COUNT ON US | PARENTAL ENGAGEMENT

A BRIEF OVERVIEW OF RESEARCH INTO PARENTAL ENGAGEMENT IN MATHS

“It’s a massive confidence boost having your mum or your dad there” – discovering attitudes and barriers to parental engagement in mathematics with school age pupils.

It has long been recognised that parental engagement has a large and positive impact on children’s learning (Desforges and Abouchaar, 2003). But how can we tap into this powerful resource when it comes to the nation’s favourite ‘love-to-hate’ subject – mathematics? While general parental engagement faces large barriers itself – time restraints, parents’ own experiences of school, confidence – parental engagement in mathematics seems to face a whole host of additional barriers including the low level of mathematics skills and high level of mathematics anxiety existing in the UK adult population.

Research suggests that parents engaging with their children’s school learning is essential for maximizing their learning potential (Desforges & Abouchaar, 2003). Parents/carers can have large influence on a child’s attitude to, and attainment, in mathematics. Supporting children’s maths education can also serve as motivation for parents/carers to improve their own skills.

Literature review

Parental engagement has a large and positive impact on children's learning (Harris & Goodall, 2007). However, a distinction should be made between 'parental involvement' and 'parental engagement' – where parents are involved in school activities such as attending shows, sports days, etc., these activities are not explicitly supportive of learning and have little impact on achievement (Department for Education, 2010). While measuring impact on achievement is complex and findings have been mixed, some research and projects have found a relationship between improved parental engagement and improved attendance, behaviour and achievement (Achievement for All, 2013). Desforges & Abouchaar state that at-home good parenting has “a significant positive effect on children’s achievement and adjustment even after all other factors shaping attainment have been taken out of the equation” (2003, p.4). This effect is stronger than that of either socio-economic status or mothers’ qualifications (Melhuish, Sylva, Sammons, Siraj-Blatchford, & Taggart, 2001). “In the primary years, family influences have a more powerful effect on children’s attainment and progress than school factors” (Parental Engagement, how to make a real difference Oxford School Improvement 2012). Additionally, fathers’ engagement is particularly important for boys and disadvantaged children (Oxford School Improvement, 2010).

Existing research documents barriers to parental engagement - generally and within the subject of mathematics. Common barriers include cultural beliefs, effects of low socio-economic status, time constraints, confidence and skills, language and communication, and school based barriers. Cultural beliefs: it is socially acceptable in the UK to profess an inability to cope with mathematics (Williams, 2008). Other cultural barriers include parents/carers’ perception of their role within education – Lupton (2006) states that many parents believe education is something that happens at school, not at home.

The Scottish Government produced a research report on ‘Parents’ views on improving parental involvement in children’s education’. It investigated the perceptions of the ‘silent majority’ and concluded that the average parent perceives a need for only a supportive involvement: “the teachers are there to teach the children”. Many therefore assume they are already involved as much as they wish or need to be. These would question the basic expectations that schools can
reasonably have of a parent. In this research, a small number of parents thought “education is a shared responsibility”. The majority of parents expect the school to communicate regularly and keep them informed of any issues regarding their child; they expect a progress report. The interviews with parents also revealed that some are sympathetic to teachers and their increasing workload, and would not wish to add to it. Some are openly hostile to school. It is their own background, upbringing and experiences of school which are most likely to affect their view of parental engagement. Schools therefore need to encourage parents to see themselves as co-educators and partners in the education of their child, and co-construct the relationship between home and school.

Effects of low economic status: as schools make more use of technology, families with low socio-economic status face further barriers regarding access to technology and the internet (Harris & Goodall, 2007). Additionally, middle class families are more likely to “have culturally supportive social networks, use the vocabulary of teachers, feel entitled to treat teachers as equals, and have access to childcare and transportation” (Harris & Goodall, 2007, p.27).

Time constraints: across social classes, work, family commitments and time restraints can impact on parents/carers’ ability to engage (Harris & Goodall, 2007).

Confidence and skills: parents/carers’ confidence with their own mathematics skills and negative experiences of mathematics at school can have a large impact on their willingness to engage (DfE, 2010). Furthermore, some report feeling deterred from engaging by other parents (DfE, 2010) feeling either stigmatised because they need support or feeling that members of the PTA or governing body are more articulate and confident.

Language and communication: confidence with language can also impact parents/carers with English as an additional language, as well as those who are unfamiliar with mathematical terminology (Harris & Goodall, 2007).

Field research and consultation

To further develop an understanding of barriers to parental engagement in mathematics, and to inform the development of some pragmatic solutions, National Numeracy (NN) launched a research project in 2013 into parental engagement in mathematics.

Following the barriers already identified by the research, NN wanted to specifically attend to the issues experienced by those with a low socio-economic status.

Parent focus groups

NN explored feelings and attitudes of parents towards mathematics, how they speak about mathematics around their children, what they currently do to support their child’s learning of mathematics, what stops them from feeling able to support their child and what kind of support they would find useful. Some bias in the field research findings can be expected: comments reported here are made by parents who have the confidence to come into school and discuss mathematics with strangers.
The majority of parents/carers saw mathematics as valuable in everyday life, and considered mathematics qualifications – mathematics itself less so - to be important for future employability. When compared to literacy, most parents/carers were very happy to support their child’s reading but viewed teaching mathematics as the school’s job, and they did not recognise the valuable everyday activities they already do with their children as mathematics. The most common barrier that parents mentioned was the new methods of teaching mathematics – this left them feeling unconfident in their ability to support their child. While the majority stated that they tried to be positive about mathematics around their children, there were high levels of anxiety around mathematics and negative feelings due to their own experiences at school. Parents also mentioned feeling intimidated by other parents - whom they perceived to be “more articulate, confident and clever”- as well as teachers. They reported being wary of school contact as they expected home/school communication to be regarding problematic behaviour. One parent compared being disengaged to being unemployed – the longer you stay away, the harder it becomes, but after taking the initial step fear can be overcome - “they [other parents] don’t come [to school] because they’re scared – as soon as they come they’re not scared any more”.

Respondents felt that it needed to be made clearer to parents/carers the impact that their support could have on their child, and that this should be communicated in a positive way – some mentioned feeling “bored of always being wrong”. Parents/carers volunteered several ideas of what they would view as useful support. These included: guidance on mathematical language and how methods are taught in school; improved home-school communication on curriculum and grading; parent and/or family numeracy workshops; and clear, simple, online/paper ideas for everyday mathematics conversation prompts/activities to do with their children.

**Pupil focus groups**

A group of Year 5 and 6 pupils were also engaged, again asking them about their attitudes towards mathematics and how they and their parents/carers engaged in mathematics together. This provided some important insights so pupil focus groups then became a regular part of the research.

The primary school pupil focus groups all declared enthusiasm for mathematics. All pupils recognised the importance of mathematics and felt they would need it “to get a good job”. Many could list jobs where they thought they would use mathematics in their everyday work. They reported they were either already involving their parents in their learning or would very much like to. The majority were happy to work with a parent and one mentioned wanting more homework “to bring parents and children closer together”. Most expressed a liking for mathematics and especially for ‘a challenge’. A few were not comfortable with the idea of their parents/carers’ involvement and the most common reason for this was discussions ending up in arguments, e.g. “doing mathematics alone is more peaceful – parents just take over”. Children also mentioned differing methods as an issue.

Secondary school pupils gave a more mixed set of responses. Only a small number of students (all girls) were prepared to say that they engaged with their parents with mathematics. The majority of participants in these groups did not want to share mathematics with their parents. Again, it was seen as a source of confrontation - “when parents help, it just ends up in a massive fight”. Pupils linked this increase in conflict to the difference in methods but also to a general change in relationships with parents at that age. They stated that it was easier to talk to parents when at primary school. Others lacked confidence that their parents could help them with their mathematics. Only one boy was able to say that his parent learns when he learns.
Online surveys

When NN asked parents whether they felt they were able to be positive about mathematics around their child, a large proportion (69%) selected ‘always’. Further questions, based around attitudes and feelings, explored why these same parents therefore felt unable or unconfident in supporting their child’s maths learning.

More than half of parents struggled with new methods of teaching. Those who had bad experiences at school or had generally negative feelings towards the subject also reported their own confidence with the subject as a barrier.

Within the teachers’ survey, NN asked a number of questions about parental engagement and its efficacy, as well as their insights into barriers and support wanted. In terms of barriers to parental engagement, teachers cited work commitments and a lack of interest from parents as the largest barriers, and parents’ own confidence and skills. When asked what form of support would best work for engaging parents (teachers were allowed to pick more than one), the most popular form was ‘workshops’, followed by ‘online’. This is in contrast to the parents’ findings who overall preferred ‘online’ to ‘workshops’.

Conclusion

Parental engagement can be a very powerful tool in education, but there are complex barriers which are further increased when the engagement is related to mathematics. Anxiety about mathematics is common among parents/carerers, and new or different mathematics methods have exacerbated their feelings of helplessness. Parents who report having negative feelings towards mathematics or had bad experiences with mathematics at school also find it harder to be positive about the subject in front of their children. Many parents/carerers reported feeling intimidated by other parents, the school, and work that children bring home. Children and parents/carerers’ reported mathematics causing conflict. However, it has been found that respondents saw mathematics as valuable - although in some cases the value of mathematics qualifications was felt more strongly than the value of mathematics itself. There was enthusiasm from both parents/carerers and children for opportunities for mathematical activities and conversation in everyday family life.

It was clear that any new resources for parental engagement in mathematics should transform attitudes; enhance the parent/carerers’ role as first educators for their child; help parents/carerers to see mathematical opportunities in everyday life; and support them in developing the vocabulary, language and questioning skills to maximise their child’s learning. In response to this research, NN produced the Family Maths Toolkit online and the Family Maths Scrapbooks with activities to promote enjoyment and change attitudes to maths.
The Mayor’s Fund for London supported a recent project in London schools in which primary schools developed their parental engagement in maths. Though careful audits of existing provision and action planning, schools organised a variety of events and activities to encourage parents in to schools. They also trialled the Family Maths Scrapbooks and activities in year groups 1-4. The combination proved to be successful in increasing parental engagement, changing attitudes to maths and increasing enjoyment and achievement in the subject. The majority of these schools plan to further build on this good practice as the results are so convincing.

References

Department for Education: 2004 Engaging father: engaging parents, raising achievement.
Department for Education: 2007 ‘Every Parent Matters’
Harris, A. Goodall, J. 2007. Engaging Parents in Raising Achievement - Do Parents Know They Matter? (Brief No: DCSF-RBW004.) London: DCSF.
Scottish Government 2005 Parents’ views on Improving Parental Involvement in Children’s Education.

Visit: www.mayorsfundforlondon.org.uk
Registered Charity No: 1124833