

UPPER PRIMARY MATHEMATICS- A REVIEW FROM BELOW

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This poster argues that the upper primary mathematics curriculum in India is rooted in mathematics as an academic discipline ignoring the fact it has nothing to offer a large number of children from marginalised sections who are under prepared to engage with it and that such a curriculum choice is unethical.

The year 2005 marks a significant moment in the education scenario in India because of the stated shift to constructivist approaches to curriculum development in the National Curriculum Framework(NCF,2005). For curriculum development in mathematics, this meant a shift in focus 'from mathematical content to mathematical learning environments' (Position Paper, 2005). Even though these important shifts in approaches have made a difference to primary mathematics teaching and learning in India, the upper primary curriculum is rooted in the discipline of mathematics. The content at the upper primary level includes rational numbers and their properties, algebra, geometry, data handling and 'commercial mathematics'. While the discipline centric approach might seek to give the learner a taste of what the discipline of mathematics is like, it does not respond to the fact that children from the socio-economically and culturally marginalised sections who receive the poorest quality of education at the primary level are in no position to cope with it. It is known that, while children from the marginalised sections in India can reason very well when problems are posed in meaningful contexts and solutions could be given orally or using their own symbol systems, their writing skills have not been developed to cope with formal writing that mathematics demands. Many of the grade 6 children cannot write three or four digit numbers or carry out standard algorithms.

There is a rich body of literature that questions the standard assumptions about the nature and relevance of school mathematics and the need to revision a mathematics curriculum that begins from the social reality in which the learner is placed and brings in the tools of mathematics in the course of investigation [Gates,2001; Gellert&Jablonka, 2007]. A mathematics curriculum that seeks to be inclusive should be informed by literature and provide scope for meaningful explorations rather than being prescriptive.

References

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Gellert.U&Jablonka.E (2007)(Eds). Mathematisation and Demathematisation, Sense Publishers, Rotterdam/Taipei