

Why do parents help their children with maths ?

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My PhD research, 'Parents Helping Their Children With Mathematics', (Russell 2002), illuminated the hitherto unresearched 'hidden' help that parents give their children with maths – in other words, help that is initiated by parents themselves, without prompting from school or researchers. Help of this kind is behind closed doors, in the privacy of the home, away from the view of schools and researchers. The research established that the practice exists; that without prompting from school or researchers, parents do help their children with maths, and the practice is more widespread than had previously been acknowledged. It identified new aspects of why and how parents help with maths. In this paper, I shall discuss the methods I used to research this topic. I shall be reporting on some of my findings by focusing on answering the question: Why do parents help their children with maths?

Keywords: parents, helping, mathematics, maths, numeracy

Background: What is 'hidden' help?

To clarify what is meant by hidden help, consider the following. Homework would be a way that many parents help their children with maths, but that activity has been initiated and set by school. 'Hidden' help on the other hand, is help that parents spontaneously decide to do on their own with their children.

This can have profound effects on the children and the family. I found instances of: children getting confused; children refusing to do work; family arguments; parents distrusting school and methods taught; low self esteem.

We can infer that this is not a new phenomenon from 'Sharing Mathematics with Parents', (Mathematical Association 1987). From over 20 years ago, we get a glimpse of this spontaneous help from Janet Duffin's account of a maths evening in Suffolk when she was a lecturer at Hull University:

We identified the two principal subtraction methods and many were surprised to learn that there was any other way than the one they knew. Some were disconcerted and anxious to rush home to see how their children did it, worried because they may have inadvertently confused their children brought up on a different method. (pp 27-28)

We can infer from the parents' concern and their reaction that some had helped their children with subtraction, without any prompting from the school to do so. They had also used their own methods, which differed from the school's. Indeed, they did not know the existence of other methods.

In 1999 a landmark was reached as it was reported in The Times Educational Supplement that sales of home help papers had hit the best sellers list for the first time, and maths was the biggest worry for parents (Cassidy 1999). To reach the best sellers list involves sales of a large number of books, so it can be concluded that a substantial number of parents were buying papers to help their children – strong circumstantial evidence that parents help their children academically at home and, as maths was reported as the greatest worry, that they help their children with maths.

Later in the year a MORI poll for the DfEE of 1000 parents of children aged 5-11, quotas set for age and social class, found significant proportions (47%) would like more practical help in order to aid their children with maths (Speed 1999).

Literature on why parents help their children with maths

There were a number of questions over which I sought illumination in my research, and one was: *why* do parents help their children with maths?

Very little is known about what goes on behind closed doors when parents help their children with maths and no UK research had directly addressed this topic before, but we get glimpses of it when reading studies in related fields. However, it needs to be remembered that in these studies, all activities were initiated by schools or research team, and this provides only a partial illumination, at best, of what happens when parents take the initiative.

The studies considered for this paper are:

IMPACT: parents and children working together on maths games and activities at home, based on work covered at school. (Merttens and Vass 1990, 11. Also Merttens and Leather 1993; Merttens and Vass 1993).

Hughes and Greenhough: engaging children in activities with parents at home and with their teacher at school. Activities included maths. (1998a, 1998b, Greenhough and Hughes 1998).

Crozier: parental involvement with children at two secondary schools. Not subject specific. (1997, 1999a, 1999b).

McNamara: an action research and development project, studying communication between home and school, parents' knowledge of the curriculum and their child's progress, and the learning support they offered. Not subject specific. (McNamara 1999 and McNamara et al. 2000).

Edwards and Warin: a study carried out over a five year period during the 1990's. The aim was to raise pupil achievement in literacy and numeracy through parental involvement across seventy schools in one Local Education Authority in an area of social deprivation. (1999).

What did the studies have to say about hidden help?

1. Challenge of the topic

Through the research and monitoring side of the IMPACT Project it was found that many parents explicitly teach their children maths. (Merttens 1993):

More parents than teachers imagine do explicitly 'teach' their children maths at home irrespective of IMPACT. (p.29)

The evidence on which Merttens bases these statements is not reported. They found that parents dropped out of being involved with IMPACT, but concluded this did not mean parents were not interested.

It would be wrong to conclude that these parents do not want to help their children, that they are apathetic, or indeed, that they are not doing maths at home. Many parents are sharing maths tasks at home with their children, and are even teaching maths explicitly to their children. They simply are not telling school about it, or doing the IMPACT activities. They have decided first that the activities are a waste of time and the children are learning nothing from them. (They may of course be quite wrong about this, certainly from the perspective of current orthodoxies, but this is of no consequence). Second, they feel that nothing they say is going to influence the school's pedagogy or curriculum. (p. 20-21)

This illustrates something of the hidden nature of the help that parents give. There are three important aspects to this. First is the isolation of the parents, who do not discuss it with the school; second is the ignorance of the teachers, who are generally unaware of its existence and its extent; third, the secrecy of the action itself, hidden in the home, away from view. Here we are introduced to the difficulties in researching this area, due to its secretive nature.

2. In what ways do parents help?

McNamara found that parents were acting as “surrogate teachers” and a “resource support” buying books (McNamara et al. 2000, 478). Crozier found that if middle-class parents could not help with a specific academic task themselves, they were better placed to seek support whether it be through a tutor, study guides, relevant CD ROM or the Internet (1999b, 120). However, the outcome of interventions like this is not commented on, as there were no data.

Hughes and Greenhough found that what parents actually did when reading with their children differed, and was related to the parents' views and attitudes on literacy (Greenhough and Hughes 1998). This pointed to a need to explore parents' beliefs about maths.

At the time of my research, very little was known about what parents did when they helped their children with maths activities at home. Hughes and Greenhough (1998b) made an initial attempt to fill this gap and summarised the situation succinctly:

... very little is known about what parents actually do when they work with their children on school-based maths activities, or how the methods and approaches used compare with those of teachers. (p. 3)

3. Why do parents help their children with maths?

The studies suggested a number of reasons why parents help. Merttens concludes that the reason parents are giving this hidden help is because of their belief that the activities offered by school are a waste of time, and also parents feel powerless in changing the school's approach to teaching. Crozier points to middle class parents preparing their children for a future career (1997, 191). Crozier also introduced the notion that parents' perception of their role in relation to their child's schooling is influenced by their own past experiences of schooling, and McNamara confirms this. This has direct bearing in considering parents' perception of their role in helping their children with maths, and therefore why they get involved in helping.

The questions arise: Are there any other reasons? What other beliefs do they hold regarding the teaching of maths? What past experiences influence parents who offer hidden help in maths to their children?

However, there were no data on these subjects.

4. The need to research it in an out-of-school situation

Border and Merttens (1993) recognise the difficulty parents have in expressing what they really feel:

... there would be a strong case for suggesting that many parents might like to say that they find IMPACT time-consuming or a bother, but they are only too aware that articulating this grievance will make them out as a particular type of parent - maybe as 'lazy', 'can't be bothered', 'unsupportive', or even 'uncaring'. Therefore they restrict themselves to those comments which can safely be made while continuing to present a positive image of themselves vis-à-vis the school. (p. 117)

If parents have difficulty in expressing themselves even within the IMPACT scheme, which is intended to be supportive of parental involvement, then it must be very difficult for parents whose children attend schools not so sympathetic to parental involvement, to express what they really feel. The inhibition that parents have also shows the difficulty of researching hidden help through a school-based initiative, and points to the possible need for working with parents in a setting that is not associated directly with a school so that data can be collected.

Methodology

Due to the secretive nature of the topic, two questions arise. Firstly where do you find a sample of parents who help their children with maths? Not only is the challenge to find a sample, but also a sample willing to talk about maths, given the difficulties others have found getting people even to discuss maths (Cockcroft 1982). Then, secondly, once a sample has been found, how can the topic be researched?

The overall approach used to obtain a suitable sample has been opportunistic. All the people in this study, in the first instance, have approached me in some way in connection with helping their children with maths.

At the time the thesis was conceived (January 1997) I was coming to the end of a long career break from teaching and I had an unusual opportunity to research this topic for two reasons. Firstly, through business I met many mothers who had no idea that I was a maths teacher, leading to some very unguarded conversations that revealed surprisingly strong feelings about maths in schools and gave me an insight into the point of view of a non-teacher parent. Secondly, parents who did know my background were approaching me to help their children with maths, giving me access to a group of parents who were sufficiently concerned to seek help. I used the opportunities these situations presented to carry out my research, using a case study methodology as it was ideal for these circumstances.

In the first phase of the research, although I was neither working as a maths teacher nor advertising myself as a tutor, I had parents approaching me for help in giving private tuition. One of my first questions would be, why did you come to me for help? These parents came for help with their children's maths and were willing to talk about their feelings about maths. The very help they sought required me to know what had transpired to trigger their intervention. The nature of this information was precisely what had taken place in the privacy of the home, away from the critical eye of the professional, when parents attempt to help their children with maths. There were three case studies in this phase of the research. The students were at different stages in their education, from different areas, yet resonances began to appear across the studies. The results gave understanding of the nature of some of the difficulties parents faced when trying to support their children's maths.

In the second phase of the research, I designed a course in an attempt to meet these needs. This course was given to an opportunity sample of five parents, drawn from parents who had discussed their children's maths with me.

Resonances began to emerge across the case studies from the course and the earlier case studies. I then analysed the data using a model adapted from Hughes and Greenhough Adults' Knowledge Project.

Findings: Why do parents help their children with maths?

The study identified various motivations and roles that can be added to those reasons put forward by Crozier and Merttens:

- **‘Saviour Attitude’** was the term I used for an attitude exhibited by four out of five of the parents on the course. These parents had all had an experience of maths that they wished to save/rescue their children from, and so had intervened to prevent them going through the same thing. This was regardless of academic ability.
- **Provider of maths knowledge** is how some of the parents appear to see themselves. Sheila felt responsible for being able to do the maths homework set for Jo. Vicky also saw her role as a provider of maths knowledge and recognised she would not be able to keep up. Sean used to give maths lessons to all three of his children: he was a provider of maths knowledge for them. Some parents provide maths knowledge by engaging a tutor for their child.
- **Responding to child’s request.** Two of the parents reported their children asking them to set work for them.
- **Keeping child one step ahead of peers.** Although Kelly intervened when her sons were struggling, with Lucy (her youngest) she saw her role as keeping Lucy one step ahead of her peers by introducing her to topics before they were covered at school. Her theory was that the topics would then be easier for Lucy to understand when she met them at school, and she would be at an advantage. McNamara et al. (2000) identified a similar situation, where a parent was ‘moving on’ with a child.
- **Concern for welfare.** Rather than seeking academic achievement, several parents intervened because they were concerned for their child’s general welfare.
- **The importance of maths** as a subject was a factor underlying the reasons for helping.

Conclusions

The research established that parents spontaneously help their children with maths, and they do so for a variety of reasons (Russell 2002). Edwards and Warin cite Reay (1996, 1998) as saying that when there is parental involvement, there is a need to work closely with the parents’ motivations. Therefore, the reasons identified by this research need to be recognised and addressed by policy makers and the teaching profession when wanting to work with parents. Ignoring the issues, or foisting on parents a role that is not in keeping with the role they see themselves as having, will only cause frustration.

As a result of my research, I have been working with the publishers Continuum, with the aim of helping parents to help their children with numeracy (Russell 2007, 2009).

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