**Bishop O’Brien N.S. School Self-evaluation Report: Maths (2018)**

#  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. **Progress made in the school with regarding to School Self Evaluation since 2015**

The school has made progress in the following areas

* Structured approach to writing genre, embedded across the school with a yearly school plan
* Building Bridges of Understanding Programme fully implemented
* Guided reading implemented from Infants to 2nd class where children read at their instructional level
* Structured approach to phonics and spelling and phonological awareness embedded across the school
* Agreed maths language and approach to computation across the school
* Three members of staff trained in Mata sa Rang
* Big investment in I.T. for all classrooms
* Three teachers trained in Scratch
* Digital Schools of Distinction award achieved
* Participating school in Junior Entrepreneur School 2015-16 and 2017-18
* Plaque of STEM excellence achieved for the Discovery Science and Maths Award
* Homework presentations given to parents of each class group annually to communicate the school’s approach to aspects of Literacy, Numeracy and Gaeilge
* English plan rewritten in line with new Language Curriculum
* Graded reading implemented from Junior Infants to second class
* First Green Flag achieved
* Health Promoting School
* Friends for Life implemented- three teachers have trained
* Zippy’s friends implemented- three teachers trained
* Maths plan revised and updated
* Child Safeguarding Statement completed
* RSE policy completed
* Science Plan completed
* Code of Behaviour re drafted
* School self evaluation cycle completed in Literacy
* Special Education Plan completed
* Anti- Bullying Policy Completed

**1.1. The focus of this evaluation**

A school self-evaluation of Numeracy was undertaken in the period: Academic year 2017-18. This is a report on the findings of the evaluation. The following methods of data collection were used

* Pupil and parent surveys
* Analysis of standardised test results
* Teacher focus group
* All data was analysed used the Goo’s Model for Numeracy (2007). This model outlines the following aspects to Numeracy; Maths Knowledge, Context, Dispositions, Tools, Critical Orientation

**1.2 The school context**

* This is a co-educational primary school.
* There are currently 120 pupils
* There are four mainstream class teachers, two full-time and one shared Special Education Teacher and three whole-time Special Needs Assistants.

**2. The Findings**

The findings have been grouped together under the various aspects of Numeracy as outlined by the Goo’s Model

**Dispositions**

* Responses collated from a survey of children show that 89.9% of children like maths. Developing positive dispositions is an integral part of the development of a numerate child and this is backed up by definitions of numeracy in the PISA report. The positive disposition towards maths evidenced in the pupil questionnaire is very positive for our school. Interestingly, this result tallies with the findings from the parent survey which found that 88.5% of parents feel that their child enjoys maths.
* In the focus groups, teachers felt that children needed to develop more resilience in the area of maths, particularly in the area of problem solving. Teachers also felt that they had to become more comfortable with allowing children to be ‘stuck’ on a problem without jumping in to ‘show them the way’. Interestingly some children indicated a strong desire to be challenged with problem solving- one child stated their favourite thing about maths was “ *When you are given a thinky sum or a very difficult sum’* and another *‘When you are given a hard problem and you eventually solve it’*
* Parents also indicated a need for challenge and resilience “ maths problems that open up the mind”.
* Teachers in the school agree that their maths lessons incorporate a variety of teaching methodologies, including group work, paired-problem solving, use of concrete materials, mental maths and a variety of strategies for learning tables.
* It is noteworthy that all teachers show an interest in Continuous Professional Development (CPD) and share their knowledge at Staff Meetings and Croke Park Hours.
* The School Participates in the Discovery Primary Science and Maths programme and this has helped greatly to generate positive dispositions towards stem
* Over-all the surveys highlighted a positive disposition among the parent body towards the school and in particular to the way in which maths is taught

**Maths Knowledge**

* Standardised tests results reveal very good Maths knowledge in the school over all.
* Two teachers have been trained in the delivery of Mata sa Rang programme. The benefits of extending this approach into the classroom were discussed this would help towards having a very coherent approach towards the strand of Number in the school.
* There is an agreed approach to the various written computation across the school. This was highlighted as a positive.
* It was agreed by staff that we need a more systematic approach to developing mental maths skills in number and measures. This is backed up by the pupil survey which shows that just 24.7% of children find ‘doing sums in my head’ easy.
* The parent’s survey revealed that the homework meetings at the beginning of the school year, which outline the school’s approach to various aspects of literacy and numeracy, are beneficial for parents.
* The children’s survey strongly endorsed pair and group work for helping children come to grips with Maths Knowledge. ‘Talking about my ideas’ and ‘working with a friend’ were far and above the most popular ways that children identified to help them understand maths better.

**Tools**

* An audit of school resources for maths shows that the school is fairly well resourced with concrete materials for all strands of the curriculum. There are some resources identified which will be purchased as part of the School Improvement Plan.
* Three teachers are trained in SCRATCH. A shortage of laptops is identified as a need for delivering this programme successfully.
* There are a range of tablets shared between staff and it is hoped that each class will purchase Maths Apps for use in the classroom this year.
* Ixl.ie was used in the school for the past few years. Feedback from staff is mixed.

**Critical Orientation**

* The staff feel that Critical Orientation in the context of problem solving needs to be developed especially the idea of the children asking Does my answer make sense? Could I approach this another way?
* Staff suggested that more explicit modelling of the RUDE strategy was needed and possibly daily maths challenges to stimulate the children’s critical orientation.
* Just 27% of children use a plan or strategy to help them with problem solving- this again points to a lack of Critical Orientation and is an area to be developed.

**Contexts**

* From the survey parents are very aware of the importance of maths to be grounded in every day contexts with parents suggesting ‘giving practical examples from everyday life’ and ‘practical homework’
* Teacher focus group questionnaires suggested a greater focus on having a maths rich environment.
* Teachers also highlighted the need to connect maths to real life contexts as much as possible. It was suggested that a collection of real life resources such as time-tables, catalogues and the Maths Eyes and Maths for 50 Sports could be purchased.

**4. Summary of School Self-evaluation Findings**

**4.1 Bishop O’Brien N.S. has strengths in the following areas:**

* Children’s results in standardised tests for Maths show that most children are performing at or above the national norm.
* The staff are very dedicated, communicate regularly regarding methodologies and approaches, and share best practice from C.P.D. courses
* Children generally have good written computational skills
* Agreed approach to all computation
* Children enjoy problem solving in groups
* 89.9% of children like maths. 88.5% of parents state their children like maths
* Teachers report that they use a variety of teaching approaches and the school is fairly well resourced with concrete materials for all areas of maths

**4.2 The following areas are prioritised for improvement:**

* Mental maths skills in the area of Number and Measures
* The skill of problem solving

# Our Improvement Plan

**Timeframe of this improvement plan is from October 2018-October 2021. This section of the improvement plan runs to October 2019**

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| --- | --- | --- | --- | --- | --- |
| **Targets** | **Actions** | **Persons / groups responsible** | **Criteria for success** | **Progress and adjustments** | **Targets achieved** |
| Children will show improved number skills in the areas identified by Mata sa Rang in Junior Infants to 2nd class | * Implement a yearly plan for Mata sa Rang for Junior and Senior Infants
* Purchase any equipment needed
* 1st and second class teacher to train in Mata sa Rang
* Team teaching for maths for Junior and Senior Infants
* Team teaching for Maths for 1st and 2nd class
 | * Joanne O’Brien Kennelly
* Orla Glavey
* Emma Savage
* Michelle Noonan
 | * Teacher observation
* Mata sa Rang assessments tracked for progress
* Improved performance in Number in the Drumcondra Maths Assessments
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| Children will show improved number skills from 3rd to 6th class | * Implement number words and Numerals section of Mata sa rang
* Implement a yearly plan for mental maths strategies for addition and subtraction from 3rd to 6th class
* Purchase any resources needed
 | * Vicki O’Sullivan
* Paudy Walsh
 | * Teacher observation
* Number strand of Drumcondra Maths Assessments
 |  |  |
| Empty Number Lines used for mental calculations for number/ money and time | * Implement agreed approach to empty number lines from 1st to 6th class
 | All teaching staff | * Teacher observation
 |  |  |
| Develop the disposition of resilience in children for problem solving | * Explicit modelling of school agreed problem solving strategy
* Allowing children time on good quality problems
* Allowing children regular opportunities to verbalise their ideas and to listen and respond to the ideas of others
* Creation of a mistakes friendly culture in the school
 | All teaching staff | * Teacher observation
* Drumcondra Maths assessments
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**This section of the improvement plan runs to October 2020**

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| --- | --- | --- | --- | --- | --- |
| **Targets** | **Actions** | **Persons / groups responsible** | **Criteria for success** | **Progress and adjustments** | **Targets achieved** |
| Children will show improved number skills in the areas identified by Mata sa Rang in Junior Infants to 2nd class | * Continue yearly plan for Mata sa Rang for Junior and Senior Infants
* Purchase any additional equipment needed
* Update any new staff on mata sa rang methodology
* Team teaching for maths for Junior and Senior Infants
* Team teaching for Maths for 1st and 2nd class
 | * Joanne O’Brien Kennelly
* Orla Glavey
* Emma Savage
* Michelle Noonan
* Orla Caroll
* Vicki O’Sullivan
 | * Teacher observation
* Mata sa Rang assessments tracked for progress
* Improved performance in Number in the Drumcondra Maths Assessments
 |  |  |
| Children will show improved number skills from 3rd to 6th class | * Implement number words and Numerals section of Mata sa rang
* Revise mental maths strategies for addition and subtraction from 3rd to 6th class
* Implement mental maths strategies for multiplication and division
* Implement Mata sa Rang approach to teaching multiplication and division in 3rd and 4th class
* Purchase any resources needed
 | * Vicki O’Sullivan
* Paudy Walsh
* Joanne O’Brien Kennelly
* Michelle Noonan
 | * Teacher observation
* Number strand of Drumcondra Maths Assessments
 |  |  |
| Empty Number Lines used for mental calculations for number/ money and time | * Continue agreed approach to empty number lines from 1st to 6th class
 | All teaching staff | * Teacher observation
 |  |  |
| Develop the disposition of resilience in children for problem solving | * Explicit modelling of school agreed problem solving strategy
* Allowing children time on good quality problems
* Allowing children regular opportunities to verbalise their ideas and to listen and respond to the ideas of others
* Creation of a mistakes friendly culture in the school
 | All teaching staff | * Teacher observation
* Drumcondra Maths assessments
* Super Sleuth books
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