The Influence of the Cockcroft Report in the Primary Sector

Mark Pepper reflects on primary mathematics, past, present, and future

While MT 243 consisted of many diverse views and interpretations of The Cockcroft Report, it appeared that they were written predominantly from a secondary perspective. Nevertheless, the Cockcroft Report devoted a considerable amount of space specifically to the primary sector as evidenced by the inclusion of Chapter 6, Mathematics in the primary years (paragraphs 286-371) which spans some 86 paragraphs. Much of this echoes the recommendations made generally in the Report and they were highly influential in the teaching and learning of mathematics in primary classrooms.

In the years immediately succeeding its publication I taught successively in three primary schools in the role of classroom teacher/ mathematics co-ordinator. I also visited many primary classrooms and had discussions about the teaching and learning of mathematics with primary teachers from other schools.

I will now elaborate on my perceptions regarding the implementation of the Cockcroft Report within the primary sector.

Paragraph 243 recommends that mathematics at all levels should include opportunities for:

• Exposition by the teacher
• Discussion between teacher and pupils and between pupils themselves
• Appropriate practical work
• Consolidation and practise of fundamental skills and routines
• Problem solving including the application of mathematics to everyday situations
• Investigational work

All of these tenets were covered to varying degrees within the primary sector. Previous practice, doubtless heavily influenced by the Plowden Report(1967), meant that a high proportion of lessons already involved practical work. Furthermore, regular discussion between pupils and teacher were accepted as the norm. Additionally regular exposition by the teacher and the consolidation and practice of practical skills were already regular features of mathematics lessons within the primary sector.

The most significant change within paragraph 243 involved the recommendation for the use of problem solving and investigational work. This is reiterated in the primary section in paragraph 323:

The development of general strategies directed towards problem solving and investigations can start during the primary years. Children should therefore be given opportunity to become familiar with the processes which can be used in work of this kind…

This recommendation was implemented wholeheartedly in many primary classrooms in which there was a regular weekly investigation and widespread use of problem solving activities. Furthermore in accordance with the spirit of both the Cockcroft Report and the Plowden Report these were carried out in an environment that encouraged a collaborative approach with much interaction and discussion both between the pupils themselves and with the teacher.

A theme that intermittently appears in the Cockcroft Report is that the learning of mathematics should be an enjoyable experience. Paragraph 12 indicates that teachers should be engaged in:

…helping each pupil to develop as far as possible his enjoyment of and appreciation of mathematics itself…

A similar recommendation is made within the primary section of the Report in paragraph 347:

The challenge for the teacher is to present mathematics in a way which continues to be interesting and enjoyable.

This was acted upon in many primary schools in various ways including a regular weekly session of maths games. In my experience maths games were a source of considerable enjoyment for the pupils and helped to generate a positive feeling towards the learning of mathematics.

A pre-cursor to the using and applying attainment targets of the National Curriculum is contained in paragraph 321:

All children need experience of applying the mathematics they are learning…to the solution of problems.
An analysis of the extent to which the spirit of the Cockcroft Report has survived in today’s primary mathematics classrooms will now be considered by the use of a brief description of classes then and now.

**The teaching and learning of primary mathematics in the years immediately succeeding publication of the Cockcroft Report**

My recollection of this period of time was characterised by a fairly relaxed atmosphere in which the vast majority of pupils appeared to be stimulated by the activities that they were engaged upon. Of course there were exceptions with some children becoming anxious if they had difficulty in understanding some aspects of the mathematics. The content of lessons was predominantly comprised of the teaching and learning of mathematical skills. Crucially there were also regular sessions involving problem solving, investigations, and maths games. Most of the children showed enjoyment of mathematics lessons, especially when they were engaged in maths games.

**The teaching and learning of primary mathematics at the present time**

It seems probable that a relatively high proportion of pupils feel some anxiety generated by the current policy that involves the extensive use of testing. With the probable absence, in most classrooms, of maths games there is likely to be considerably less enjoyment in participating in mathematical activities. The consequences of the current emphasis on rote learning, and the application of taught algorithms, is likely to result in a reduction in feelings of stimulation within mathematical activities. The abolition of a using and applying attainment target means that the children will have limited opportunities to apply the mathematical skills that they have acquired to help to solve problems.

**Mathematics in the primary sector in the future**

Regrettably the inescapable conclusion of current teaching and learning of mathematics in the primary sector is that the majority of the recommendations contained in the Cockcroft Report have not survived. It seems likely that maths games are not now in use in most classrooms. Instead of a problem solving/investigational approach the curriculum appears to be driven by short term goals, predominantly involving the rote learning of facts and the application of taught algorithms.

It is difficult not to be profoundly pessimistic about the teaching and learning of primary mathematics in the future. The inflexible approach of teaching towards short term targets contained within the attainment targets of the National Curriculum leaves teachers with limited opportunities to teach in an inspirational manner and to encourage creative thinking by their pupils. Whilst the text of the 2014 National Curriculum encourages a problem solving approach, this is not reflected in the assessment procedures. Unless there is a change in national policies regarding the teaching of mathematics then there is no reason to expect any change to the current state of affairs.

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**References:**


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