

# Celebrating Success in District 3

## A Focus on Mathematics

There is considerable evidence from national, international and provincial testing that students in the Corner Brook/Deer Lake/St. Barbe School District (District 3) are not reaching their full potential in mathematics. In fact, student performance - as defined by the number of students who meet provincial standards - decreases from an average of just over 80% in Grade 3 to an average of about 50% by the end of Grade 9. This under-achievement in mathematics and the resulting negative attitude towards mathematics can lead to problems throughout high school and limit post-secondary opportunities for students.

This is clearly unacceptable. To address this issue, the district developed a teaching approach that combined recent research on parental involvement and effective teaching strategies. The project was implemented at C.C. Loughlin Elementary in Corner Brook during the 2002-2003 school year and will be implemented in other schools throughout the district over the next several years.

The purpose of this project is to raise awareness about low mathematics achievement and to develop a learning community focused on the belief that students can do much better. The ultimate goal of this particular intervention is to raise elementary mathematics achievement levels throughout District 3 so that students enter Grade 7 well-prepared to succeed at the intermediate level.

### Seven Interventions

The problem of under-achievement in mathematics can be solved best by taking a partnership approach involving students, teachers and the parents/guardians. There are seven interventions to be implemented as part of this project. They are:

#### 1. Mental Mathematics

One of the major problems students display at the elementary level is an inability to solve even the simplest of mathematics operations in their heads. This new mathematics intervention will focus on this problem by scheduling a 5-10 minute mental mathematics activity at the beginning of each math class to help students develop the ability to manipulate numbers without the need of paper and pencil or a calculator.

#### 2. Connections

This intervention will focus on making connections between the mathematics being studied in class and its application outside of school.

#### 3. Group Work in the Classroom

Research shows that an effective way for students to learn and remember is through the use of small groups in the classroom. The mathematics classes that are part of this project make each member of a group responsible for the learning of others in the group.

#### 4. Frequent Monitoring of Student Progress

The focus of this intervention is finding out what mathematics skills students are lacking and producing a plan to overcome the problem areas identified. The development of the plan involves both parents and students working with the classroom teacher.

#### 5. Parental Involvement

The role of the parent in this project is crucial to improving student achievement. Parents are involved in a workshop at the beginning of the school year to ensure they understand the content of the mathematics program and how it will be taught. This meeting also forms the basis for outlining the expectations the school has for students and how parents can be involved throughout the year.

#### 6. Teacher Professional Development

All teachers involved with the project spend several days together during the school year on professional development activities. Part of this time is spent determining the best way to implement different parts of the program.

#### 7. Focus on Problem Solving

Students must develop a "risk-taking" approach in order to acquire the skills they need to solve

problems. Towards this end, teachers use a games-based approach or pose a real life problem for students to solve within their groups. This approach is supported by research that shows students learn best while playing, without the stress of focused learning.

### Improved Levels of Achievement

The project has been evaluated using interviews and classroom observations, attitude surveys and the results of the provincial Criterion-Referenced Tests (CRTs), which are conducted each year. After one year, teachers reported students had an improved attitude toward mathematics and an increased belief that they can be successful in their study of the subject. Meanwhile, the provincial testing results indicated improved levels of achievement.

As students move into successive grade levels they will continue to receive interventions based on their identified needs. New teachers at these grade levels will continue to be involved in professional development activities in order to implement the strategies that have been identified as effective in improving student achievement. The success achieved so far suggests the district will achieve its goal.

### District 3 Profile

	2003-04	2002-03
Schools	26	29
Students	7259	7511
Teachers	526.6	544.3
Pupil-Teacher Ratio	13.4	13.4