



Ballinteer Educate Together National School

Self-Evaluation Report and Improvement Plan

1. Introduction

This document records the outcomes of our last improvement plan, the findings of this self-evaluation, and our current improvement plan, including targets and the actions we will implement to meet the targets.

1. Outcomes of our last improvement plan (2014 – 2015).

- During the school year 2014-2015 we had an enrolment of 115 children in five mainstream classes from Junior Infants to First Class.
- Analysis of teacher observations and dialogue, parent surveys, standardised test results and problem-solving activities identified problem-solving in numeracy as an area of focus, specifically children's understanding and solution of word problems.
- The following actions from the improvement plan were implemented:
 - Weekly problem-solving lessons in all classes
 - RUDE (Read, Underline, Draw, Estimate) approach explicitly taught in Junior Classes
 - Team teaching supported the Ready Set Go Maths programme in Infant Classes
 - Additional maths resources to support problem-solving purchased

1.2 The focus of this evaluation

We undertook self-evaluation of teaching and learning during the period September 2018 to January 2019. We evaluated the following aspect of teaching and learning:

Numeracy: Problem-Solving

2. Findings

2.1 This is effective / very effective practice in our school

List the main strengths of the school in teaching and learning in relation to our chosen target

- The classroom atmosphere during problem solving activities was shown to be productive and encouraging
- Pupils display a keen interest, a strong engagement and good attitude towards the challenge associated with problem solving
- Children employ a variety of strategies when tackling a numeracy problem or word problem
- Children take cues from their peers and teachers in order to aid them in their problem solving
- Children are engaged with a wide variety of problem-solving activities, including 'real' problems
- Teachers indicated that implementation of the *Ready Set Go Maths* programme in infant classrooms and daily oral maths and counting focus in all classrooms were yielding positive results in the areas of counting and numeration which supported children's problem-solving.
- Teachers noted that a spirit of individual and collaborative problem solving is not isolated to numeracy lessons but rather informs our entire school ethos, particularly our whole school approach to the Code of Behaviour, the Learn Together Curriculum and the SESE and SPHE curricula.

2.2. This is how we know

List the evidence sources. Refer to pupils' dispositions, attainment, knowledge and skills.

- Analysis of our standardised testing results in numeracy from May 2018 show that our pupils' average STEN score is 7, and average overall percentile is 82 which are above national norms. Our average percentage correct for *Understanding Concepts & Facts* and *Performing Computations & Procedures* are also both above national norms at 78%. However, in relation to *Solving Word Problems*, our average percentage correct is 56%.
- Teacher observation surveys completed in all classrooms indicated that our children are generally engaged, motivated and show enjoyment when presented with a complex numeracy problem. In most classes the children employed a variety of strategies. Most children in all classes expressed interest and enjoyment with the problem. However, only some children in each of the classes were able to accurately communicate a full and meaningful understanding of the problem or describe in an organised way their approach to its solution.
- Rubric analysis of students from our First, Third and Fifth classes showed that most pupils were able to understand an unfamiliar word problem and were generally capable of planning some approach to solving it. However, most had difficulty using appropriate representations (words, pictures, symbols, diagrams etc.) to aid them in solving the problem and in communicating their solution. Only a third of the children in the focus group answered the problem correctly.

2.3 This is what we are going to focus on to improve our practice further

Specify the aspects of teaching and learning the school has identified and prioritised for further improvement.

- Children will be able to confidently discuss and explain the processes used and the results of mathematical problem-solving activities in an organised way.
- Children will be able to use representations (pictures, words, symbols and/or diagrams) to record and communicate their approach to mathematical problems in an organised way
- Children will experience a school and classroom climate of problem solving where knowledge is shared, mistakes are valued and struggle is productive.
- Children identified as needing additional support in numeracy will have a minimum of one target related to problem-solving identified in their Student Support File (SSF) within the categories using representations and/ or communicating solutions.

3. Our improvement plan

On the next page we have recorded:

- The **targets** for improvement we have set
- The **actions** we will implement to achieve these
- **Who is responsible** for implementing, monitoring and reviewing our improvement plan
- How we will measure **progress** and check **outcomes** (criteria for success)

As we implement our improvement plan we will record:

- The **progress** made, and **adjustments** made, and **when**
- **Achievement of targets** (original and modified), and **when**

Our Improvement Plan: Timeframe of this improvement plan is from February 2019 to February 2020.

Targets	Actions	People involve	Criteria for success	Progress and	Targets
Children will be able to confidently discuss and explain the processes used and the results of mathematical problem-solving activities in an organised way.	Junior and Senior Infant teachers will deliver adult-led discussions as part of the <i>Ready Set Go Maths</i> programme. First and Second Class teachers will support adult-led discussions of problem-solving activities. (Where resources allow, this can be supported using team teaching and station teaching with the SET team)	Infant teachers / SET team Class teachers / SET team Class teachers	Analysis of problem-solving copies will show evidence of the increasingly effective use of the following to record and communicate problem-solving approaches and solutions: Infants - Pictures and symbols 1 st / 2 nd Class - Pictures, symbols and an answer statement (i.e John had six apples left) 3 rd - 6 th Class - Pictures, symbols, diagrams and written explanations		
Children will be able to use representations (pictures, words, symbols and/or diagrams) to record and communicate their approach to mathematical problems in an organised way.	Use of <i>I-Think</i> problem solving approach in 3 rd to 6 th classes to discuss and record problem-solving activities. Use of Bloom's Taxonomy of Problem-solving questions to support problem-solving discussions in all classes.	Class teachers All teachers	Analysis of Cuntas Míósúil will show evidence of the following: A minimum of two problem-solving activities in each month Examples of questions, including higher order questions, used during problem-solving discussions.		
Children will experience a school and classroom climate of problem solving where knowledge is shared, mistakes are valued and struggle is productive.	Use of Nrich website, problem-solving task boxes, Izak9 Cubes and other problem-solving materials to engage children with problem-solving activities at least twice per month. Resource bank of problem-solving materials for each class level to be developed and stored on the teacher drive. Use of a problem-solving copy in all classes 1 st to 6 th to record and communicate children's problem-	All teachers Class teachers All teachers	Analysis of the problem-solving rubric will show an increase in the percentage of pupils performing at level 3 and 4 (proficient and highly proficient) in the following categories: Uses representations: Baseline 27% Answers the problem: Baseline 33% Communicates solution: Baseline 0% Analysis of SSFs will show evidence of targets achieved relating to problem-solving in numeracy.		

Progress and Adjustments

7th October 2019

Target/ Action/ Criteria for	Adjustment	Criteria for Success	Achiev
Bloom's Taxonomy of Problem-solving: Teachers report some children struggling with higher order questioning and discussion.	Differentiation of questioning. Develop skills at the 'lower levels' of questioning (knowledge, understanding, application) first. Further work to support discussion at	C.M. to show examples of questions used to promote progression to higher order thinking Question prompts to be displayed	

Maths Week (October 2019)	100th Day Celebration to take place 6th February 2020.	Working group established. Arrangements and activities to be confirmed at January Staff Meeting.	
Using representations: Teachers noted improvement in children's use of pictures and symbols to communicate approach to problem-solving. Still need support	1st – 6th Classes: Children to answer all word problems and 'real' problems with at least one answer statement. 3rd – 6th: Build gradually towards explanatory paragraphs (I-THINK	Analysis of problem-solving copies to show increased use of answer statements.	
Use of Izak9 cubes: Teachers asked to re-briefed on these resources	Lucy will be asked to demonstrate cubes at future staff meeting.	Staff meeting minutes	
I-THINK strategy: Strategy introduced October 2019	Teachers in 3rd – 6th to trial I-THINK strategy for discussion at future staff meeting	Staff meeting minutes	
'Real' problems: Teachers felt opportunities should be provided for children to engage more in real-life problem-solving e.g. Student	Opportunity to share and collate real-life problem examples at future staff meeting.	Staff meeting minutes	
School and classroom climate of problem solving: Teachers discussed the possibility of a shared monthly/ weekly problem solving activity i.e. Problem of the Week	Problem-solving/ Maths board to be established to display <i>Problem of the Month</i> for discussion. National Maths Week examples to be gathered.	School Maths Board to be established to host monthly problem-solving activities and 'real-life' maths problems related to school life.	