



CASE STUDY REPORT

2 minutes of counting a day, keeps the doctor away!

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This study was originally published in 2009 as part of the 'What Works Well' initiative, part of the National Strategies for Education in England.

Abstract

Background: The purpose of the study was to improve mental agility and basic calculation in mathematics by improving counting skills through daily counting practice.

Aims: The main aim was to improve mental agility and basic calculation in mathematics by promoting daily counting in lessons.

Methods: The participants in this development work are carers, head of school improvement, headteachers, middle leaders, national strategies consultants, parents, senior leadership teams, school improvement partners, subject leaders, and teachers. Maths consultants promoted 2 minutes of counting in every maths lesson in every year group, using the counting stick to focus on higher order counting with larger numbers, decimals and fractions. CPD sessions started with whole group counting to model and demonstrate.

Findings: The main findings are that daily counting has improved mental agility and basic calculation in mathematics, leading to a 6% increase in KS2 results. Teachers have become creative in their approach to counting and it is now held in high esteem by school leadership.

Implications: The findings suggest that daily counting practice can have a positive impact on pupil learning, confidence, and calculation accuracy. It also has implications for teaching, school organisation, and leadership.

This abstract was generated by Camtree using a large language model (LLM) and added to the original report in 2023.

Keywords: Bexley education; Mathematics

Introduction

What were your reasons for doing this type of development work?

As part of the Intensifying Support Programme, target pupil interviews has identified mental agility to be a core barrier in mathematics.

Many pupils even in upper Key Stage 2 demonstrated a lack of basic counting skills; struggling to count forwards and backwards in 1s and 10s, particularly when bridging 100s and 1000s. This in turn is impacting on calculation: especially subtraction.

During learning walks with subject leaders, daily counting was evident in most KS1 classes, however this quickly petered out in Key Stage 2, with a lack of focused counting with larger numbers, decimals and fractions.

Let's get the counting stick back in action!

Who might find this case study useful?

- Carer
- Head of school improvement
- Headteacher
- Middle leader
- National Strategies consultant
- Parent
- Senior leadership team (SLT)
- SIP (School Improvement Partner)
- Subject leader
- Teacher

Description

What specific curriculum area, subject or aspect did you intend to have impact on?

- Mathematics

How did you intend to impact on pupil learning?

Maths consultants in the borough promoted 2 minutes of counting in every maths lesson in every year group. This involved demonstrating ways of using the counting stick, particularly focusing on higher order counting involving larger numbers, bridging 100s and 1000s, counting below zero and using fractions and decimals.

We were trying to improve mental agility and basic calculation through better counting skills.

What were your success criteria?

More evidence of whole class counting across KS1 and KS2 during learning walks and raised standards.

Increased pupil confidence and agility with counting using a variety of numbers and steps, leading to more accurate calculation.

What information or data did you use to measure progress towards your success criteria?

- Learning walks / study visits
- Observation outcomes
- Periodic teacher assessment

- Test results

Describe the CPD approaches you used

Promoting the use of daily counting was embedded into all maths CPD run by the Primary Team, with consultants starting each training session with whole group counting with teachers to model and demonstrate. This particularly focused on higher order counting aimed at upper KS2 teachers.

What CPD materials, research or expertise have you drawn on?

Counting approaches in the Primary Framework.

Who provided you with support?

- Local authority staff

How were you supported?

All consultants needed to be on board and agree to start all CPD (both in-school and central based training) with 2 minutes of counting.

Impact

What has been the overall impact on pupil learning?

Daily counting is now common place across KS1 and KS2 lessons and feedback from pupils is that they enjoy this type of lesson warm up. Interviews with target pupils in schools show that children are now much better at counting. This is having a knock on effect in terms of accuracy and confidence with calculation.

Since the push on 2 minutes of counting a day, mathematics KS2 results have risen 6% in 3 years, with many schools reporting the highest mental test scores they have ever had.

Quantitative evidence of impact on pupil learning

- Periodic teacher assessment
- Test results

Qualitative evidence of impact on pupil learning

- Observation outcomes
- Pupil consultation data

Describe the evidence of impact on pupil learning

Mathematics KS2 results have risen 6% in 3 years.

What has been the impact on teaching?

Teachers have become creative about ways of promoting counting to ensure this daily element does not become staid. Teachers have also seized other opportunities in the day to practise counting skills e.g. lining up for assembly, getting changed for PE, before home time.

Evidence of impact on teaching

- Evidence from observation and monitoring

Describe the evidence of impact on teaching

Far more evidence of daily counting across KS1 and KS2 during learning walks, with teachers in upper KS2 particularly realising the need for continued counting practice.

What has been the impact on school organisation and leadership?

SMT in our ISP schools hold daily counting in high esteem and look for it now during lesson monitoring.

Evidence of impact on school organisation and leadership

Increasingly, counting is noted in monitoring of teaching.

Summary

What is the crucial thing that made the difference?

Maths consultants building counting into all CPD sessions and promoting the importance of daily counting.

What key resources would people who want to learn from your experience need access to?

Primary Framework for Mathematics – Counting.

What CPD session and resources were particularly useful?

Promoting counting at the beginning of all INSET sent a powerful message to schools that the Primary Team thought this to be a priority.

If another individual or school was attempting to replicate this work, where would they start and what would the essential elements be?

Start with recognition of importance of counting for pupils' mental agility and basic calculation. Essential elements: daily counting practice.

What further developments are you planning to do (or would you like to see others do)?

We need to keep promoting counting in lessons. Experience since 1999 shows that it can quickly become a forgotten aspect of mathematics lessons.

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About 'What Works Well'

This case study was originally published as part of the 'What Works Well' section of the National Strategies for Education in England. The National Strategies were professional programmes aiming for improvements in the quality of learning and teaching in schools in England. 'What Works Well' involved teaching practitioners from all phases and areas of education sharing accounts of real developments which had improved learning and teaching, and made a difference to pupil progress. 'What Works Well' case studies were designed to support practice transfer and include sufficient detail and resources to enable others to implement the effective practice described. They were reviewed by experts prior to publication as 'User Generated Content' (UGC) under a licence which encouraged reuse and derivative works, but which precluded commercial use.

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