

School Self Evaluation Report

School Improvement Plan

1. Introduction

A school self-evaluation of teaching and learning in Ballynacally N.S. was undertaken in accordance with recommendations from the Minister of Education. Work on this phase of School Self Evaluation began on 18th Jan 2012. Staff recognised the link between this body of work and recommendations made by the Department of Education's Inspectorate in our school's Whole School Evaluation 2010 with regard to Assessment impacting learning in the areas of Numeracy and Literacy.

1.1

Teaching staff familiarised themselves with the relevant guidelines beforehand. Weekly "Croke Park Hour" staff meetings facilitated same. During the evaluation work, teaching and learning in the areas of Literacy and Numeracy were reviewed. This is a report on the findings of this process.

1.2 School Context and Background

Ballynacally N.S. is a six teacher co-educational primary school. Enrolment remains consistent with pupils' attendance levels comparing favourably with national averages.

- Pupils enrolled 01-09-2012 105
- Mainstream classes 4
- Mainstream teachers 4
- Special Needs Assistants 1
- Teachers working in Support Roles 2
- 1 Learning Support teacher based in Ballynacally and shared with Clondrinagh NS
- 1 Resource Teacher based in Ballynacally NS, shared between Clondrinagh NS, Coolmeen NS and Kiladysart NS.

Our school administers standardised tests in Mathematics and English reading from 1st to 6th class. We administer the "MIST" test in infants.

Particular Context Factors and Strengths

In May 2010 our school was the subject of a very favourable Whole School Evaluation Report. Curriculum review and School Self Evaluation for this event was intensive and included review of our Whole School Policy for English. Considering this staff decided to direct review on this occasion, towards Numeracy. The evidence – based rationale for selection of Numeracy over

Literacy was when scores for mathematics (Sigma T) and literacy (Micra T) were compared we found our scores in the latter to be higher.

Significant issues of note recently have been changes to our physical environment.

Reduction of 2 original classrooms into 1 large classroom
Extension of the school with 1 additional mainstream classroom
Addition of a dedicated storage area
Improvements to the school office

This School Self Evaluation Report will reference itself to the sub-themes below to provide an overview of good practice, with the teaching and learning framework.

Learner Outcomes, referred to in future as (L.O)

- Attainment of curriculum objectives for pupils

Learning Experiences, as above, (L.E.)

- Management of the learning environment and engagement in learning by pupils

Teachers Practice, as above, (T.P.)

- Preparation for teaching, approaches to teaching, management of pupils and assessment.

Concerns

(L.E.) During this process our Learning Support Teacher expressed concern for pupils repeatedly failing in the area of Problem Solving in Mathematics. Our Deputy Principal suggested that not focusing on this area at an early age would cause pupils to continuously experience difficulties.

(L.O.) Staff are agreed that pupils were repeatedly experiencing difficulties with concepts.

(P.T.) Teachers were agreed that the 'language' of problem solving is often confusing for pupils. Teachers felt it a priority that pupils be given the skills, confidence and ability to improve competence at 'Problem Solving'.

2. Action Taken and General Findings

(T.P.) Weekly Staff meetings were held. SSE guidelines were examined.

(T.P.) Teaching Staff analysed the language of problem solving in pupil textbooks, agreed on the 'language' relevant to the different concepts and compiled a list of phrases that typically cause difficulty for pupils.

(L.E.) Teachers designed a survey / questionnaire for pupils in order to explore problem solving. This exercise yielded both quantitative and qualitative data.

(L.O.) Data from Sigma T tests of June 2012 was compiled and analysed, manually initially, to facilitate teachers' familiarity with the marking/scoring strategies. Then our data was compiled using the relevant software.

Specific Findings

(L.O.) On shared analysis of whole school standardised tests in numeracy, we found that *mean average score on Word Problems is lower than in computation and concepts and facts.*

(L.O.) Further analysis of these standardised test results indicate that pupils' knowledge, skills and understanding are developing as they are promoted through class levels.

(L.O.) Other sources of evidence and information including student copybooks, teacher designed tests, pupil profiles, IEP's and pupil reports indicted that problem solving is a concern.

(L.E.) Staff discussion led us to examine the Learning Environment and pupils' engagement in learning. Examination of questionnaires / survey showed that pupils themselves, when surveyed and questioned, identified "Problem Solving" as an area for development.

(T.P.) Through staff discussion and dialogue teachers felt the need for a common approach to modelling and teaching an agreed problem solving strategy. By way of examination of our written plans, assessment and differentiation staff felt that our preparation for teaching needs to include a definite strategy i.e. a systematic and methodical approach to the teaching of the language of problem solving in maths and active use of resources.

3 Summary of School Self – Evaluation

3.1 Findings

Our school has strengths in the following areas...

(L.O.) Sources of evidence indicated that Maths is being taught in accordance with the curriculum, that teachers enjoy teaching maths and pupils enjoy learning in Mathematics.

(L.E.) Staff discussions indicated strengths in the teaching of concepts and facts and computation procedures, learning settings and support for individual pupils.

(T.P.) Staff indicated good pupil progression in the development of knowledge and skills. Aspects of the curriculum, including numeracy are taught. Staff also indicated their satisfaction

with pupils' attitude to maths and willingness to engage in the subject, in general and related activities. Pupils see Mathematics as an enjoyable part of their school life.

The following catalogues a series of actions to be taken at whole school level...

3.2 SCHOOL IMPROVEMENT PLAN

The following areas are prioritized for improvement (actions we intend to put in place to ensure pupil progression.)

(L.O.) An increase in the performance of pupils in the area of problem solving.

(T.P.) The adoption of a 'Class Tracking' exercise as a feature of our work, whereby the performance of one particular class group will be studied over a number of years in order to yield more detailed data. The pupils chosen will be in First Class 2012/2013.

(L.E.& T.P.) Teachers indicated the need to develop a dedicated supportive learning area in each classroom when problem solving steps, resources and strategies are used by pupils and teachers.

(L.E. & T. P.) Teachers will plan for and develop collaborative problem solving sessions to address all strands of the curriculum in Maths. This will allow pupils to actively participate, discuss and reflect upon their learning in problem solving.

(L.E. & T.P.) Problem solving in Mathematics will be deliberately timetabled and catered for / referred to in our fortnightly short term planning.

(L.E. & T. P.) Staff are agreed on the importance of teaching the following basic steps in problem solving through explicit teacher modelling:

- ❖ ***Understand the problem***
- ❖ ***Plan the problem***
- ❖ ***Solve the problem***
- ❖ ***Evaluate the problem***

These steps will be explicitly taught across all class levels.

3.3

The Legislative and Regulatory requirements covered by this School Self Evaluation initiative have been addressed by staff. Please see a copy of this checklist attached as an Appendix.

Our recent Whole School Examination (May 2010) confirmed that in our school we are true to our ethos, have a very good school management team and whole school relations, Our teachers are hardworking; there are high quality learning experiences for pupils and good standards are attained across the Curriculum. This report also notes that there is very good provision for pupils with special educational needs.

For this School Self Evaluation exercise we are focussing on 'Problem Solving' in Mathematics in order to achieve a % increase in test results related to Word Problems/Problem Solving in Maths. Actions required for this will include deliberate focussing on problem solving in our short term planning, deliberate timetabling of 'Problem Solving' across the teaching day/week and detailed focus by teachers, on the language of problem solving.

The timeframe for this initiative, specifically for problem solving in Mathematics, is the school year 2013/2014. Our criteria for success will continue as before i.e.

- Teacher observation
- Teacher designed tests
- Standardised tests – Sigma T
- Teaching staff liaison / interaction
- Teacher / parent liaison / interaction
- Teacher / pupil liaison / interaction

All the above will be reviewed on an on-going short term and annual basis.

Problem Solving in Maths...Our approach.

Children's Strategies What the pupil will be taught to do

- ✓ Examine the problem
- ✓ What does it tell me
- ✓ What does it ask me to do
- ✓ How will I do it – steps
- ✓ Have I all the information
- ✓ Solve the problem
- ✓ Have I done what I was asked to do
- ✓ Visualize
- ✓ Estimate
- ✓ Use smaller numbers

R	read
U	underline
D	draw
E	estimate

Teacher Strategies What the teacher will do.

- Use Concrete material
- Teach the language of problem solving
- Repetition of problems
- Relate problems to the child's own environment
- Connect problem solving and tables
- Difference between command and question

Children make up problems

e.g. $(4 \times 5) + 3$

Give info: Children compose questions

Steps in problems

$(4 \times 5) \times 3$

1, 2, 3,

Write stories with corresponding steps.

Language of Maths

+ (Addition)

- ✓ altogether
- ✓ total
- ✓ now (problems with different time frames/stages)
- ✓ then

- ✓ How many more?
- ✓ Find the total.
- ✓ Add the ...
- ✓ Sum of ...

- (Subtraction)

- ✓ How many more?
- ✓ What is the difference?
- ✓ How many are left?
- ✓ How many less?
- ✓ How much less?
- ✓ Take...
- ✓ What is left?

./ (Division)

- ✓ Divide the..
- ✓ How many times will ... go into
- ✓ Split

Other: Each
 Every
 Already
 Represents

X (Multiplication)

What is 5 times greater than?

- A REVIEW OF MATHEMATICAL RESOURCES IS BEING CONDUCTED FROM SEPTEMBER 2013. This List will be posted in the staffroom. This exercise also provides staff with an opportunity to decide upon new/additional resources .

- As part of our “School Improvement Plan” and based on the importance we place on “Early Intervention” our Learning Support Teacher will undergo training during Term 1 of this school year in Module 1 of “Mata Sa Rang”(Maths Recovery). This innovative approach to the teaching of mathematics is broadly aimed at pupils in First/Second classes but much of the content is applicable to the Infant classes also.
- A useful tool in stressing the importance of our work in problem solving is afforded to us at our weekly school assembly.
- Staff collaboration and co-operation is critical for this initiative to succeed. To that end our “Learning Support Teacher” will be available to offer support to each teacher in-class, as part of our “Team Teaching” policy. This support will be put in place quite deliberately initially. Each staff member is an important part of this programme/team and with flexibility and enthusiasm success is more likely.

SUPPLEMENTARY MATERIAL GATHERED BY LINK TEACHER

This material is an appendix.

Mathematical concepts and Language in maths across the Strands of the Primary School Curriculum i.e.

- **Number**
- **Algebra**
- **Shape and space**
- **Measures**
- **Data**

The following is a summary of the language which can be used at each level. It can be used to support language work in the class, as a support to substitute teachers, as a guide to planning, or as a help to ancillary staff working with students in the classroom or within the school context. It is not an exhaustive list and can be added to as required.

Junior Infants	Senior Infants
Long/short, longer/shorter	As Junior Infants plus:
More than/less than/same as	Ordinal number – first, second, third, last
First/last	Cube, cuboid, sphere, cylinder
Over, under, up, down, on, beside, in	Edge, corner, face, straight, curved, round, flat,
Shape	side, corner
Square, circle, triangle, rectangle	As long as/wide as/longest/shortest
Roll/do not roll	Yesterday/today/tomorrow/seasons/soon/not
Fit/do not fit	yet/birthday
Round/not round, thick, thin	Cost, price, cheap/expensive, change, too
Long/short, tall/short, wide/narrow, longer,	much/too little

shorter, wider than Heavy/light, heavier/lighter, balance, weigh Full/nearly full/empty/holds more/holds less/holds as much as Morning/evening, night/day Lunchtime, bedtime, early/late, days of the week, schooldays, weekends Buy, sell, spend, coins, pence, how much, cent Enough/more/as many as/less	Pictogram Sets
First Class	Second ~Class
As Senior Infants plus: Between, underneath, on top of, around, through, left, right Square, rectangle, triangle, circle, Semicircle Half Cube, cuboid, cylinder, sphere Length, width, height, measure, nearly a metre, a bit more than/a bit less than a metre Heavy, heavier, heaviest, light, lighter, lightest, balance Pour, fill, full, empty, holds more, less or the same amount as Reading day, date and month using calendar Hour, half hour Metre, litre, kilogram	As First Class plus: Quarter Cone, oval Metre, centimetre Euro Symmetry Area Digital clock/time Block graph Corners
Third Class	Fourth Class
As Second class plus: Regular/irregular shapes Sphere, triangular sphere, prism, pyramid Sides, angles, parallel and non-parallel lines Tessellate Nets Symmetry Vertical, horizontal and parallel lines Clockwise/anti-clockwise Gramme, kilogram Possible, impossible, might, certain, not sure Roll, toss, spin, chance, random Tenths Minute Equivalent Bar chart	As Third Class plus: Equilateral, isosceles, scalene triangle, parallelogram, rhombus, pentagon, octagon Diagonal Oblique, perpendicular lines Acute, obtuse and right angles Perimeter Hundredths Chance, likely, unlikely, never, definitely Bar line graph Scale
Fifth Class	Sixth Class
As Fourth class plus: Thousandths Prime and composite numbers Square and rectangular numbers	As Fifth class plus: Square roots Quotients Octahedron

Factors, multiples Positive and negative numbers Equations Quadrilaterals Diameter, radius, chord, circumference, arc, sector, tangent Tetrahedron Vertices Reflex angle, degrees Millimetre Square metres/centimetres Millilitres Pie chart, multiple bar chart Statistics Likelihood Rotation	Scale Areas/hectares Trend graph
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Most recent notes....

- Continue Standardised Tests
- Use student copybooks
- Possible use of Questionnaires and Surveys in the future
- Agree a common approach to modelling/teaching
- Have a definite strategy
- Appendices are very comprehensive!
- Include "Problem Solving" focus in our Teacher Preparation
- Use/list/purchase of resources
- Class tracking
- Have a problem Solving area in each classroom
- Other dedicated areas in each classroom for each subject area
- Class timetable (time spent on each subject daily/weekly...perhaps too demanding and futile ?)
- Record time daily/weekly spent on literacy/numeracy?
- Assessment Policy Checklist
- Box 4,5,6,7 need to be factored into our ongoing review of our Assessment policy
- Box 2 of Comparison with norms in the 'sample checklist for evaluation of numeracy' will be reviewed retrospectively i.e. after Year 1.

- Our strategy will be based on what we gleaned from our textbooks and our own experience.
- 'Problem Solving' will be deliberately timetabled with the amount of time given to same varying from class to class
- The language of maths focus will not be restrictive i.e. senior classes may progress
- Through the language as identified at a quicker rate than other pupils
- Pupils will not be withdrawn from class for Learning Support during "Problem Solving" work on Friday mornings.
- Confidential data will not be discussed outside staff