San Carlo Senior Self Evaluation Report Numeracy May 2015

Introduction

A school self evaluation of teaching and learning in San Carlo Senior NS, Confey, Leixlip was undertaken in 2015. During the evaluation, teaching and learning in the curricular areas of Maths were evaluated.

Data was compiled from the following sources of evidence

- Individual teacher reviews of our school practices in Numeracy.
- Croke Park hours used by teachers to collectively review Maths teaching and learning
- The Learning Support team observations.
- Parental Questionnaires from parents of Fourth Class pupils
- Pupil Questionnaires – third to sixth class.
- In depth analysis of Sigma T June 2014 results for 3rd and 5th classes with percentage scores for each particular question of the test, each strand area and each skill.

This is a report on the findings of the evaluation.

The School Context.

San Carlo Senior is a mixed urban school of 259 children from third to sixth class, under the patronage of the Archbishop of Dublin. Staff include 10 mainstream teachers, 3 Learning Support/Resource, 1 SNA.

The Findings of the Evaluation

Numeracy

Preparation for Teaching:
Teachers' planning is based on the Maths Curriculum and an over reliance on text books is avoided. Measures are in place to ensure that all teachers are familiar with the curriculum for their class through the school Maths plan. Mental maths is encouraged across all the strands and practised daily.

Teaching Approaches:
Talk and Discussion is an integral part of Mathematics. Opportunities are provided for pupils to explain how they got the answer to a problem. There is an agreed maths language across the school and teachers model the language to be used... Mathematics games and concrete materials are regularly used in teaching maths. Problem solving lessons are varied and children are encouraged to find multiple approaches to solving problems. There is a large bank of extra Maths equipment available in Room1.

Management of Pupils
Each class uses a variety of organisational styles – pair work, group work, individual work and whole class work. There is order and structure in the way activities are organised.

Assessment
A variety of AfL (assessment for learning) and AoL (assessment of learning) modes are used in all classes to monitor progress. Assessment results are analysed and used for screening, diagnosis of learning difficulties or identifying aspects of maths needing re-teaching. Teachers differentiate their lessons to cater for children with different needs. Class teachers and Learning support teachers collaborate to ensure that supplementary teaching is available for children with learning difficulties and exceptional abilities. Among the strategies included are withdrawal and in class teaching.

Learning Environment

The school is a safe stimulating environment and classrooms and the building in general is organised, clean and well maintained. Classrooms are appropriately laid out and well resourced and orderly. Teachers are aware of and follow the school's Child Protection Guidelines. The school environment is used to provide opportunities for mathematical problem solving and creating an awareness of number including maths trails and Maths week.

Pupils' own response to Maths learning.

All pupils in the school completed an online survey, designed by the staff to elicit attitudes and engagement with numeracy classes.

I like Maths

	Yes	No	Sometimes
3rd	51%	9%	40%
4th	50%	6%	44%
5t5h	37%	9%	54%
6th	42%	7%	50%

I would like to learn more Maths

3rd class	Yes 60%	No 40%
4th Class	Yes 53 %	No 48%
5th Class	Yes 32%	No 64%
6th Class	Yes 66%	No 34%

I am good at tables

3rd Class	Yes 42%	No 0%	Sometimes 58%
4th Class	Yes 40%	No5%	Sometimes 55%
5th Class	Yes 62%	No 3%	Sometimes 34%
6th Class	Yes 55%	No 6%	Sometimes 39%

Tables Help me with Maths

3rd Class	Yes 56%	No 34%
4th Class	Yes 88%	No 12%
5th Class	Yes 96%	No 3%
6th Class	Yes 96%	No 4%

I use Maths only for school and homework

	Most days	Weekly	Occasionally	Never
3rdClass	11%	33%	53%	2%
4th Class	7%	2%	54%	37%
5th Class	8%	0%	62%	29%

I play games in class to learn tables

6th Class	4%	3%	35%	57%

3rd Class	Yes 35%	No 65%
4th Class	Yes 25%	No 75%
5th Class	Yes 12%	No 87%
6th Class	Yes 20%	No 80

Attitudes to Problem Solving

	I find them easy	I don't like them	I know it can be solved in different ways	I guess the answer	I make several attempts to do it	I have a plan or strategies to help me	I usually look for help
3rd	44%	25%	45%	12%	52%	41%	9%
4th	51%	22%	54%	6%	38%	14%	21%
6th	43%	25%	41%	7%	53%	28%	14%

What Helps you do Maths?

	Listening to Teacher	Working it out myself	Getting help from friend/parent	Using Maths equipment	Checking the textbook
3rd Class	65%	72%	24%	26%	39%
4th Class	56%	52%	24%	23%	24%
5th Class	67%	56%	32%	24%	29%
6th Class	65%	42%	40%	35%	41%

Favourite Maths Activity Ranked

Fairly equal rankings were given to all areas of Maths with the top three as follows

3rd Class	Playing Maths games	Mental Maths,	Maths Trails
4th Class	Playing Maths games	Mental Maths	Problem Solving
5th Class	Playing Maths games	Mental Maths	Computation
6th Class	Mental Maths	Playing Maths games	Computation

<u>Parental Involvement</u>

Parents of 4th class children (67) were surveyed.
There was an 80% response.

Of the respondents,
83% reported their child enjoyed Maths,
96% knew their child's strength in Maths,
75% knew their child's weaknesses in Maths,
67% reported their child enjoyed learning tables
92% considered tables essential for mastering most Maths concepts.

While 77% of respondents agreed that the Maths their child did was at the right level of difficulty, 39% reported that their child required regular help with Maths homework.

75% of parents thought their child would benefit from more time at problem solving
37% of parents identified Problem solving, 15% Mental Maths, 22 % Computation 18% Tables as their child's weakest area in Maths

Approximately 58% of parents agreed and 35% disagreed that they got good information from the school on their child's Maths

When asked to respond to how the school could improve its approach to Maths homework, comments included (No happy with it all, more time on tables, more time teaching, daily tables tests, method sheets, for children and parents, more feedback to parents, group Math projects, more fun, more interactive games, personal Maths project, table quizzes)

Attainment in Numeracy

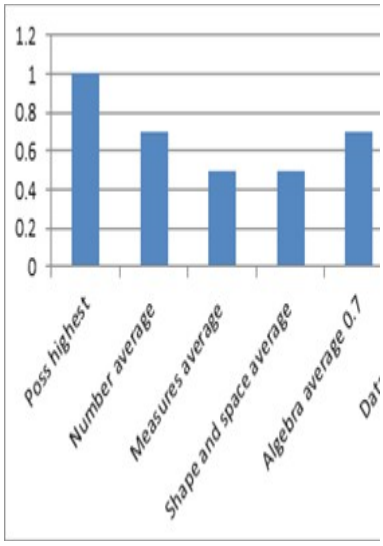
In standardised tests, pupils in San Carlo

On analysis of the skills and strands of Maths, in 3rd and 5th classes, the following data was extrapolated

5th class

Understanding concepts and recalling facts.	Average	0.6
Performing Computations and Procedures.	Average is	0.4
Solving Word Problems	Average is	0.5

3rd class



Understanding concepts and recalling facts.	Average	0.6
Performing Computations and Procedures.	Average is	0.6
Solving Word Problems	Average is	0.4

Accordingly, **staff reviewed** our current practice with regard to the teaching of problem solving, summarised as follows.

Strengths
Problem solving is an integral part of the Maths class with teacher and pupils exploring the process
Many types of problems are used and basic problem solving steps and strategies are taught, including RUDE ROSE with children encouraged to discuss, report their thinking and use multiple strategies.
Teachers model the language of problem solving.
Challenges
Many children do not enjoy problem solving
Collaborative and cross curricular problem solving is an area to be considered more carefully
Children are not given explicit roles in group problem solving e.g. Reader, Estimator, checker etc

Summary of School Self Evaluation Findings

Our school has strengths in the following areas with regard to Numeracy:

- Mental Maths is encouraged and given a specific time slot.
- There is equal emphasis on all strands though some require more time than others.
- Parents were confident they understood their child's attitude and abilities in Maths
- Parents reported their children had a good attitude to Maths.
- 92% of children reported they like Maths all the time or sometimes
- Teachers' planning is based on the Maths curriculum and the school Maths plan. Teachers within cohorts collaborate together and with Learning Support team.
- Talk & Discussion and opportunities for pupils to explain answers for part of Maths lessons.
- There is an agreed whole school policy on Maths Language and agreed strategies for teaching various Maths topics.
- The school has a good supply of Maths resources centrally located.
- The staff constructed Maths trails appropriate to each class level and incorporating all strands.
- Results of assessments are used to inform teacher planning
- IT is used to support Numeracy.

Challenges

- Problem Solving has been identified by teachers as an area many children do not enjoy and have problems with. Teachers report that many children do not persist at Problem Solving Challenges
- Teacher cite many difficulties including lack of time to engage all children in discussing their thinking and strategies and poor number facts recall as a hindrance to many children
- Parents report Problem Solving as an area they would like to see more focus on and 37% identified it as the area of Maths their child was weakest on.
- 22-25% of children in the survey said they did not like problem-solving.

The following Areas are prioritized for improvement with regard to Numeracy:

- All classes will intensify efforts on Mental Maths and number facts using a daily programme.
- Problem solving has been identified by parents and teachers as an area of concern. This will be addressed by a school devised programme of problem solving activities, including open ended investigation opportunities, concrete material problems and word problems. Learning support teachers will co-deliver the programme one day per week, and class teachers
- We will examine how we can support parents with regard to the content, methodologies and language of Maths – especially topics of subtraction, long division and fractions and reporting pupils' test scores.