent). At school 4 the group which received the extra teacher help also contained fewer below average readers than would have been expected on the basis of previous years' standards (experimental 47.8 per cent, control 73.7 per cent) but this was not the case at school 3 (experimental 71.4 per cent, control 66.7 per cent). At schools 5 and 6 no changes over time can be observed comparable to those observed at the schools where the home collaboration took place. School 5 consistently had a smaller proportion of 'below age level' readers in its second year than did school 6, the percentages being in the order of 65–75 and 75–85 respectively. Thus the figure of around 50 per cent observed in the two parent involvement groups represents an improvement in standards over that usually achieved by even the most successful school in the sample.

Discussion and implications

In the social science and educational literature it is often stressed that relationships uncovered in survey research need to be investigated experimentally before much credence can be given to them, or indeed before anything can be usefully said about causality (Pedhazur, 1976). However, it is also known that, even when experimentation is possible in natural settings, conditions cannot be controlled as in the laboratory, and validity is threatened in many ways. The present chapter reports the main findings of a natural settings experiment carried out to investigate a relationship found in survey research between parents saying that they heard their children read at home and the tested reading performance of the children. Before the findings are discussed a number of points need to be made about the limitations the adopted research design imposed on the inferences which can be drawn.

The research design was a compromise between the strict requirements of an experiment and judgements about real world feasibility. The most important departures from a true experimental model were:

(i) When subjects were assigned to experimental groups the unit of randomisation was the intact class, not the individual child. Allocation of children to classes for the 1976–77 top infant year was not under the control of the research team, nor was the allocation of teachers to classes. Cook and Campbell (1979) suggest that the problems of sampling intact groups rather than individual subjects can be reduced by matching the groups before randomisation, and indeed that such matching is always advisable given the high variability associated with field research. Fortunately in the present case head teachers agreed to assign an even mix of pupils in terms of ability level to each class; and the class teachers agreed that the 'class plus teacher' units which included themselves could be assigned at random to intervention and control groups. The analyses confirmed that before the intervention began the groups were comparable not only in terms of the main dependent variable but also a variety of other relevant variables.

(ii) It would have been impracticable, and doubtless unacceptable to both teachers and parents, to encourage parental involvement for some children in a class but not for others. Consequently the design contained no within-class comparisons and the teacher effect was confounded with that of experimental group. Although the teachers had been assigned to experimental or control conditions at random, and not on the basis of personal qualities or professional expertise, and although an element of replication was a part of each strand of the design, the design left open the possibility that the performance of the children in the intervention groups was in some measure the result of specific teacher effects not related to the intervention. Further replications, involving extensive sampling of teachers and classes, would be needed to completely reject this possibility. Using the data collected on equivalent age groups in previous years it was possible to show that the standards achieved by the parent involvement children was higher than those previously achieved in the relevant schools. Although comprehensive comparisons between intervention classes, and equivalent classes taught by the same teachers in previous years, were not possible because of changes in staffing and composition of classes, useful evidence was available from the school where the greatest effect of the collaboration was seen. At this school for the year groups concerned there was staffing consistency and consistency in the allocation of pupils to classes for the years preceding the intervention. Both the teacher of the top infant year, and the teacher for the first year of the junior school made highly significant improvements in the performance of their classes in comparison with the remainder of the relevant year groups for the year of the home collaboration, but did not do so for previous years. Both teachers attributed this improvement to the collaboration with parents, and this does seem the most likely explanation.

(iii) The experiment was not a full 'crossover' design, i.e., not all experimental groups were to be found in each school, and thus direct comparison of parent involvement and extra teacher help groups is confounded with possible

between-school differences. This compromise in the design was partly dictated by school size; some schools did not have sufficient top infant classes for two interventions and a control condition. But in any case the problems of maintaining two separate interventions in one school would certainly have threatened validity; and also staff could have compared the progress of the different classes, with further unknown consequences for the interventions. The analyses in this chapter have compared intervention and control groups separately for the parent involvement and extra teacher help schools, and this would seem adequate for the present purpose.

Apart from these design considerations direct comparison of the parent involvement and extra teacher help groups would be justified. The provision of extra teacher help at school was originally planned as a control to match the home collaboration; in the field, for practical reasons already described, it grew to be a small-scale intervention in its own right, but was in no way comparable in scope to the home collaboration. At home the children were helped individually, at school in groups. The type of help given at home and at school differed. The amount of help given to children in the two situations could not be precisely controlled and hence matched. Furthermore, the help in school was supplied to all children by the same teacher, whereas on the home collaboration side each child received help from his own parent or parents. Further, nothing can be said about the possible value of different forms of extra teaching provision in schools; different methods or different forms of provision might have produced different results.

Research into the contribution of these different factors to the beneficial effect of parental help would need to examine them systematically in a full experimental design. In the circumstances of the present study, however, the precise experimental control required for research of this kind would only have been achieved at the expense of policy relevance. The latter was the study's first priority, and it is in policy terms that the two kinds of extra reading help given to children in the project can most usefully be compared. The extra reading tuition at school was provided by a specialist teacher who worked with the children on a small group basis, seeing each child several times a week, for a two-year period. This represents a level of teaching provision which no local education authority could expect to match in a service setting; yet, even under these conditions, only limited changes in reading standards were obtained, with benefits being least apparent for initially low achieving children. On the other hand, organisation of a collaboration between teachers and parents did lead to significant improvement by children of all ability levels; further, organisation of such a collaboration does seem feasible within terms of resources already available in schools. Design considerations, discussed in this and previous sections, do limit the conclusions which may be drawn from the findings, but at the very least the results suggest that the difficulty of raising reading standards through conventional school-based means should not be underestimated, and that the reading failure of a sizeable minority of children in primary schools cannot be attributed unquestioningly to either lack of potential on the part of the child or to a shortage of resources.

(iv) From previous work (Hewison and Tizard, 1980) it would be expected that up to a half of the children in the control classes at all six project schools would be given reading practice at home by their parents. No attempt was made to prevent this happening, for both practical and ethical reasons, and thus comparison of home collaboration groups with controls understates to an unknown extent the effect of the experimental variable. It follows that the study can only provide a conservative estimate of the importance of parental help as a determinant of reading performance, and this would seem to strengthen the significance of the findings.

The experimental findings reported here provide evidence for a causal relationship between parents hearing their children read and reading attainment. Although further research would be required if the variables underlying the relationship are to be understood, this lack of understanding may not be important for most practical purposes. Of much greater practical significance is the fact that teachers and parents working in collaboration did improve the academic performance of the children without the parents being given any special training in the techniques of tutoring, other than advice and brief demonstrations during the monitoring of home reading or at meetings with the class teacher. A number of studies have examined the effect of non-professional tuition on reading performance, but in all cases the parents or other helpers were first given detailed instructions in the techniques of prompting and reward-giving favoured by the researcher directing the project (Ellson *et al.*, 1968; Ryback and Staats, 1970; Staats *et al.*, 1970; Wallach and Wallach, 1976; Glynn *et al.*, 1979; Morgan and Lyon, 1979). Adopting a very different approach to reading failure Lawrence (1972) concentrated on the motivational and emotional needs of poor readers; he reported performance gains by children who had received non-professional counselling to improve their self-esteem, but no direct help with reading. Since these projects looked at children of different ages, and with varying degrees of reading difficulty, it is unfortunately not possible to compare the gains made by children given different types of help, and so increase understanding of the relative contributions made by practice and motivational factors to the reading progress observed.

The project involved not only the organisation and monitoring of the intervention and the testing of attainment but also the collection of qualitative, descriptive information on what was happening in the homes and schools relevant to each child's progress. Drawing on both sources a number of general conclusions follow with implications for future research and practice in schools. Firstly, in inner-city, multiracial schools it is both feasible and practicable to involve nearly all parents in formal educational activities with infant and first-year junior school children, even if the parents are non-literate or largely non-English speaking. Secondly, children who receive parental help are significantly better in reading attainment than comparable children who do not. Thirdly, most parents express great satisfaction in being involved in this way by the schools and teachers report that the children show an increased keenness for learning at school and are better behaved. Fourthly, the teachers

involved in the home collaboration also reported that they found the work with parents worthwhile and they continued to involve parents with subsequent classes after the experiment was concluded, as did teachers who had taught parallel control classes during the intervention years. Fifthly, small-group instruction in reading, given by a highly competent specialist teacher, did not produce improvements in attainment comparable in magnitude with those obtained from the collaboration with parents. Sixthly, the collaboration between teachers and parents was effective for children to all initial levels of performance, including those who at the beginning of the study were failing to learn to read. Finally, the fact that some children read to parents who could not themselves read English, or in a few cases cannot read at all, did not prevent improvement in the reading skills of those children, or detract from the willingness of the parent to collaborate with the school.

Current developments in educational thinking and practice underlie the potential importance of these findings. The Taylor Report (1977) and the ongoing discussion about parental involvement in education suggest a need for further studies of ways in which parents, and the wider community, can be brought into closer partnership with schools and teachers. The fluctuations in pupil numbers and in the supply of teachers that are a feature of industrial societies today, coupled with the need for economy in resource allocation, raise profound issues concerning the training of teachers and the ways in which they can use their time most effectively. From a different perspective, the Warnock Report (1978) laid emphasis on the special needs of the large minority of pupils in ordinary schools who continue to present chronic educational problems. The findings of the present study suggest that staffing resources at present allocated by LEAs for remedial work in primary schools might be better employed, at least in part, in organising contact and collaboration between class teachers and parents – all parents, before failing is manifest for some children – on specific, practical teaching matters, and that this might prevent many children from falling behind with their reading in the first place.

Acknowledgement

This work was supported by a grant from the Department of Education and Science to the late Professor Jack Tizard who directed the research. Sections of this chapter were prepared before Professor Tizard's sad death in August, 1979. Many individuals participated in the research reported, and many more gave advice or support. The research team, which included Mrs Ena Abrahams and Mr A. C. Everton of the Haringey Education Service, were grateful to the Director of Education, London Borough of Haringey and his staff, and to head teachers, teachers, ancillary staff, parents and children; and to many others who helped with organisation, testing, scoring, data management, computing, or other aspects of the project.

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Source

This is an edited version of an article previously published in the *British Journal of Educational Psychology, 52.* 1982.