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## **Together we can and are doing great things in Maths**

### **Our school**

Scoil Mhuire Banríon is an all-girls primary school on the north side of Cork City with 242 girls on roll. We have a staff of 22—an administrative principal, 11 class teachers, a Home School Community Liaison teacher (HSCL), and Early Start teacher, and eight support/resource teachers. Ten staff have more than 25 years of experience in the school. We see this as a huge advantage in our work as we know the school population very well.

We have a history of whole school initiatives such as attendance drives, paired reading, school musicals, the Comenius Project, health promoting schools and the Green Flag. Teamwork is a key feature of how we work as a staff. Likewise, parental involvement is integral to our work.

### **The mathematical challenge**

In June 2006 we dedicated a School Developmental Planning day to review achievement in maths using our standardised test data as a point of reference. The whole school results confirmed the concerns expressed by teachers based on their classroom observations, their conversations with the children, and the children's work. Achievement levels were low overall and we knew we had a challenge on our hands. It's fair to say that over the years we didn't give maths the same priority as literacy. As you'll see, things have changed.

Having 'named' the challenge, we knew the road ahead would not be easy but we took comfort in our school culture that embraces change for the purpose of improvement.

There were many factors in our favour:

- our willingness to acknowledge a problem with maths
- what we learned from previous initiatives

- our work in supporting parents
- our experience and expertise as a staff
- our involvement in DEIS programmes such as *Maths Recovery* and *Ready, Set, Go, Maths*
- our school development planning practice.

Equally, there were challenging factors in the way of change:

- the children's low interest and confidence in maths
- a general negative attitude to the subject amongst the parents
- poor school attendance and often times limited parental support for children's learning
- gender stereotyping
- a wide range of ability in a single classroom.

We knew we were facing a mammoth task, but we had the commitment, the drive and the energy to do it. Our overall aim was to make maths relevant, alive, active and fun.

### **Planning for change**

We saw whole-school strategic planning at the heart of the solution to our mathematical problem! We mapped out *what* we would do, *how* we would do it and *what* success would look like. There were a number of key ingredients in our plan. These included parental involvement through *Maths for Fun* and *Paired Maths*, boxes of concrete materials for the various strands of the *Mathematics Curriculum* to make the children's learning more practical, sharing mathematical learning through classroom and corridor displays, using a variety of methodologies including reducing our use of textbooks, and differentiating learning through resource and class teachers working co-operatively in classrooms. The final ingredient was a management team to lead and monitor the work. This team included the principal, the deputy principal, the HSCL teacher, the teachers with co-ordinating responsibilities (posts of responsibility people) for planning, numeracy, supplies and materials, and special education, and the Learning Support teacher. We had to be creative in finding time to meet. We met as a whole team only a small number of times in the year. We used time which we would normally give to the posts of responsibility people for meeting. Each co-ordinator in turn met informally with class teachers as well as with the principal. We also used our staff meetings where we devoted some ring-fenced time to maths.

### **Activating the plan**

In September 2006, our DEIS cuiditheoir started working with us. She modelled maths teaching which gave us the up-skilling we wanted and needed. New ideas from programmes such as *Ready, Set, Go, Maths* and *Maths Recovery* were also feeding into our work and so the onwards and upwards spiral of improvement began.

Throughout 2006/2007, we launched *Paired Maths*, invested in games and even made some of our own! We involved parents in maths classes through the *Maths for Fun* programme, and encouraged the use of games at home. Again we were fortunate in the staff resources we had as the HSCL teacher was able to do a lot of preparatory work with the parents before they joined the teachers and children in the classrooms. Overall, parents indicated that they really enjoyed the experience in helping out with maths. They also said they felt more confident in their abilities to support their own children's maths work.

In terms of our teaching, we worked alongside colleagues to team teach. This meant that in all classrooms we had a co-ordinated teaching programme being delivered by a class teacher and a resource teacher. As you can imagine, the benefits in this were huge. It enabled us to differentiate to a greater extent. We shared ideas, successes and challenges, and boosted each other's confidence as well as being accountable to each other. We are very fortunate to have sufficient numbers of support/resources teachers to allow us implement a co-ordinated teaching programme by two teachers in each classroom.

It wasn't long before an impact on the children was evident. The increased use of concrete materials made them enthusiastic about maths. And the fact that there were two teachers in the classroom meant the children had more opportunities to work together in small groups. Maths trails brought them outside and showed them maths in their environment. This hands-on approach made learning more focused on individual needs and more fun for the children. At last, we were more confident than ever that we were making the curriculum principles and objectives a reality for the children.

## **The outcomes and looking forward**

Where are we three years on from our initial plan? There has been a real sea-change in attitudes to maths. In recent feedback from the children, 79% said they were *better than before* at maths. All teachers commented how they now enjoyed teaching maths more, that it was more manageable and they felt supported in responding to a wide range of abilities in the classroom. And we have 'hard' evidence too. While progress is slow, test scores would indicate that fewer children are in the 20<sup>th</sup> percentile band or lower with corresponding increases in the higher bands. This reflects teachers' own experiences of increased motivation and achievement among the majority of children. For us, the attitudinal change is palpable in our school. It is this change that is helping to make maths enjoyable, relevant and real for our children.

## **Where to next?**

Our work on maths is a work in progress. We are now looking at our use of a common maths language across all classes, and how to use assessment information to inform our teaching and goals for individual children. We are working hard to plant the changes and what we've learned in our overall approach to maths throughout the school. In many ways, we've witnessed the power of self-belief over self-doubt.

We know where we want to get to and how we can expect to get there. We have embraced the help of outside agencies and used this to make our own decisions, our own plans and to take our own actions. Identifying school-wide challenges, being willing to change and following through on this have been key to our success in bringing maths to life for children and teachers in our school.

## **And in conclusion**

Three years ago, as a staff we identified a school-wide challenge with maths and we faced it with energy and commitment. Progress is slow but very importantly, it's steady. If and when faced with similar challenges, our advice to other schools would be to

- examine whole school data as a staff and strive to take collective responsibility
- identify areas where you want to change, agree and prioritise actions
- consider family learning
- celebrate small changes
- aim for shared leadership

- take heart from past successes
- take a risk – do things in a different way.

The NCCA wants to thank Regina O'Sullivan (principal) and the staff of Scoil Mhuire Banríon Primary School for sharing their story.