

PARENTAL INVOLVEMENT IN SECONDARY MATHEMATICS HOMEWORK

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Abstract

This is a report of a pilot study carried out in two North London schools during 1998. The parents were supported in helping their children with their mathematics homework. We were interested in the effect this would have on the attitudes towards mathematics and homework of the parents and the children, on the communication between parents, children and teachers, and to what extent the parents felt supported. We were also interested in how it affected the children's mathematical understanding. The results of this pilot study were encouraging, and we are currently involved in further development and dissemination of the project.

Introduction

There is considerable research to show that schools that have good home-school relations do well both in terms of academic achievement and positive attitudes. (Brighouse and Tomlinson, 1991). It is clear from the OECD report Parents as Partners in Schooling that many countries are looking at ways to develop parental involvement. (OECD 1997, p.15)

The government has shown its awareness of the importance of developing the role of parents in education e.g. in the White Paper Excellence in Schools, in the document Extending Opportunity: a National Framework for Study Support (DfEE, 1998) and in the document Homework: Guidelines for Primary and Secondary Schools, (DfEE November 1998), where they indicate that parents have an important role. The final report of the Numeracy Task Force also lays great emphasis on the role of parents. "It is clear from the responses to consultation that involving parents in Numeracy is seen as an important part of the strategy."

The Implementation of the National Numeracy Strategy (DfEE, July 1998, p. 75).

The issues in secondary schools are different from those in primary schools, as there is less contact with the parents generally. (Beresford and Hardie, 1996) The report of the Successful Schools Project highlights some of the difficulties that can inhibit involvement but also demonstrates that good practice can successfully develop parental involvement in secondary schools.

Background

We were interested in developing a model for supporting parents in helping children with school mathematics. The pilot study took place in two North London schools in different boroughs, both mixed comprehensives, one of varied ethnic background, the other predominantly Asian. In each school the Year 7 head and one of the Year 7 class teachers for mathematics were involved. One of the classes taking part was setted (a middle range ability class), while the other was mixed ability. Initially we asked a limited number of parents from each of the Year 7 classes to take part, for a limited time period.

Resources

It was important that the homework related directly to work being done in the classroom. We asked the teachers to indicate clearly the sort of homeworks that would be appropriate, and these were then developed and produced by the IMPACT team. A specific help sheet accompanied each of these homeworks. These were designed to explain the mathematics in terms that were understandable to parents.

Communication was central to this project, so there was a feedback sheet after each homework for both parent and child to complete.

Programme in each school

After initial meetings with the teachers in the spring term, the first meeting with the parents took place at the end of the spring term, with a follow up meeting at the beginning of the summer term. At this meeting the parents were given the questionnaire, the first homework, help sheet and feedback sheet. We discussed the homework and help sheet, and in both schools the IMPACT team made modifications in response to this feedback.

The teachers marked the work and gave feedback to the pupils as usual. The teachers also collected in all the feedback sheets and passed these to the IMPACT team. There was a third meeting with parents when the homeworks were discussed.

The final meeting with parents, at the end of the programme, provided an opportunity to discuss the pilot study. There were also individual interviews with the parents and the teachers concerned.

Findings

To analyse the pilot study we used the feedback sheets, the questionnaires, and transcripts of the workshop sessions and of the interviews with individual parents,

teachers and children. Due to the small size of the study it was not appropriate to do any statistical analysis. We were interested in the effect on parents' attitudes to mathematics, and on the pupils' own attitudes and self-esteem as well as their attainment in mathematics. We were also interested in the extent to which the programme might develop communication between parents children and teachers and how effective the support we had provided was seen to be by the parents. Some of our findings are summarised below.

Attitudes of parents and pupils

Generally most parents developed more positive attitudes to the mathematics their children were doing and a marked increase in their confidence in supporting their children with the maths homework. The help sheets played an important part in this.

We found that there was a positive motivational effect on pupils, noticeable both in school and at home:

"Usually she would come home, on with the telly and do the homework at the weekend whenever she gets time. But with this one, straightaway when she comes home ... TV afterwards, she would do her homework first."

Teachers reported that pupils involved in this study showed an increase in their confidence in the mathematics classroom.

Mathematical attainment

In the short time devoted to the pilot study there was unlikely to be a noticeable change in the mathematical attainment of the children, but there was reported to be an improved understanding of mathematical concepts:

"There was a marked difference between theirs (pupils involved in the study) and the others. It was excellent, you could see they had grasped the idea..."

Communication

We found improved communication between parents and children concerning school mathematics, and also evidence of increased communication in general, which implied that the study affected the relationship between parent and child:

"Me and my mum got closer because we spent time together. Before mother used to be downstairs and I was upstairs doing the homework and then going to sleep."

"He was telling me what he had learnt. It did open up communication between us. Otherwise I don't know what he is doing. You don't get much feedback from him. I enjoyed this."

Communication between parent and school also improved. One teacher reported:

"The project helped promote contact... (It was) the first time mum felt she had to contact the school."

Effectiveness of the support provided to parents

The workshops were found to be extremely important for many parents in the pilot study. They were particularly useful in dealing with parents' feelings of isolation, fear and/or hostility towards mathematics and inadequacy in helping their children with the homework. These workshops led to formation of self-help groups, some of which continued after the pilot study had finished.

The first help sheet was adapted after feedback from the parents. Our analysis suggests that for most parents, the help sheets were a crucial element in their ability to support their children:

"Without the help sheet I wouldn't have been able to start."

Lack of parental involvement

We found from the pilot study a number of strategies for dealing with pupils who were disadvantaged by lack of parental involvement, sometimes due to circumstances beyond the parents' control. It was not necessary to refer to mathematics specialists helping with homework clubs; in fact pupils deliberately sought out non-specialist staff who could support them using the help sheet.

Conclusion

The results of the pilot study were very encouraging, and many aspects worked very well, but we are aware that the inferences that can be drawn are limited by the restricted scope of the study. We have retained the basic format of the help sheets with certain modifications for the current phase of the study. The workshops need to be scheduled to fit in with the schools' overall plan and the needs of the parents. The structure of the workshops is being modified in the light of what parents requested. Feedback sheets and questionnaires also are being refined in the light of this pilot study.

Our findings are in line with those of the Successful Schools Project, indicating that the difficulties of involving parents in secondary schools can be largely overcome, and that there are significant benefits in doing so.

Bibliography

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