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Geoffrey Matthews

Classroom pioneer of teaching mathematics in new, creative ways

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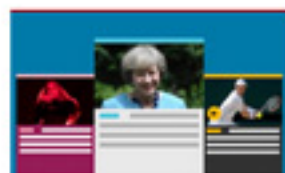
A rare combination of mathematical talent, humour, strategic vision and energy enabled Geoffrey Matthews, who has died aged 85, to pioneer much-needed changes in the teaching of maths in the 1960s and 70s. Having developed a British version of modern mathematics for secondary schools, he went on to have an even stronger influence on the curriculum for younger children. He invented teachers' centres for the exchange of ideas.

As the first British professor of mathematics education, at London University's Chelsea College (1968-77), Matthews established a research and development tradition much copied in Britain and abroad. Earlier, from 1950 to 1964, as deputy headmaster and head of maths at St Dunstan's College, Catford, he instructed staff: "It is forbidden NOT to waste time." He inspired his pupils to produce research papers and his colleagues, many of whom were non-specialists, to contribute to a series of "spotty books" on modern maths topics, which had wide sales.

His ideas were influenced by his London University PhD work on infinite matrices, completed part-time while teaching; and by attendance at international seminars. The distinctive feature of his curriculum was the introduction

of topics such as matrices, sets and logic, computing and statistics, presented in creative ways to fascinate and seem relevant to pupils; everything was field-tested in his classroom.

An active role in the Mathematical Association, as chairman of its teaching committee and president (1977-78), led to television work. He was a presenter on the BBC's Tuesday Term, Middle School Mathematics and Children And Mathematics programmes and a consultant on Maths In A Box, You And Me, and ATV's Towards **Mathematics**. He also gave public lectures, with titles such as Matrices For The Million.



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In 1964, when the Nuffield Foundation decided to extend its work in secondary science into primary mathematics, Geoffrey was lured from Catford to become organiser. Such was the clamour to be among the 12 local education authorities piloting the scheme that he was able to insist that all those that qualified created a maths centre, with comfortable chairs and workshops. Many were later transformed into teachers' centres.

Matthews selected a diverse team to work with advisers and teachers, producing attractive books for teachers combining explanations of mathematical ideas with classroom ideas and displays of children's work to show what could be done. The content was innovatory, as were the books on logic, environmental geometry, probability and statistics, and computers and young children.

The decision to produce teachers' books, rather than pupil texts, was controversial, but aimed at empowering teachers. Other writers, and a further Nuffield project also directed by Matthews, soon supplied pupil materials. Both the books and texts had a huge impact on primary mathematics, and led to much international dissemination, as well as work with nursery teachers, co-directed with Matthews's second wife Julia, or "Pat" as she was known. The couple never turned down a request to talk to teachers, no matter how inconvenient the journey.

Just as Nuffield was finishing, Matthews was appointed to the newly established chair of mathematics education at Chelsea College (now part of King's College London). There, he obtained the largest grant then given by the social science research council for an exploration of the development of concepts in secondary maths and science. The result had considerable impact on the secondary curriculum and the new GCSE in the 1980s, through the Cockcroft report and the bestselling SMP 11-16 textbooks. Other research included early software projects culminating in Computers Across The Curriculum, using computers for group problem-solving assignments rather than direct instruction.

In retirement Matthews began a new hobby of sculpture and painting, and until Parkinson's disease prevented further work, played a leading figure in the Free Painters and Sculptors group. He had stalwart support from Pat, who survives him.

In everything he did, Matthews was subversive, creative, strategic and tactical. He had ambitious plans to benefit children and teachers, especially those in deprived areas and developing countries, but was never ambitious for himself. He was terrific fun to work with, and found it difficult to suppress a giggle, even on the most serious occasions.

• Geoffrey Matthews, mathematician and teacher, born February 1 1917; died September 13 2002