EXPLORING SCHOOL CHILDREN'S 'EVERYDAY' MATHEMATICAL KNOWLEDGE

Arindam Bose and K. Subramaniam

Homi Bhabha Centre for Science Education, TIFR, Mumbai, India

It is argued that 'Everyday mathematics' (out-of-school mathematics) represents the functional aspect of mathematical knowledge that is available to all and not hidden. Some studies in the past have shown that children going to schools too gather everyday mathematical knowledge from their surroundings and also from their involvement in income generating activities (for example, Khan, 2004). These studies revealed how mathematics arises spontaneously in everyday activities and that situational variables often influence school students' spontaneous solution procedures. In this report we give some examples of the nature and extent of the knowledge of everyday mathematics present among school going middle-grade children living in a large low-income area of Mumbai city that has a vibrant household based economy. Most children living here are involved in the economic activities from an early age mostly in the family-run small scale manufacturing units like embroidery and zari work, garment stitching, leather work, bag-wallet-purse making, food delivery, etc. Some of the manufactured goods are not only sold in the local markets but also exported to other countries, especially in the middle east.

This report from the preliminary part of an ongoing research study presents two case-studies of children studying in grades V and VII from two municipal corporation-run schools located in the area and involved in zari work and garment making. Data was collected through semi-structured interviews and discussions. Zari work involves skills with needles and symmetrical use of expensive decorative raw materials (small in size, light in weight). The presentation will focus on children's knowledge of subitizing, symmetry, currency and use of variety of units mostly based on convenience and syntactic support from the prevalent practices in their work-domain. Interestingly, many such working students could handle multi-digit operations using oral mode but not in the written form (for example, flawed multi-digit representations: 'two hundred ten' written as '20010', etc.). Many of them did the calculations by considering the numbers as money. It is hypothesised that bringing together such everyday mathematical knowledge and school mathematics can pave way for skill development and effective mathematics learning.

References

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